



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

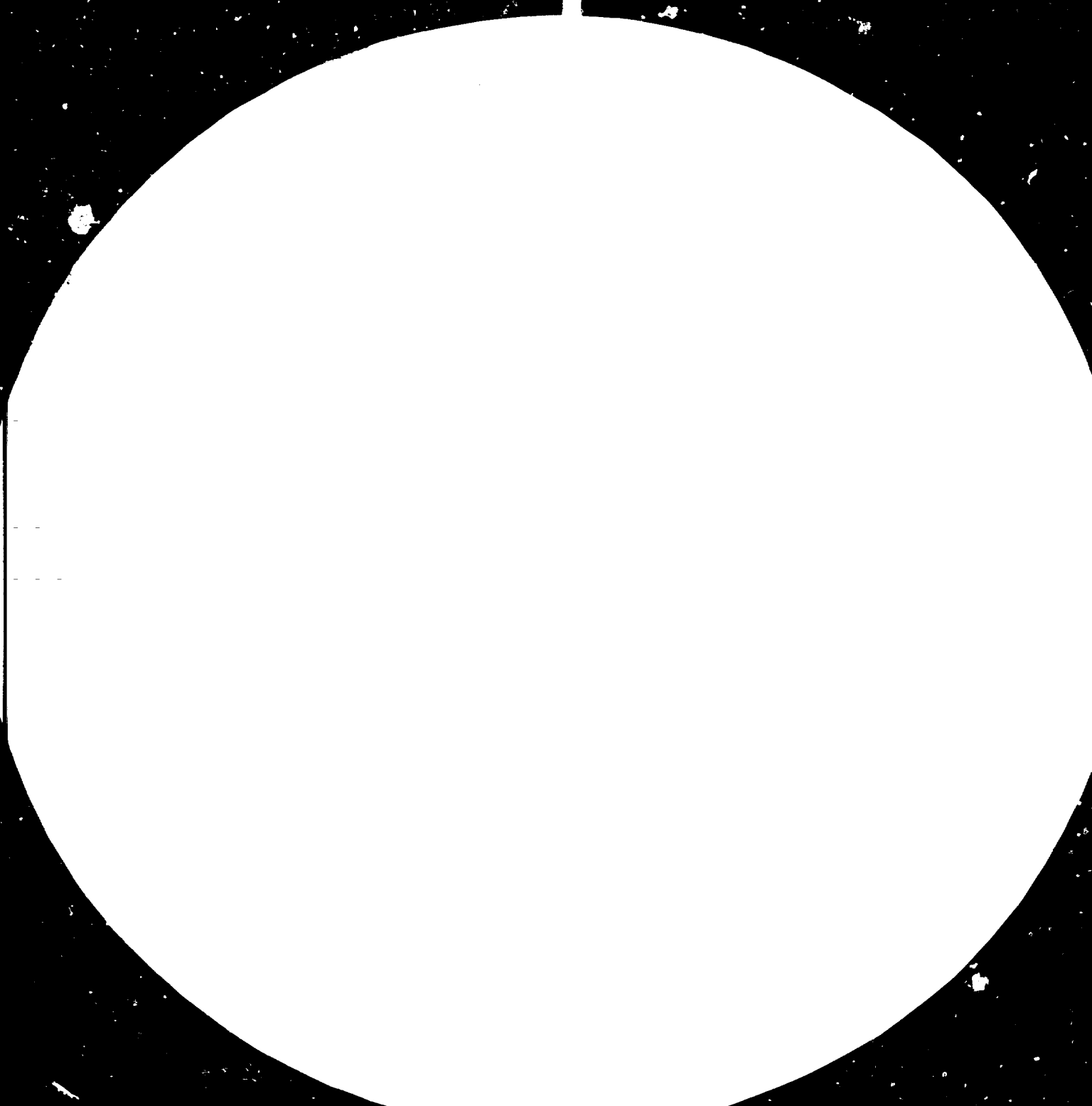
FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org





16



MICROCOPY RESEARCH, INC. 300 NORTH ZEEB ROAD

ANN ARBOR, MICHIGAN 48106 U.S.A.

11934

RESTRICTED

DP/IB/SER.A/375
1 September 1982
English

ASSISTANCE TO THE NIGERIA-NIGER
COMMISSION FOR ECONOMIC CO-OPERATION,

DP/RAF/77/020

Technical Report*

Prepared for the Nigeria-Niger Commission
for Economic Co-operation by the United Nations
Industrial Development Organization, executing
agency for the United Nations Development Programme
upon the completion of the Principal Technical
Adviser's assignment

Based on the work of Vladimir Kaigl, Principal
Technical Adviser

United Nations Industrial Development Organization
Vienna

*This document has been reproduced without formal editing.

TABLE OF CONTENTS

- I. Introduction
- II. Official Arrangements
- III. Contributions
- IV. Objectives of the Project
- V. Counterparts and Training
- VI. Equipment
- VII. Activities Carried Out and Outputs Produced
- VIII. Achievement of Immediate Objectives
- IX. Recommendations

I. INTRODUCTION

The Nigeria-Niger Joint Commission for Cooperation was created by the signature of a Convention to that aim by the two Governments in Niamey on 3 March 1971. The functions and duties of the NNJC are stated in article 2 of the Convention which reads as follows:

"The Commission is hereby vested with general and exclusive competence to identify the several ways and means of co-ordinating and harmonising the economies of the two countries with a view to achieving increased and more effective co-operation between the two countries. The Commission shall also be responsible for proposing to the two Governments, parties to this Agreement, measures and projects capable of stimulating the general establishment of full harmonious and balanced co-operation between the two countries."

In pursuance of those duties, the Secretary-General of the NNJC presented, in April 1977, an official request to UNDP, for technical assistance for the development of the Komadougou/Yobe river basin and for the execution of studies in order to promote industrial projects.

UNDP entrusted UNIDO with the execution of the Project in the capacity of the Executing Agency, with FAO acting as Associated Agency. The relevant Project Document was signed in August 1978.

The Project was envisaged to start in July 1978 but actually it was launched only in June 1979 with the recruitment of the two experts on the Project, the Principal Technical Adviser on behalf of UNIDO and the Agro-industrial Economist on behalf of FAO.

However, the incumbent on the post of the Principal Technical Adviser had to be replaced after one year by another Project Manager. Although work on the agro-industrial side had progressed satisfactorily from the beginning, the Project as such got in full gear only from July 1980 on.

It has been executed since then by Mr. Guy Lambert-Daynac, Agro-industrial Economist, and by Mr. Vladimir Kaigl, Principal Technical Adviser.

II. OFFICIAL ARRANGEMENTS

The Project Document, signed in August 1978, has not required any alterations and has remained unchanged during the whole Phase I of the Project. On the other hand, the long delay in launching the Project and in regularising its implementation necessitated several successive revisions of the Project Budget.

Budget Revision B was made in May 1979, i.e. before the actual start of the Project. Revision C was prepared in April 1980, i.e. before the regularization of the implementation of the Project. Thus, it was only Revision D drafted by the Project team and approved in December 1980 which took into consideration all delays which had occurred in the early stages, and adjusted the budget to the actual needs and possibilities. Since then, the Project has been implemented strictly in line with Revision D.

The Budget was based on cost sharing between UNDP and the two Governments. The implementation of the Project was greatly enhanced by the fact that the two Governments paid their share of the costs in cash not in instalments as anticipated but in full, right at the beginning, having thus manifested their deep involvement and their desire for the success of the Project.

In view of the results achieved, and of the growing need for further strengthening the cooperation between the member countries, the Joint Commission submitted to UNIDO and UNDP, in connection with the preparation of the UNDP Third Regional Programme for Africa 1982-1986, the request for the extension of the Project for a further period of three years.

The need for the extension of the Project having been recognised as justified, it was included in the Third Regional Programme for Africa. However, due to administrative reasons and budgetary restrictions, the remaining six months of Phase I (the Project was originally designed to end in June 1982 and was budgeted accordingly in Budget Revision D) were merged with Phase II within the overall budget established for the Third Cycle of the UNDP Regional Programme for Africa, eliminating thus any formal distinction between Phases I and II.

It was subsequently agreed upon between UNDP, UNIDO, FAO and the Joint Commission to separate from 1 October 1982, the FAO share in this Project and integrate it in the project RAF/79/030 to be called "Elaboration of a Development Strategy for the Four River Basins Common to Nigeria and Niger", that project being the further stage of the preliminary studies on the Komadougou/Yobe and Three River Basins executed originally in the framework and with the support of this Project. Thus, from 1 October 1982 this Project will be executed solely by UNIDO, without any further participation of FAO, and will concentrate exclusively on industrial development. In order to bridge the time lag, the contracts of the two experts on board were extended by three months, and the recruitment of a new Principal Technical Adviser was initiated for the period 1 October 1982 - 31 December 1984. It is also envisaged to have him supported in his work by one Associate Expert in the years 1983 and 1984.

III. CONTRIBUTIONS

According to the budget attached to the Project Document, the contributions agreed upon were as follows:

UNDP input:	US \$359,625
Governments cost sharing input:	US \$372,125
Governments input in kind:	F CFA 126,450,000

The Governments cost sharing input was fully paid right at the start of the Project, as mentioned under II above.

Due to the inflationary increase in the standard accounting figures and in the actual expenditure as well, Revision D brought the final budgetary expenditures to US \$846,883.

Following the inclusion of the extension of the Project in the Third Regional Programme for Africa, the respective share for the first six months of 1982 amounting to US \$256,888 of the original budget was allocated for the whole year 1982 within the overall amount of US \$886,467 appropriated for the years 1982-1984. However, this whole amount represents the UNDP input, the cost sharing having been discontinued in the Third Cycle for the Project.

Ultimately, following the agreement mentioned above in Chapter II, Official Arrangements about transferring the FAO share to Project RAF/79/030, the total allotment of US \$886,467 for the period of the Third Regional Programme for Africa was reduced to US \$596,617 representing wholly the UNDP input in the extended Project which will be executed solely by UNIDO from 1 October 1982 on. The respective share for 1982 is now US \$256,538.

IV. OBJECTIVES OF THE PROJECT

According to the Project Document, the development objective of the Project is the realization of a rational economic zone and the promotion of common projects and programmes leading to the development of the resources of the two member States. To this effect, the Joint Commission will reinforce its personnel capabilities in order to assist the two Governments in their selections and options in investment propositions.

The immediate objectives of the Project are:

1. To assist the Commission in the preparation, evaluation and implementation of industrial and agro-industrial projects common to the two member States, by means of execution of techno-economic feasibility studies.
2. To assist the Joint Commission in the organisation and training of the necessary staff needed for its functioning. This training will take place either in the two member States or in other countries.

The Project's main task is to contribute directly to strengthen the cooperation between the two countries in technical and economic matters, as this is the main objective of the Commission. It aims at the integration of population groups at both sides of the border through a coordinated development programme.

Finally, the protection of the environment and the development of the Komadougou/Yobe region is priority pre-occupation of the Joint Commission in relation with the activities of other international organisations.

A number of activities aimed at achieving the above objectives were tentatively enumerated in the Project Document which, however, could be modified during the execution of the project according to the priorities set by the Commission and the new request for studies submitted by the two member States.

Toward the first objective, the following activities were indicated:

1. Identification of potential investment projects determining the necessary inputs and the priorities in function of a balanced utilization of the mineral and agricultural resources.
2. Proposals for alternate locations of selected projects in the context of development policies of the regions concerned.
3. Elaboration of feasibility studies for the selected projects and preparation of terms of reference for consultants and contractors, supervision and evaluation of feasibility studies.
4. Analysis and evaluation of the projects from a social and regional development point of view.

5. Promotion of the projects selected by the Commission for the preparation of financing profiles and submission to development banking institutions, preparation of industrial profiles and brochures.
6. Study of an incentive system to channel public and private investment towards the priority projects.
7. Evaluation of appropriate technologies for the industrial project selection.

And the following activities were indicated toward the second objective:

1. Study and analysis of the needs and availability of personnel at the Commission and project level.
2. Preparation of a detailed plan of the needs of staff training as well as of a complete training programme by means of fellowships organized in the member States and abroad.
3. Eventual proposals and organization of study trips abroad for the staff of the Commission.

V. COUNTERPARTS AND TRAINING

According to the Project Document, two professional staff members should have been assigned as counterparts to the international experts, viz., the Director of Economic Affairs and the Economic Affairs Officer. The NNJC has made great efforts for a long time for overcoming the difficulties in recruiting qualified national professional staff. In spite of those efforts, the Project was without counterparts for the major part of its duration.

It was only in September 1981 that the Director of Economic Affairs was recruited in the person of Mr. Boureima Gado of Niger. The second post is, however, still vacant.

This fact has considerably reduced the opportunity for carrying out the training component of the Project. Nevertheless, two fellowships and one study tour have been granted and implemented so far:

- i) The Assistant Secretary-General, Mr. Boureima Magagi, was granted a one-month fellowship, from 1 to 31 August 1981, at the Regency School of English in the United Kingdom, the stipend having been paid by the British Council.
- ii) The Director of Economic Affairs, Mr. Boureima Gado, was sent on a study tour to FAO, Rome, from 16 to 30 January 1982, to participate in the discussions on the Four River Basins project and to acquaint himself with the activities and procedures of FAO.

iii) The same Officer was granted a fellowship to participate in the Seminar on Identification, Evaluation and Execution of Projects, held at the Ecole Internationale de Bordeaux from 22 February to 9 April 1982.

In addition, on-the-job training was organised for the Director of Economic Affairs through his participation in the work on the pre-feasibility study on Manufacturing of Appliances Based on the Utilization of Solar Energy, alongside the two consultants carrying out that study.

A similar on-the-job training is envisaged in the course of the three other pre-feasibility studies which will be undertaken shortly, alongside the teams of the respective contractors.

He was also thoroughly briefed, in retrospect, on the ways of the preparation, execution and follow-up of the pre-feasibility study on Flour Milling, and information meetings were arranged for him at the Ministries concerned. A similar briefing was also organised regarding the Komadougou/Yobe and the Three River Basins studies, and he participated at the discussions on that subject at FAO Headquarters in Rome as mentioned under (ii) above.

VI. EQUIPMENT

The amount budgeted for the purchase of equipment was U.S. \$18,000.

The following equipment was purchased:

1 Vehicle Toyota Land Cruiser at the cost of U.S. \$12,455 in 1980

1 photocopying machine Sharp SF 740 at the cost of U.S. \$3,162 in 1980

1 Mobylette at the cost of U.S. \$417 in 1982

2 desk calculators Sharp CS-2186 at the cost of U.S. \$280 in 1982

All that equipment is in good condition. It will be put in custody of UNDP for handing it over to the new project manager.

VII. ACTIVITIES CARRIED OUT AND OUTPUTS PRODUCED

The Project team concentrated their efforts primarily on the identification, selection, justification, designing, supervision and evaluation of a number of pre-feasibility and preliminary studies, along the criteria and activities outlined in the Project Document and enumerated above in Chapter IV. Objectives of the Project. The Terms of Reference for each individual study were conceived in such a way as to comprise in particular those of the activities described there under the numbers 1, 2, 3, 4 and 7.

Unfortunately, a substantial delay in the execution of the newly identified and proposed studies (described under (v) to (viii) below) was caused by the decision of the XIIth session of the Council of Ministers in December 1980 that the Secretariat should not disperse its efforts, but should rather concentrate on those projects already identified and which are now receiving active attention at the Joint Commission, with a view to ensuring their successful implementation." Moreover, at the same session it was decided that only one session of the Council of Ministers should be held exceptionally in 1981, although the Convention establishing the Joint Commission stipulated that the Council should meet at least twice annually.

Due to those decisions, the Meeting of Experts held in July 1981 could only pass a recommendation for launching the newly proposed studies which was then officially adopted by the XIIIth session of the Council of Ministers only in December 1981.

However, that time lag was utilised for a thorough preparation of the respective Terms of Reference and Job Descriptions so that the recruitment of consultants and the tender procedures could be started within days after the decision by the Council of Ministers, and still charged against the Project budget for 1981 as originally foreseen.

From the formal point of view, the studies can be ranged in two categories. First, studies financed out of the Project budget and second, studies financed from other sources as the outcome of successful endeavours to expand the scope and the outputs of the Project beyond its own limited funds.

In the following recapitulation of the Project's activities, no difference is made between those two categories but the particular source of financing is indicated for each individual study. The studies are dealt with in the historical sequence of their implementation.

From the beginning of the Project, the following studies were launched, carried out or prepared for execution:

(i) Development of Millet and Sorghum Milling Industry in Niger and Nigeria - SI/RAF/77/801

The project, originally identified back in 1972, was formulated in 1977 in the Project Document SI/RAF/77/801 of 3.2.1977 with a budget of US \$17,100 and at the time of the launching of this Project, it was revised on 5.12.1979 under the same number but with a budget of US \$26,000. It was financed by SIS and executed by UNIDO.

The purpose of the pre-feasibility study was to:

- a) survey the market for various flours in Niger and Northern Nigeria including distribution and prevailing price structures;
- b) determine capacities of production, locations and list of plant machinery and equipment;
- c) evaluate costs of investment and production;
- d) assess the financial and economic viability of the proposed mills;
- e) determine further technical assistance required in regard to investment follow-up, construction and start-up.

The pre-feasibility study was subcontracted to Marplan-Toepfer Institut and carried out from January 1980.

The main conclusion was that there was a sufficient market warranting the establishment of eight industrial mills in Niger and of several others, in addition to the existing ones, in Nigeria.

After a visit to the company Schule specialised in the construction of millet and sorghum mills, and another visit to the Sudan where experiments in sorghum milling are under way the whole programme was eventually divided in four phases.

After the above mentioned pre-feasibility study representing Phase I, there would follow a feasibility study on the establishment of three pilot mills in Niger and Nigeria as Phase II, the implementation of which on a semi-industrial scale as Phase III would enable to prepare all material conditions, including the marketing, for the final Phase IV which will consist of the creation of a full-fledged milling industry covering the needs of the population of the cities.

For satisfying the needs of the rural population, another project was prepared concerning the manufacture of village mills for millet and sorghum. This project is reported upon under (vii) below.

The recommendation for carrying out the feasibility study on the establishment of three pilot mills was adopted by the Council of Ministers in December 1981.

The original intention was, in view of the budgetary restrictions imposed on this Project, to have that feasibility study made by using bilateral aid. However, after protracted negotiations back and forth, this way finally proved to be not accessible.

The Secretary-General therefore decided quite recently to request UNIDO to carry out this feasibility study in 1982 within the budget of this Project, in lieu of the pre-feasibility study on glass containers reported upon under (viii) below, the implementation of which would be postponed to 1983.

(ii) Preparation of a Master Plan for the Rural Development of the Lower Basin of the Komadougou/Yobe River

After some preliminary work undertaken in the previous years, the development of the Komadougou/Yobe River Basin as well as of other river and lake basins common to the member countries of the Joint Commission was included specifically in the planned outputs of this Project and moreover it was emphasized under Special Consideration in its Project Document.

The Council of Ministers of the Joint Commission reiterated, at its session in December 1979, the importance attached to the elaboration of a strategy for the development of the water resources and of the agricultural potentials of that region within the framework of the Joint Commission.

They also directed the Secretary-General to maintain a policy of close cooperation and co-ordination of the activities of the Joint Commission in the region with the Lake Chad Basin Commission in order to avoid any overlapping with the latter's overall projects in the area which is physically located within the conventional basin of Lake Chad.

The work plan established in August 1979 envisaged three phases for the execution of that task, namely:

- (a) a short-term multi-disciplinary formulation mission;
- (b) a pre-investment study of a 2-year duration for devising the general development strategy;
- (c) a series of specific developmental actions to be included in the future national development plans of the two countries.

The first phase was financed by the FAC under a TCP credit. The project TCP/RAF/0001 with the budget of U.S. \$56,750, signed on 3 April 1980, stipulated the following objectives:

- (a) to evaluate the potentialities of the region and its existing resources;
- (b) to define the priorities;
- (c) to prepare an indicative programme of the technical studies to be undertaken in the form of a project document.

A multi-disciplinary mission consisting of eight experts was fielded in the Komadougou/Yobe area in May/June 1980. The comments of the Commission as well as of the various technical divisions of FAO were incorporated in the preliminary report of the mission during a meeting held in Rome in July 1980. The terminal report in both languages was distributed in December 1980.

The first phase produced the following results:

1. the report of the mission describing in details the present situation in the region, the constraints to its development and the suggested global approach to development;
2. the description of the project, its specific objectives, the expected outputs and the activities to be carried out;
3. an action programme showing the coherence of the actions to be undertaken and their time-table.

The project was attributed the code number RAF/79/030 with a preliminary budget of U.S. \$2,650,000.

The Council of Ministers of the Joint Commission adopted, at its session of December 1981, the main lines of the project as suggested but with some proposals, and directed the Secretary-General to pursue his efforts for ensuring the financing required.

The need for implementing Phase II of the programme was recognised by both UNDP and FAO which resulted in the inclusion of the project RAF/79/030 in the Third Regional Programme for Africa 1982-1986, with a budget allocation of U.S. \$1,000,000 out of which U.S. \$150,000 in 1982.

During the meeting held in Rome in January 1982, devoted to discuss and finalize the Report of the Study on the Development of Three River Basins Common to Niger and Nigeria (reported upon under (iii) below), it was decided to merge both projects as well as the FAO part in this Project RAF/77/020 into one project to cover the totality of the issues of rural development of all river basins common to the two countries, to be executed under the project number RAF/79/020. A discussion of this new project is to be found under (iv) below.

(iii) Preparation of a Master Plan for the Development of Three River Basins Common to Nigeria and Niger

The Council of Ministers of the Joint Commission decided in December 1979 to study, beside the Komadougou/Yobe river basin, also all other water resources common to the two member countries.

At its next session, in June 1980, the Council decided to entrust the respective national services with the execution of the two-year Project for the evaluation of surface water resources common to both countries within the framework of the Joint Commission. The total project cost estimated at #101,577

or U.S. \$180,000 was contributed by member States. It also decided that the Secretary-General should approach international organizations and financial institutions for financial assistance to carry out a global study of an integrated development of all those river basins.

The work plan established in pursuance of that mandate envisaged, as was the case with the Komadougou/Yobe project but taking into account the specifics of each particular river basin, three phases for the execution of that task, namely;

- (a) a short-term formulation mission, as Phase I;
- (b) a pre-investment study of a 2-year duration for devising the development strategies for each particular river basin, as Phase II;
- (c) a series of specific developmental actions aimed at the implementation of the above strategies as Phase III.

Phase I, the formulation mission, financed out of the Budget of this Project, was carried out by two consultants recruited by the FAO, in the second semester of 1981. Its objectives were:

- 1) to visit the whole zone and make a rough assessment of the existing and potential resources;
- 2) to propose a number of projects adapted to the local needs in the framework of the mandate given to the Joint Commission;
- 3) to draft detailed documents required for the execution of Phase II.

The preliminary report of the formulation mission was submitted in October 1981. Faced with the existence already of many development projects and many other under preparation on both sides of the border, the report stressed the

necessity for a bilateral agreement on a balanced utilization of the scarce water resources and the setting up of appropriate structural linkages between the Joint Commission and the respective technical services of the two countries. The report further proposed a number of sectoral and institutional measures and programmes.

At a meeting of the Secretary-General of the Joint Commission with the FAO held in Rome in January 1982, the report of the mission was finalised. Simultaneously, it was decided to merge the project with the Komadougou/Yobe Project as already mentioned under (ii) above, taking into account their complementarities and/or similarities as well as the necessity to formulate a global policy for a co-ordinated utilization of all water resources common to the two countries.

The end results of Phase I are:

- 1) a preliminary report delineating the given zone and an outline of the programme complemented by six projects to be carried out;
 - 2) a report of the mission assessing in detail the present situation, the constraints and the differences between the individual river basins, and five project proposals.
- (iv) Elaboration of a Development Strategy for the Four River Basins Common to Nigeria and Niger
DP/RAF/79/030

As stated earlier, the meeting at FAO in Rome held in January 1982 decided to merge the two projects reported under (ii) and (iii) above (Komadougou/Yobe and Three River Basins) into one, in view of the similarity of the conclusions of the two studies, the methodology to be adopted as well as of the common aims to be pursued (i.e. self-sufficiency, integrated and co-ordinated rural development, ecological protection and

optimization of the use of water resources). In particular, considerable savings will be realised from so doing.

The total cost of the merged project was reduced, in this way, to about U.S. \$3,550,000 out of which US \$1,289,850 will be financed by UNDP in the Third Regional Programme for Africa.

The programmed activities are as follows:

- 1) strengthening of the Planning Unit of the Joint Commission and setting up of two temporary bases in Diffa (Niger) and in Katsina (Nigeria), to be financed by UNDP;
- 2) carrying out of an inventory of water resources and elaboration of a comprehensive report on the Development strategy of the region and programmes of action;
- 3) execution of the findings and recommendations of the previous two mission reports, by individual sectors - to be financed by EDF, Belgian Cooperation and Canadian CIDA, details under discussion;
- 4) carrying out of several pilot projects complementary to those to be carried out by CIDA at Liffa;
- 5) setting up of auxiliary structures; documentation centre, co-ordination of research, drafting of a legal convention on the co-ordinated use of water resources - financing to be sought ad hoc.

The project will be launched in October 1982. To this aim, the procedure for the recruitment of the Principal Technical Adviser has already been initiated.

(v) Preliminary Study on the Iron Ore Deposits at Say - DF/RAF/79/067

This project has dragged on without implementation for a number of years mainly for lack of financing. But at the end of 1980, the Secretary-General of the Joint Commission managed, with the assistance of UNIDO, to streamline the contents of the study to be undertaken and its budget, and to mobilise on that

basis the respective contributions by the JNDP and by the member countries as well. This resulted in the inclusion of the project in the UNDP Third Regional Programme for Africa 1982-1986 with the budgetary allocation of US \$370,421.

The development objective of the study is to explore the iron ore deposits at Say in the Republic of Niger for techno-economic appraisal of the viability of the deposits which might form the basis of the development of the iron ore mining and iron and steel industry.

The immediate objectives of the project are:

- a) To identify the quantity and quality of the iron ore resources to be economically mined.
- b) To assess techno-economically the beneficiation characteristics of the ore including the associated iron ore recovery and the quality of concentrates.
- c) To assess techno-economically the pelletization characteristics of the concentrates and direct reduction characteristics of the pellets.
- d) To train local staff in the field of minerals development projects.

The Study, executed by UNIDO, was subcontracted to the company KHD Humboldt-Wedag A.G. which started fieldwork in co-operation with the Office National des Ressources Minières (ONAREM), in November 1981. The duration of the study will be approximately three years.

In order to assess the progress made and to find solutions to some initial problems, a meeting of the Technical Review Committee, consisting of representatives of all interested parties (the Government of Niger, the NNJC, UNIDO, ONAREM and Humboldt-Wedag) was held in Niamey on 5 May 1982.

During the period under review, i.e. to 3 May 1982, the following works were completed:

- 23 drillholes with total depth of 643m and with a core recovery of 75%;
- 43 trenches with an average excavation volume of 9 m³/trench;
- 414 samples collected, of which 285 samples were taken from trenches and 129 samples from drillcores,
- 145 chemical analyses completed.

A number of obstacles encountered particularly at the beginning of the work had to be overcome. For instance, because of unsatisfactory core lifting during the first drillings due to an unusually soft composition of the geological layers, it was necessary to develop a new drilling method, viz., a combined solid drill-rotary-diamond core drilling and percussion-rod method. Thanks to the development of this new method for which the necessary additional equipment was delivered by air by the contractor, this combined drilling method has yielded satisfactory core liftings from mid-January 1982.

However, a number of contract provisions stipulating the obligations of ONAREM have been carried out with substantial delays or have not been met at all, the most serious of which having been the non-provision of Chemical Engineer and laboratory staff for the chemical analysis of core samples.

The Technical Review Committee adopted a number of measures aimed at ensuring and accelerating the implementation of the study.

The most relevant outstanding problem is the apparent inability of ONAREM to provide a competent chemist and auxiliary laboratory staff to work on the chemical analyses of ore samples which are a sinequa non for the correct evaluation of the deposits and, thus, for the successful implementation of the aims of the study. In case that serious shortcoming is not solved within three months, it will be necessary to extend the work of the chemist of the Contractor and, consequently, to seek the appropriate ways and means of how to finance this additional task exceeding the contract duties as stipulated by the Project Document.

(vi) Pre-feasibility Study on Manufacturing of Appliances Based on the Utilisation of Solar Energy

The study, financed out of the budget of this Project, was carried out by two consultants from end-April to end-June 1982.

The objective of the study was to assess the existing production facilities of the Office National de l'Energie Solaire (ONERSOL) in Niamey, to carry out a market study covering Niger and Nigeria and, based on its findings, to prepare a programme for the expansion of the existing capacity and product range, to undertake the financial analysis and the economic appraisal of the proposed expansion project with the aim of transforming the manufacturing plant into a joint venture between Niger and Nigeria, in order to create access to a wider market for the products of the ONERSOL plant leading to a considerable improvement of the quality of the product and a tangible reduction in the unit costs.

The Draft Terminal Report on the Study contains the following main recommendations:

- 1) To separate the manufacturing plant from ONERSOL and to create a new company "ONERSOL Industry" as a joint venture with the participation of the state of Niger and local and/or foreign private shareholders, in particular companies from Nigeria which may be associated as suppliers of components and raw materials.
- 2) To gear the activities of "ONERSOL Industry" towards manufacturing, marketing, installation, maintenance and training in the field of solar appliances.
- 3) To carry out the restructuring and expansion of the company in stages, viz., an interim stage during which the present products would be manufactured and complete products would be imported from abroad and tested; the next stage would consist of the assembly of the selected new products; and in the last stage, the new products would be assembled out of components produced by industrial enterprises in Nigeria.
- 4) To set up and implement, in the course of the above stages, a programme of marketing and distribution, demonstration, promotion and training.
- 5) To carry out the appropriate investment programme in consistency with the above stages.
- 6) To seek foreign private partners in the joint venture from among potential suppliers of components and raw materials, as well as potential distributors, particularly in Nigeria.

(vii) Pre-feasibility Study on Manufacturing of Village Mills for Millet and Sorghum

This study is financed out of the budget of the Project. It was recently subcontracted to SOFRECO, a French Consultancy Firm, and it is about to be launched.

The development objective of the study is the achievement of the following policy objectives declared in the national development plans of both member countries of the NNJC:

- 1) Rural development through the establishment of small scale industrial units in rural communities;
- 2) The creation of employment in rural areas, thus putting a stop to the drift to urban areas from the rural areas;
- 3) The liberation of women from the tedious job of pounding, in favour of other productive activities;
- 4) The introduction of a technology appropriate for the specific conditions of the rural areas in the Sahel zone;
- 5) The decentralization of industrial development generating important savings on storage and transport costs and contributing to the stability of prices;
- 6) Foreign exchange savings by import substitution.

The immediate objectives of the study is to investigate the following main issues:

- a) to survey the present situation in comparison with the assessment of the actual needs and the potential market for village mills;
- b) to recommend the appropriate type of grinder/decorticators and of engines to be manufactured;

- c) to determine the production programme and capacity of the plant to be set up, the technology to be used, the appropriate distribution channels including promotional policies, and the organization of maintenance;
- d) to recommend the optimum location of the plant;
- e) to determine the manpower requirements and the appropriate training schemes; and
- f) to make a thorough financial analysis of the project and its national socio-economic evaluation in respect of both countries and of strengthening their mutual co-operation.

The findings and recommendations of the pre-feasibility study will be submitted to the Council of Ministers of the NNJC at a later date.

(viii) Pre-feasibility Study on Manufacturing of Glass Containers

The study is financed out of the budget of the Project. Tenders have already been called by UNIDO and the decision about the awarding of the contract is due in the second half of 1982 so as to enable the implementation of the study at the beginning of 1983.

Both member countries of the NNJC have a growing beverages industry and fruit and vegetable processing industries. However, the expansion of those industries brings about growing requirements for the importation of bottles, jars and other glass containers, the continued importation of which would cause considerable drain on foreign exchange resources, and raise substantially the cost of those important consumer products, limiting thus the demand.

The solution to the problem is the establishment of a local glass containers industry provided two basic conditions are met, viz., a sufficient demand warranting such a scale of production which would enable it to become profitable, and the existence of sufficient and easily exploitable deposits of the principal raw materials such as silica sand, limestone, dolomite and feldspar.

Hence, the aim of the pre-feasibility study is to investigate the following main issues:

- (i) to identify the relevant raw material deposits and to assess roughly their exploitable quantities and properties;
- (ii) to assess the existing and potential demand for glass containers;
- (iii) to determine the production programme and capacity of the factory to be set up, the technology to be used, and the manpower requirements;
- (iv) to identify the best type of financial or contractual relationship between the development of raw material deposits and the manufacture of glass containers;
- (v) to recommend the optimum location of the factory;
- (vi) to make a thorough financial analysis of the raw material development and of the manufacturing project and national economic impact in respect of both countries, taking into account the objective of strengthening their mutual cooperation.

The findings and recommendations of the pre-feasibility study will be submitted to the Council of Ministers of the NNJC at a later date.

(ix) Pre-feasibility Study on Manufacturing of
Plastics for Application in Agriculture

The study is financed out of the budget of the Project. Tenders were called by UNIDO and the decision about the awarding of the contract is due shortly so that this study be implemented in the second half of 1982.

Niger and a considerable part of Northern Nigeria belong to the Sahel region. This region suffers from considerable losses in agricultural production due, on the one hand, to water scarcity throughout the entire region and, on the other hand, to lack of adequate facilities for the stocking and transportation of harvested products, particularly of millet and sorghum which are the principal crops in the area. Plastics, particularly in the form of film such as foils and bags, have become widely applicable to remedying such losses in many countries.

Hence, a co-ordinated and mutually supporting development of the plastics industry oriented to agricultural purposes which could ideally be based on Nigeria's oil and natural gas and on its petro-chemical industry, is desirable for the benefit of both member countries of the Joint Commission.

The aim of the pre-feasibility study is to undertake the following main tasks:

- a) to assess the agricultural needs to be satisfied by the utilization of plastics in production and in stocking and transportation of produce;
- b) to identify the appropriate types of plastic foils and bags for the above purposes and to estimate the potential demand;

- c) to determine the kinds of raw materials and intermediates required for manufacturing the selected types of foils and bags, and to identify their potential local supplies;
- d) to determine the promotion programme of the plastics plant to be set up, its capacity, the technology to be used, its location and manpower requirements;
- e) to make a thorough financial analysis of the project and its national socio-economic evaluation in respect of both countries, taking into account the objective of strengthening their mutual co-operation.

The findings and recommendations of the pre-feasibility study will be submitted to the Council of Ministers of the NNJC at a later date.

(x) Identification of Other Potential Projects

Whereas the nine projects reported upon above either were already implemented or are under implementation now, a number of other potential projects were identified and/or prepared in the form of project ideas for potential use by the Joint Commission. They were:

a) Production of cattle vaccines

The Joint Commission has dealt since 1978 with cattle trade between Niger and Nigeria. One among the constraints encountered is the sanitary problem which the Commission helped to solve from the administrative point of view. However, there still persists the danger of cattle pleuropneumonia due to the lack of sufficient quantities of vaccines in Niger. The project idea aimed at extending the experience in the production acquired by Nigeria to

Niger and at utilising at the beginning, the present excess capacity of the given Nigerian industry. However, Niger gave preference to a direct assistance by FAO. A national project is under preparation now.

b) Establishment of semi-industrial fish smoking units

In view of the fact that the greater part of smoked and dried fish is exported from Niger to Nigeria but with heavy losses during the transportation due to insufficient treatment of fish, a project was prepared aimed at setting up two to three industrial units which would enable higher quality standards, substantially reducing the losses and, thus, to increase the earnings of fishermen whilst reducing the use of wood which causes a dangerous deforestation.

c) Production of malt from sorghum

In view of the traditional use in Africa of sorghum in a malted form for preparing various dishes or drinks, a study was suggested to examine the advantages of producing malt from sorghum for making weaning foods for children and for fighting against malnutrition and for the breweries in both countries rather than importing malt for the traditional uses.

d) Production of adapted gas stoves to reduce deforestation

With the aim at fighting against deforestation, so dangerous in the Sahel region, a study was proposed on the small scale production of cheap gas stoves and of cooking devices appropriately adapted to the use of Nigerian natural gas, at cheap prices. This may help to reduce the rapidly progressing deforestation of the Sahel region causing desertification, as the result of using scarce wood resources for cooking purposes.

e) Establishment of slaughter-houses combined with pilot drying shops in rural areas

A complete set of project papers was prepared on the above project idea with a view to improving the sanitary conditions at small slaughter houses in rural areas as well as the treatment of hides. Because this problem concerns primarily Niger which traditionally exports cattle rather than meat to Nigeria, the papers were transmitted to the Ministry of Rural Development of Niger.

f) Improvement of rural storage of cereals

Based on the finding that main losses from storing cereals occur not so much from traditional stocking at the village level but rather during the transportation of cereals to the consumption centres, a paper was prepared on the various causes of after-harvest losses. The document was consulted by various experts who came to Niger.

g) Improvement of the treatment of hides and skins

Taking into account the development of the leather industry in Nigeria and the importance of cattle raising in Niger, the project idea on how to improve the treatment of hides and skins in order to get a better quality was formulated.

h) Production and exchange of prepacked fresh produce

In view of the complementarity of the growing seasons of a number of fruit and vegetables in Niger and in Nigeria, a complete file was prepared for a study on the creation of mutual exchange of respective produce between the two countries, making use of the refrigerated transport capacity in Nigeria which would enable it partly to utilise the presently empty return trips occurring in the meat trade.

i) Common phytosanitary measures concerning groundnuts

The suggestion was made for a co-ordinated action in this respect by the two countries to control the occasional invasions of greenflies, causing a considerable damage to the groundnuts crops.

* * * * *

Thus, through all those studies, the activities enumerated in the Project Document under F.1, 2, 3, 4 and 7 were carried out, as mentioned above. However, as none of the industrial studies has reached yet the stage of a full-fledged feasibility study, it was not possible to implement the activity No. 5, i.e., "Promotion of the projects selected by the Commission for the preparation of financing profiles and submission to development banking institutions, preparation of industrial profiles and brochures". This task remains to be implemented in Phase II of this Project, once the results of the studies undertaken or launched during Phase I are found positive and the Commission decides to have the respective feasibility studies done.

On the other hand, activity No. 6 concerning a study of an incentive system to channel public and private investment towards the priority projects, was carried out separately by devising a set of recommendations in that respect which was submitted to the Commission in a paper entitled "Granting of Incentives to Industrial Projects Undertaken under the Auspices of the Nigeria-Niger Joint Commission for Cooperation".

The paper recommended that the member countries adopt, through a decision of the NNJC Council of Ministers, the following incentives:

- 1) Each country will declare to grant to industries set up on the basis of the Joint Commission's studies and recommendations, when located on her territory, the highest degree of incentives applicable to priority industries according to the respective Investment Code.
- 2) Each country will grant by means of a waiver of import duties, duty-free access to the products of such an enterprise located by mutual agreement on the territory of the other member country of the Joint Commission. This may be done either case by case or, preferably, by means of a general agreement concerning, of course, only and exclusively common industrial projects recognised as such by the Commission's Council of Ministers. It is understood that such a privilege would not contravene the respective rules of ECOWAS or GATT.
- 3) In order to promote joint ventures between the two member countries, each country will facilitate the transfer of investment capital, whether public or private, from one country to the country where the respective plant will be by decision of the Council of Ministers located, by waiving the various monetary restrictions concerning currency transfer abroad.

The need was emphasized in the paper for a decision on granting the above incentives to be adopted in advance, prior to the commissioning of the respective feasibility studies so that those can include the particular incentives in the calculation of the costs of the project and of its profitability. It was stressed that this fact would by itself be instrumental

in attracting venture capital, private or public, to the speedy execution of such common projects.

The paper will be formally submitted to the Council of Ministers in due time, after the first of the industrial pre-feasibility studies currently under way will bring positive results and a firm recommendation for setting up a particular common industrial project.

As far as the activities aiming at the second objective of the Project are concerned, viz., its training component, they have been implemented through the organisation of two fellowships and of one study tour taking due regard, of course, of the late recruitment and the restricted number of the counterparts at the Commission. Details are given above in chapter V., Counterparts and Training.

The need for the extension of this Project and for the subsequent transfer of the FAO share in it to the Project RAF/79/030 "Elaboration of a Development Strategy for the Four River Basins Common to Niger and Nigeria", necessitated the drafting of the respective Project Documents which was executed by the Project team.

Finally, it is worth mentioning that all activities of the Project were planned in the Project Document as permanent activities. Hence, the sequence of the launching and of the implementation of each of them was determined as a function of the development of the work of the Joint Commission as guided by its Council of Ministers, as well as of the initiative of the Secretary-General and of the Project team and of their judgement on the appropriate timing. This was then reflected in the successive work programmes of the Project.

VIII. ACHIEVEMENT OF IMMEDIATE OBJECTIVES

The immediate objectives of the Project, as enumerated in chapter IV. above, were achieved.

1. The Project assisted the Joint Commission in the preparation and evaluation of industrial and agro-industrial projects common to the two member States by means of execution of techno-economic pre-feasibility studies.

It has to be noted in this context that, although the Project Document speaks of techno-economic feasibility studies, the logic of the project preparation calls for any feasibility study to be preceded by a pre-feasibility study in order to determine first whether the project is viable and worth pursuing. The stage of pre-feasibility study is omitted only in exceptional cases when all relevant data have already been assembled through other means and duly evaluated. Moreover, in general practice, full-fledged feasibility studies are carried out only after the required financing has been assured. And the investors and banking institutions generally insist on undertaking the feasibility study by themselves or at least under their own control.

Thus, the Project has implemented so far the first stage of the project preparation process, and in several cases prepared the second stage. The first stage will eventually be followed by the elaboration of feasibility studies and the implementation of the approved projects as the next stages.

2. The Project also assisted the Joint Commission in the organization and training of the necessary staff needed for its functioning as far as it was possible in view of the slow recruitment of the professional officers for the established posts on the Commission's manning table.

As demonstrated in the preceding chapter VII. Activities Carried Out and Outputs Produced, the outputs of the Project were in conformity with the Project Document as stipulated there in a general way under (a) to (f) of Chapter E. Outputs, and they were geared towards the achievement of its immediate objectives and, thus, of its development objective as well:

(a) and (b)

The methodology used for the preparation, the presentation, the study and the evaluation of industrial projects was based on the following UNIDO documents which were made available to the staff of the Joint Commission;

- (i) Manual for the Preparation of Industrial Feasibility Studies,
- (ii) Guidelines for Preparation of Terms of Reference for Sub-contracting,
- (iii) Guidelines for the Preparation of Industrial Feasibility Studies for Consulting Firms, and
- (iv) Manual for Evaluation of Industrial Projects.

The procedures contained in the above documents were applied to concrete cases of the individual studies prepared and launched by the Project, and adjusted to the nature and aims of each particular study.

- (c) The means to put into action in order to encourage the promotion of common enterprises private or public were elaborated in a paper submitted to the Commission which was entitled "Granting of Incentives to Industrial Projects Undertaken under the Auspices of the Nigeria-Niger Joint Commission for Cooperation".

(d) and (e):

Training of the staff of the Joint Commission on the job and abroad was carried out in line with the actual possibilities and requirements.

(f) Finally, plans for the development of river and lake basins common to the two countries were prepared, with a view to protect the environment and to take profit of the natural resources.

Thus, all outputs programmed under (a) to (f) in chapter E. of the Project Document were achieved through the activities described in the preceding chapter VII.

IX. RECOMMENDATIONS

Account taken of the progress achieved and of the experience gained during the first three years of the Project, of the work under way, as well as of the outputs and activities as outlined in the amended Project Document, the following recommendations are made for the remaining two and a half years of the extended Project and beyond:

- 1: In case the pre-feasibility studies launched and/or carried out during the first phase of the Project bring positive results and the recommendations for setting up particular industries are adopted by the Commission, the Project should concentrate on the follow-up by utilising the various ways and means as appropriate, such as:
 - a) carrying out a full-fledged feasibility study;
 - b) assistance in the search for, and in negotiations with prospective financing sources on the execution of a particular feasibility study to be followed by financing the respective investment project;
 - c) preparation of financing profiles and submission to development banking institutions, preparation of industrial profiles and brochures, in execution of the activity No. 5 as indicated in the Project Document;
 - d) preparation for, and assistance in the negotiations on the establishment of a joint venture for the execution of the given industrial project.

2. It can be assumed that the economic development of the member countries will open further opportunities for a number of other potential projects of common interest. The Project should, therefore, continue

the work on the identification, selection and justification of such new projects and on the study of the most promising among them; taking into consideration some of the already identified project ideas (see chapter VII (x) above).

3. In order to have the necessary information for initiating new common projects, it would be most helpful if both member Governments would provide the Commission not only with the full texts of their respective national development plans but also with the results of any periodic assessment of their implementation and/or their updating. In the case of Nigeria, also the provision of the development plans, and of their updating, of the individual States, particularly of those in the North, would be most desirable.
4. Still to the same aim, and in order to avoid any overlapping or unnecessary duplication of efforts, UNIDO and FAO should regularly supply the Commission with an up-to-date information on its technical assistance programmes not only in Niger and Nigeria but also for those regional and sub-regional organizations of which both countries are members.
5. In the field of policies, the Project should further elaborate on the incentives for the promotion of common industrial projects and on their introduction for the sake of strengthening the economic cooperation between the member countries.
6. With respect to the growing workload of the Secretariat of the Joint Commission connected with the increasing number of studies and with the need for servicing them and implementing their findings and recommendations, it is indispensable to achieve a full professional staffing of the Commission. First of all, it is necessary to fill the gap in the present manning table by the recruitment of the Economic Affairs Officer to help the Director of Economic Affairs in his work. He should ideally be an Industrial Economist.

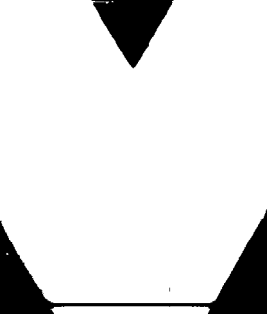
Simultaneously, the forthcoming launching of the project RAF/79/030 will necessitate to complement the manning table by a post of an Agro-Economist and another post of an Agricultural Planner. Eventually, with the prospect for the termination of this Project by the end of 1984, it will become necessary to further strengthen the professional capacity of the Commission's Secretariat to enable it to fully assume all duties carried out so far by the experts on the Project. This should be done sufficiently in advance so that the Commission's professional staff may still benefit from fellowships and on-the-job training in the framework of this Project.

7. In case the Economic Affairs Officer still to be recruited will be English speaking, he should be granted a fellowship to attend the twelve-week course on Planning and Appraisal of Industrial Projects organised annually, in cooperation with UNIDO, by Bradford University, Centre for Developing Countries, in the United Kingdom.
8. Experience has proved the impossibility of serving with only one Project car and one driver both the Experts on the Project team and the various Consultants or members of Contractor's teams carrying out individual studies which always involve extended travel in various areas of Niger and Nigeria. Therefore, a special item to cover transport costs by means of renting a car should be budgeted for every individual study and, consequently, should be included in the amount of each respective subcontract or added to the cost of the consultants.
9. The specific circumstances of the work of the Joint Commission call for the submission of all studies and reports in both English and French, moreover in a rather large number of copies which have to be made available to various interested branches of both

member Governments. Therefore, the rather high costs for the typing, translation, editing and reproduction of study reports in two languages must be taken account of in the Project budget and, in a similar way as recommended under 8. above, be included in the amount of each respective subcontract or added to the cost of the consultants.

10. As far as the project RAF/79/030 is concerned, its complexity requires that particular attention be given to the following measures:

- a) participation of national staff in the programmes from the very beginning, in implementation of the decisions of the Council of Ministers of December 1980 and December 1981;
- b) inclusion of extension officers in the programme to guide and stimulate the farmers to implement the recommended small projects and to acquire the improved techniques;
- c) in view of the large area covered by the project (2,000 km x 250 km) and of the distances between the project's Headquarters and its operational bases, particular care should be taken of establishing and maintaining radio communications and vehicle liaison;
- d) as it is envisaged to support the execution of the pilot projects in kind by the WFP, it is necessary to define the volume and the nature of the contributions in kind right at the start of the project in 1982.





1

2

3