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Industrial Survey

FINAL REPORT 1/

to the Government of The Gambia by the Industrial Survey Mission of the United Nations Industrial Development Organization

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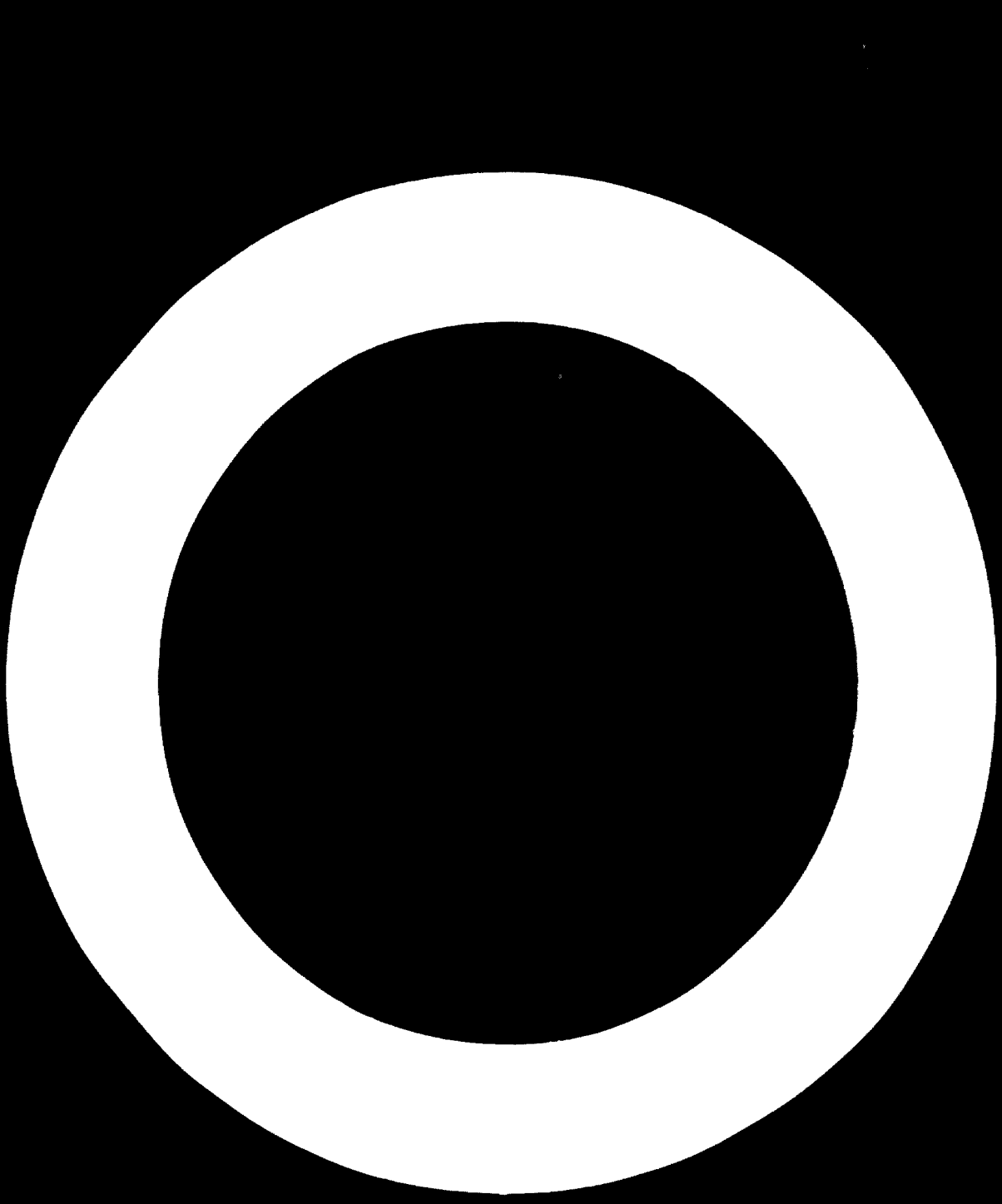

PREFACE

This is the Final Report of the Industrial Survey Mission organized under the programme of Special Industrial Services (SIS) by the United Nations Industrial Development Organization (UNIDO) at the request of the Government of The Gambia.

The Mission was in the field from 30 January to 20 March, a period of seven weeks. Its field work was preceded by a briefing of two days at the Headquarters of UNIDO in Vienna.

The host organization of the Mission in The Gambia was the Development Secretariat of the Ministry of Finance, Trade and Development. Close working co-operation was established between the Mission and the United Nations Regional Development Administration Adviser, stationed in Bathurst.

In the course of the initial survey of existing industries and in search of further industrial potentials the Mission had a great number of meetings with government officials and businessmen. All parties concerned cordially and readily provided all the information that was available. The Mission made a four day tour of the provinces where meetings were arranged with local government officers, chiefs and businessmen. The discussions were extremely stimulating.

The host ministry provided the Mission with office space, transport, secretarial and other facilities as best it could.

The Mission was assisted in a number of ways by so many people that detailed acknowledgement is not practicable. The Mission therefore expresses its deep appreciation anonymously to all without whose generous help it would not have been able to complete its task.

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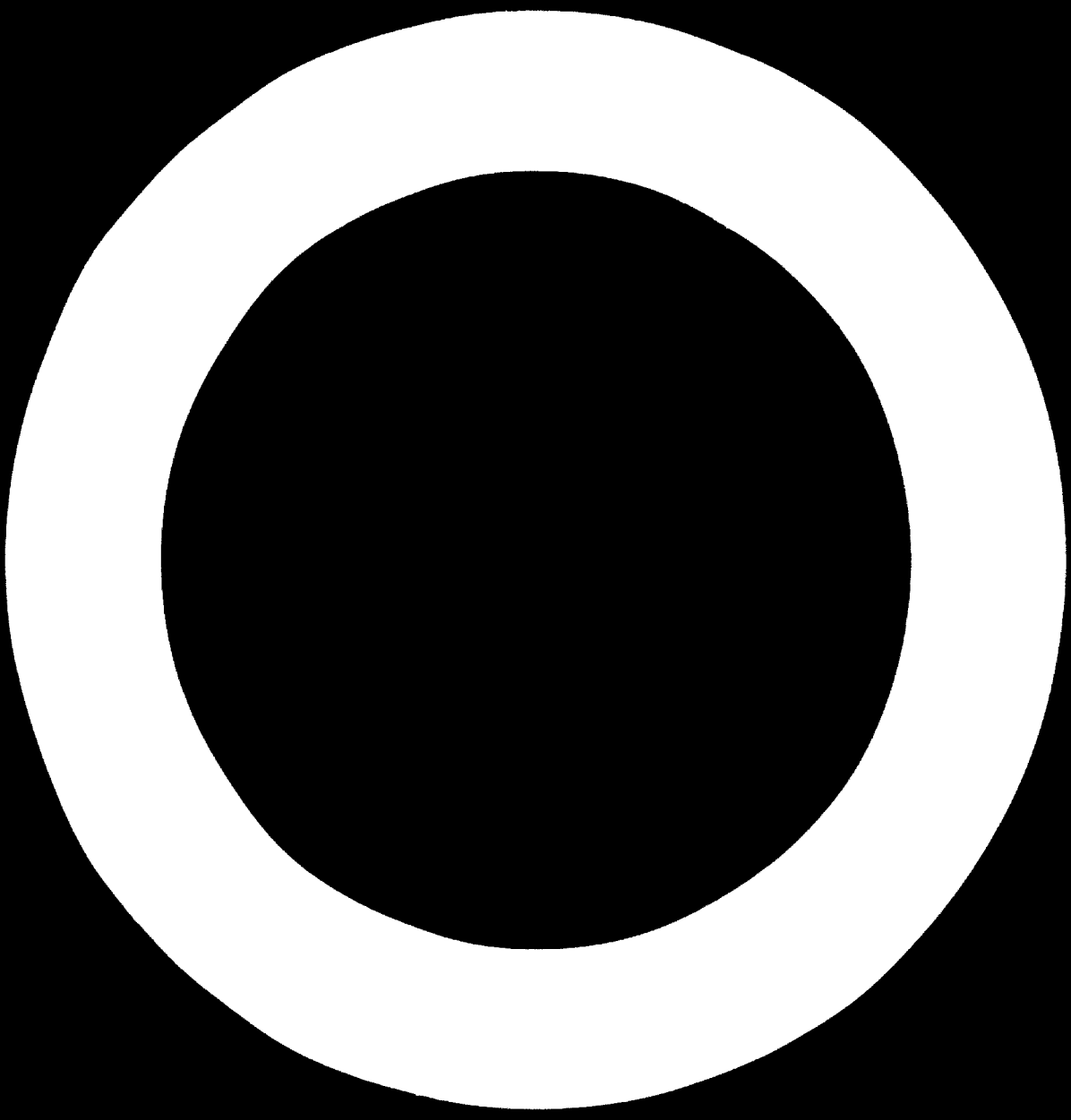

I. INTRODUCTION

1.1. Terms of reference

1. The terms of reference of the mission stipulated that it was expected to:

- Assist in defining industrial data requirements of the country and in initial preparation of such data;
- Survey the industrial sector of the country's economy;
- Assess the country's potential for further industrial development, identify opportunities for establishing industries based on local natural resources, and make appropriate recommendations for a preliminary plan of such industries;
- Advise on further technical assistance;
- Prepare a report of the survey.

2. In the light of various views given to the mission in the course of the briefing and of the familiarization meetings with high officials of the Government, the mission thought it wise to amplify certain points in the above terms of reference as follows:

- It was not expected that the mission would make recommendations on economic relations between The Gambia and Senegal although such relations may effect industrial development possibilities in various ways;
- The term "industry" should be interpreted to mean factory-based, manufacturing industries, i.e. handicrafts and cottage industries were not to be covered by the survey;
- The mission should follow the terms of reference generally inasmuch as natural resources are concerned. Opportunities for establishing industries other than those based on local natural resources should not be bypassed.

1.2. Working methods of the mission

3. It is necessary to say a few words about how the mission worked. The Industrial Survey Mission to The Gambia was unique, partly because it was the first of its kind in the country, and partly because of the extraordinarily

difficult conditions affecting industrialization in this country. The mission had to interview many persons who were very little acquainted with industry and what it meant for the economy. Certain traditions and links are still very strong and few people are even remotely aware of the meaning of industrial investment and industrial society. The Government of The Gambia is grossly understaffed and, as a result, everyone is extremely busy and overworked. The members of the team had not previously worked together. While their specializations were far apart, they had for some period of time to go to most places together before a division of labour could have developed.

4. All these factors (and some others) made it very difficult for the team to adopt stable working methods from the start. This difficulty attained even larger dimensions under the pressure of time. By the time the mission started to come to grips with the basic problems the better part of the mission period was over. As a result, this survey is fundamentally a sample survey. Its coverage (of industries, important personalities, etc.) is fairly good but far from complete. Obviously, a sample survey would be perfectly all right in a country that is more advanced in industrial development. But in The Gambia where an industrial sector, or a type of entrepreneur is very likely to be represented by one single unit or individual only, a sample survey has to be used with extreme caution: it may not be as adequately representative as the mission would have liked to make it.

5. With the above limitations the mission tried to cover with its interviews and visits a fairly representative cross-section of the economic community. A list of visits and interviews is given in Annex I.

2. THE ECONOMIC SETTING

2.1. The Gambian economy

6. The Gambia is a small country. The population was estimated at 347,000 in 1968.[1] At the end of some of the previous years the population was (in thousands): 1963 - 321; 1964 - 327; 1965 - 334; 1966 - 341.[2] It would be fairly safe, therefore, to count with an average annual growth of about 2 per cent. It would follow then that in 1970 the population should be around 360 thousand. It would reach 400 thousand by 1975.

7. The area of the country is about 4,000 square miles (approximately 10,000 square kilometres). It is a long and narrow strip of land. The length is just above 200 miles (320 kilometres) and the width varies between 15 and 30 miles (25 and 50 kilometres). The communication across its width is impeded by the enormous river of Gambia flanked by swamps on either sides almost all along its stretch. Lengthwise the river provides a useful link as it is navigable by ocean-going ships far upstream.

1/ International Bank for Reconstruction and Development. The economy of The Gambia. IBRD/IDA, 1969. Report No. AW-12a. Restricted. Stencilled p.1.

2/ The Gambia. Ministry of Finance, Trade and Development. Statistics Office. Estimates of gross capital formation and gross domestic product and other economic indicators. Statistics Office, Bathurst, 1969. p.12.

8. The gross domestic product (GDP) was estimated as follows:

Table 1

Gross domestic product by industrial origin at current prices

Thousand Gambian £

INDUSTRIAL ORIGIN	1963/4 a/	1964/5	1965/6	1966/7
1. Agriculture	5,292.0	6,617.0	7,915.0	8,255.0
2. Quarrying	58.5	35.3	104.3	48.5
3. Manufacturing	444.0	537.6	623.7	746.5
4. Construction	33.9	110.4	86.0	60.0
5. Power b/	-	-	-	-
6. Transport	372.7	376.3	482.0	443.8
Productive Sectors	6,101.1	7,676.6	9,211.2	9,553.8
7. Trade	1,014.9	1,570.1	1,431.7	1,703.9
8. Banking, etc.	289.1	351.9	453.0	514.0
9. Dwellings	172.0	215.2	306.5	389.4
10. Administration	863.2	929.5	899.7	1,030.3
11. Services	783.1	857.0	951.5	960.7
Total GDP	9,323.4	11,606.3	13,253.6	14,152.1

a/ Revised estimates.

b/ Included under public administration.

Source: The Gambia. Estimates ... p.12.

9. The growth of the GDP was:

24.5	per cent	from	1963/64	to	1964/65
14.2	"	"	" 1964/65	"	1965/66
6.8	"	"	" 1965/66	"	1966/67

That is, the annual average growth rate was 14.9 per cent during the said three-year period.

10. The annual per capita GDP was - according to the quoted "Estimates" - as follows:

1963/64	£G 29	(US$ 81)1/
1964/65	£G 35	(US$ 98)
1965/66	£G 40	(US$ 112)
1966/67	£G 42	(US$ 118)

It should be noted that the World Bank estimated the per capita GDP in The Gambia at $80 in 1967/68 which is £G27.12.0.2/ These figures on per capita GDP rank The Gambia in the lower rungs of the ladder of per capita incomes in Africa.3/

1/ As this period was before the devaluation of the sterling with which the Gambian pound is at par, the convereion rate used here was $2.80 to £1.

2/ World Bank Atlas of Population and Gross Domestic Product 2nd ed. Washington, 1969.

3/ When regarding per capita GDP figures the following considerations should not be lost from eight: (a) In countries where most or much of the GDP comes from the subsistence sector of the economy, the valuation of the product of this sector is very much exposed to uncertainties in the estimates. Even if what an economist once called "massaging" of statistical figures is clearly avoided, production values in this sector have to be used with caution; (b) The per capita GDP should not be misconceived as the general standard income of people for the distribution of the income is uneven as between various income groups.

11. The distribution of the GDP by industrial origin during the same period was as follows:

Table 2

Percentage distribution of gross domestic product by industrial origin at current prices

	1963/4	1964/5	1965/6	1966/7
1. Agriculture	56.8	57.0	59.7	58.3
2. Quarrying	0.6	0.3	0.8	0.3
3. Manufacturing	4.7	4.6	4.7	5.3
4. Construction	0.4	1.0	0.7	0.4
5. Power[a/]	-	-	-	-
6. Transport	4.0	3.2	3.6	3.2
Productive Sectors	66.5	66.1	69.5	67.5
7. Trade	10.9	13.6	10.8	12.0
8. Banking etc.	3.1	3.0	3.4	3.6
9. Dwellings	1.8	1.9	2.3	2.8
10. Administration	9.3	8.0	6.8	7.3
11. Services	8.4	7.4	7.2	6.8
GDP	100.0	100.0	100.0	100.0

a/ Included under Administration

Source: The Gambia. Estimates .. p.13

12. It is evident therefore that The Gambia is basically an agricultural country. This is so even if the share figures of GDP distribution do not show a higher than 60 per cent share of the economy in the agriculture. It must be kept in mind however that the GDP originated in agriculture is 85-86 per cent of the total of

GDP in the directly productive sectors. Moreover, a great part of what appears under manufacturing is basically no more than a primary processing of agricultural produce, viz. expressing oil from groundnuts. This will be dealt with in paragraphs 14 and 15 below.

2.2. The role of the industry in the economy

13. It does appear from the table that the share of the manufacturing industry in GDP was comparatively low in The Gambia. Closer scrutiny of the manufacturing sector leaves however the observer with the impression that its share of almost or over 5 per cent might be due to the specific methods of estimation or classification applied.

14. Using the figures of sales values of the oil milling companies the GDP in manufacturing except groundnut would result in the following figures (in thousand Gambian £):

Table 3

Composition of manufacturing output, 1963-1967

	1963/64	1964/65	1965/66	1966/67
GDP in manufacturing	444.0	537.6	623.9	746.5
Groundnut products	195.0	244.0	316.0	338.0
Manufacturing except groundnut	249.0	293.6	307.9	408.5

15. This means that the shares of manufacturing except groundnut products in GDP were 2.7, 2.5, 2.3 and 2.9 per cent respectively in the years under review.

16. The manufacturing sector was thus growing at the following rates (in per cent):

Table 4

Rates of growth of manufacturing output, 1963-1967

	from: 1963/64 to: 1964/65	1964/65 1965/66	1965/66 1966/67
Manufacturing	21.1	16.1	19.7
Groundnut products	29.1	29.5	7.0
Manufacturing except groundnut	14.5	4.5	32.7

17. In section 4 of the report (Survey of Manufacturing Industries) a deeper analysis will be given of what kind of industries are represented in the manufacturing sector of the Gambian economy. At this stage it will suffice to say that the par excellence manufacturing is very small.

2.3. The groundnut cycle

18. Every publication on The Gambia begins with the harsh statement that its economy is dependent on one single cash crop. Groundnut is the mainstay of the economy. It provides above half of the GDP and 95 per cent of exports. From a purely theoretical point of view this alone would not be too bad for industrial development provided that the value added in - and thus the domestic revenue from - the groundnut economy is high and provided that the volume and value of the crop remains fairly stable from year to year. In practice, however, this is not the case.

19. The combination of two factors, viz. the seasonality of the groundnut crop and the fact that the country and its people were poor when groundnut became the "mainstay", result in that the groundnut cycle would inhibit industrial growth even

of the two conditions mentioned above (high value added, stable revenue) [illegible] guaranteed. Namely, in the planting season of the groundnut everybody [illegible] that. This being the only cash crop, at the season everything else is neglected. For instance, there are only a handful of "full-time", all-the-year-round fishermen in the country, the rest of the fishermen stop fishing when there is time to work on the groundnut farm. (This is why one of the country's most rich resources, viz. shrimp, is hardly utilized.) And the same applies to other occupations. On the other hand, once the groundnut is harvested and sold to the traders, people have money and rush to spend it. Quite naturally, for they had to make do with very little till then. This is referred to in the bank reports as trading season. In a few months, at most weeks, groundnut farmers will have spent their cash. There is what is referred to in The Gambia as the "hunger months". Farmers borrow money to buy food and must spend a part of their receipts for the groundnuts on the next season's crop. (They are lucky if they can get these loans as production advances from the co-operative societies and do not have to rely on money-lenders.)

20. In the off-season, there is no trading. Farmers and petty traders are mostly idle. The demigros and wholesale traders (mostly Lebanese and Europeans) travel to holidays for sometimes as long as 4 to 6 months. The wild fluctuation in the purchasing power is manifest in the pure fact that a trader can afford a 4-months' holiday abroad.

21. And not only farming and trade are affected. The team visited a factory, a small but mechanized clothing establishment. This works 6 to 7 months every year and closes down for the rest of the time. There is no wholesaler in the country to supply to.

22. The deepcutting effect of this seasonality is also revealed by the fact that the several industrial units that work only part of the year can at the end of the season freely dismiss not only their daily-paid, unskilled labour, but also the skilled workers, craftsmen. They do not have to be retained on the wageroll lest it may be difficult to replace them. In the midst of the general shortage of skilled labour in Tropical Africa, all our interviewees unanimously said that their skilled workers do come back in the season year after year. The same people every year.

23. Economic activity as a whole is limited to about half of the year as a result of the seasonality. This is insufficient base for serious industrial development. Valuable other natural resources are left unutilised in the season of groundnut. Valuable human and capital resources are idle off the season. This is the groundnut cycle. As long as the groundnut remains the mainstay and as long as the groundnut farmer eats part of his crop in advance, the groundnut cycle is a vicious circle. It must be broken somehow.

2.4. Industrial development as an objective of economic development

24. It is apparently the realisation of how untenable this situation is, that led the Government to launch the policy of diversification of agriculture. For reasons beyond the scope of this report (but some of which will be briefly touched upon in the chapter dealing with raw materials), even the diversification of agriculture cannot secure sufficient impetus to bring the Gambian economy to the take-off stage. This role is to be paid partly by industrial development. Sound, modern, low-cost, high-quality industries can provide the basis for round-the-year income for individuals and for the treasury.

3. INDUSTRIAL DATA REQUIREMENTS

25. The terms of reference of the mission [illegible] it to assist in defining the industrial data requirements of the country and in initial preparation of such data". The "initial preparation" of industrial data will follow in Chapter 4 on Survey of Manufacturing Industries. Here we deal with the "data requirements".

26. Thus far there have been no industrial data collected in The Gambia and consequently no industrial statistics were published. The regular, annual statistical publication called "Statistical Summary" - the latest issue of which covers the 1967/68 financial year - does not contain statistical data on industries.

3.1. Industrial statistics

27. The limited number of industries in the country and their standards of accountancy do not seem to justify an early introduction of regular (annual or quarterly) industrial statistics based on statistical returns to be provided by the industrial establishments. It is desirable to include several illustrative industrial data in the annual "Statistical Summary". This, however, could initially be derived from industrial surveys to be conducted and do not right now necessarily call for a special set of statistical forms and a corresponding specialized branch of the statistical office.

3.2. Industrial surveys

28. For the purposes of economic development planning and in order to provide foundations for elaborating industrial development policies, it is, on the other hand necessary, to conduct industrial surveys from time to time. The contents of such surveys should be use-oriented and this is why surveys differ from "classical" industrial statistics. For example, at this stage development planning needs information of each individual industrial establishment rather than aggregate figures of sectors.

29. Industrial surveys may have to enquire about the origin and ownership of capital. It may be necessary for industrial planning to know the origin of the main raw materials, fuels, etc. and the quantity value and destination of the finished products and the numerical strength, structure and productivity of the

working labour force. An industrial survey has to take care of the problem of the seasonal fluctuation in output and the consequential utilization ratios of capacity.

30. As part of industrial planning the Government has as a matter of routine to deal with applications for 'Development Certificate'. For the right decision it has to be known what similar industries are already operating in the country. Moreover, it is desirable to know the expansion plans of the existing establishments.

31. In the 'classical' statistical returns there is little room for questions of the type described above. On the other hand, while industrial statistics are supposed to be uniform all over the field very accurate) in industrial surveys certain allowances have to be made for divergencies as between various special cases. If no figure with solid foundations (e.g. balance sheet) is available, the statistician has to mark it "unknown". The survey has to discuss the problems with the entrepreneur and arrive at some decent estimate. For the purposes of the planner this is better than nothing (as long as he is told about the nature of figure he is supplied with).

32. It is on the basis of such considerations that - after consultations with the head of the Statistical Office - the mission is suggesting the carrying out of an industrial survey once every year. The contents of the survey should be limited to a small number of very basic questions. The surveys should be as far as possible carried out through personal visits by statistical staff to the managers/ owners of industries, to avoid misunderstandings of the questions and misinformation due to fear of what the answers may be used for. Annual industrial survey impose a heavy burden on the staff of the Statistical Office. But in view of the small number of establishments this may not be too difficult to cope with. Since in a developing country basic features of industrial units may change dramatically from one year to another, it is not recommended to conduct industrial surveys less frequently than annually.

33. As far as the contents of the survey is concerned the mission and the Statistical Office reviewed various similar exercises, e.g. Ghana, Industrial Statistics. Manufacturing; Industrial Survey of Nigeria, 1966; Register of Manufacturing Industries, Zambia. We also consulted the two volumes of "Profiles of Manufacturing Establishments" published by UNIDO. An attempt was made to use

the best of these above quoted examples and to adapt their contents to the known needs of The Gambia. The resulting questionnaire to be used in the industrial survey is provided in Annex II. This has actually been used - as far as it was possible - by the team during its visits to industries.

34. It is recommended that for the purposes of more detailed analysis, to support a periodic revision of the industrial development policy of the Government, in addition to the annual industrial surveys, every five years an industrial census should be undertaken (instead of the survey, with a far broader coverage of establishments and with a wider scope of enquiry. A provisional questionnaire for this industrial census is provided in Annex III.

4. SURVEY OF MANUFACTURING INDUSTRIES

4.1. Preliminaries

35. When making attempt at the first survey of manufacturing industries in The Gambia the mission faced a number of problems most of which could be foreseen but to most of which there is no pre-set solution offered in the handbooks.

36. It was, for instance, difficult to draw a definite dividing line between where agriculture ends and where manufacturing begins. The mission was slightly manufacturing-biassed in that several establishments were included in the survey in spite of the fact that these were almost entirely engaged in primary processing of agricultural produce but there were plans for expansion of some of these in the direction of further processing. On the other hand, several other primary processing units that had no prospect of further developing towards industry proper and plants that were primarily processing agricultural produce to serve further industrial processing in the country or abroad were disregarded. The cotton ginnery of the Agricultural Experimental Station is an example for the first type, the groundnut decorticating plants are examples for the latter type of primary processing units.

37. As far as the size that would qualify a unit to be regarded as manufacturing establishment was concerned, the mission decided after some thought to use the standards applied in many other African countries, viz. minimum 10 persons engaged, i.e. persons employed plus working owners and unpaid family members. With an eye on future growth possibilities the mission was trying to record industrial units smaller than this but their survey was naturally far less analytic than of those above 10 engaged. The units engaging more than 10 people are referred to as manufacturing industry whereas those engaging less than 10 people are called small-scale processing workshops. Here again the mission had to use the rule of thumb to distinguish small-scale processing workshops from handicrafts. In this chapter only manufacturing industry as defined above will be dealt with; small-scale processing workshops are only recorded for information and comparison.

4.2. A list of industries

38. The following table gives an inventory as complete as the mission could make of all manufacturing units (large, medium and small-scale): (A more complete list, in fact, an attempt to compile the first industrial directory of The Gambia will be found in Annex IV).

Table 5

Manufacturing industry and small-scale processing workshops in The Gambia, 1977

ISIC Group	Manufacturing industry		Small-scale processing workshops	
	Number of estab.	Description of main product	Number of estab.	Description of main product
3111 Meat			1	Slaughter-house
3113 Fruit			1	Lime juice pilot plant d/
3114 Fish			1	Freezing unit
3115 Vegetable oil	2	Groundnut oil mills		
3116 Grain mill	1	Cassava gari plant a/		
3117 Bakery			appr. 12	Bakeries
3119 Confectionery			1	Confectionery b/
3131 Distilling	1	Distillery c/		
3134 Soft drinks	4	Bottlers	8	Bottlers
3220 Wearing apparel	1	Factory		
3240 Footwear			1	Factory
3311/3312 Sawmill	1	Sawmill and crate making d/		
3320 Furniture	2	Carpentry/Joinery works e/	1	Furniture maker b/
			appr. 4	Mattress makers
3412 Paperboard containers			1	Suitcase maker
3420 Printing	1	Printer d/	2 or 3	Small printing shops
3523 Soap and toiletry	1	Candle and toiletry		
3560 Plastics	1	Plastic sandals f/		
3699 Concrete goods	1	Concrete block d/	1	Concrete block
Metal furniture			1	Workshop b/
3849 Transport equipment	1	Oxcart shop d/		

a/ In experimental stage.
b/ Not yet operating, application for loan and/or license under consideration.
c/ Not operating at present for lack of market.
d/ Operated on government account as part of the pertinent department.
e/ One of them operated on government account.
f/ A section of the wearing apparel factory.

39. This gives 8 manufacturing units in the food industries, 5 in the light industries and 4 in the heavy industries. Altogether 17 units, 16 establishments. Two of them are not really operating.

40. It is difficult to determine the employment size of the manufacturing industries as the employment varies drastically according to season. If one works on the peak employment the following rough size breakdown could be established:

Distribution of manufacturing industries by the size of employment, 1970

ISIC Group	10-19	20-49	50-99	100-199	Over 200	Total
3115 Vegetable oil				1	1	2
3134 Soft drinks	3	1				4
3220 Wear apparel		1				1
3311/3312 Saw-mill		1				1
3320 Furniture	1			1		2
3420 Printer			1			1
3523 Soap		1				1
3560 Plastics		1				1
3699 Concrete		1				1
3849 Transport equipment	1					1
Total	5	6	1	2	1	15

41. Adding up the employment figures this gives a total employment in manufacturing industries of 850 men at the peak of the employment season. This means that only about 0.6 per cent of the economically active population (estimated at 150 thousand) is employed in manufacturing industry. It is less than half of it in the off-season period. Out of these 850 industrial employees, 240 are employed in government workshops as daily-paid labour.

42. As far as the spatial distribution of manufacturing industries is concerned the following combined table is illustrative.

Table 7

Spatial and employment-size distribution of manufacturing industries, 1972

Location	10-19	20-49	50-99	100-199	Over 200	Total
Bathurst City	4	1	1	1		7
Kombo St. Mary (adjacent to Bathurst)		1		1	1	3
Western Division (all within 25 miles from Bathurst)	1	4				5
Total	5	5	1	2	1	15

Farther than 25 miles along the main road leading out from Bathurst there is no single manufacturing industry in the country.

43. The sectoral composition of the manufacturing industry of The Gambia, the size of the individual units, the over-concentration in and just outside the capital city, the extremely small number of units determines the weakness of this sector of the economy. The fairly high share of government operations in manufacturing only adds to the vulnerability of this sector. A more detailed survey of each sector is given in the next paragraphs.

4.3. A survey of the manufacturing sectors [6/]

4.3.1. Food industries

44. Oil mills (ISIC Group 3115)

There are two oil mills in The Gambia at Denton Bridge, not far from Bathurst.

These two oil mills utilize not more than about 65 per cent of the annual groundnut crop (sold to them by the GCMB). The rest of the crop is exported in decorticated form, i.e. unmilled. The mission was told that this exportation of unprocessed groundnut is facilitated by the fact that the groundnut of Gambian origin contains a comparatively high oil-content (about 50.5 per cent) and therefore it can be sold at a premium price.

45. Both oil mills are less than 10 years old. They extract their oil by the screw-press method, collect the primary filter-pressed crude oil in huge tanks storing oil before exporting it by tankers, to the United Kingdom. Only a small quantity of the oil is refined in one of the two mills, estimated at about 1,000 tons refined-oil yearly to be sold in metal drums to local distributors. It was noticed that the oil produced is not mixed with permitted fat-antioxidants (to preserve it from being rancid) before exporting or selling in the local market. One mill utilizes about two-thirds of the groundnut shells as fuel, and disposes of the rest by burning. All the groundnut press-cake of both factories is exported, and, the "soap-stock" (free-fatty acids separated) about 100 tons yearly are thrown away and not benefited from. One of the mills had studied earlier a possibility of manufacturing soap from this by-product but the idea was not followed up. None of the two mills seems to have any other expansion or development project at present. The total employment exceeds 400 in peak season.

6/ A more detailed description of each establishment will be found in the Annex V. "Profiles of Manufacturing Industries".

46. The Cassava "Gari" production (ISIC Group 3116)

A small plant has been recently erected, located about 24 miles away from Bathurst. It has an annual intake capacity of about 6,000 tons of fresh cassava, that yield about 1,750 tons of "Gari" [1] yearly (240 days/year, 1 shift/day, hours/shift).

The bulk of the machinery seems to be of old models and types. During the current test-runs, the machinery has failed to perform more than 20 per cent of its capacity.

47. Distillery (ISIC Group 3131)

A small distillery at Kanifing near Bathurst used to produce alcoholic beverages; such as whisky, gin, etc. but, due to strong foreign competition, it was forced to close down recently, at least temporarily.

48. Probably by obtaining the franchise of an internationally famous brand-name, together with modern technical aid, the factory might be able to re-open and survive in the face of foreign competition. Once this is done, higher customs duties on imported alcoholic drinks and beverages, could assure an outlet, not only to the local markets, but this might also open a chance to export under the purchased brand-name.

49. Bottling of soft drinks (ISIC Group 3134)

This industry, represented by 4 factories, and 8 small-scale units from which the team could not visit more than the four "big" ones. The view of the mission is based on what was seen in the units visited. The factory at Kanifing, only a few miles from Bathurst, bottling soft drinks under franchise of the Coca-cola brand-name owners could be described as technically fairly satisfactory. In

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[1] Gari is a milling product similar to semolina. It is a traditional food very popular in West Africa. When processed mechanically, it is a foodstuff containing much starch in a gelatinised dried form and also containing some protein.

spite of this it operates only 50-60 days per year. The rest of the bottlers are by no means keeping up with the progress of the industry, in the senses of quality, technique and sanitation. If judged by internationally recognized food standards there remains much to be required. Only one owner of the "poor" factories visited has plans to move in another place and build a real modern factory. This is appreciated and has to be encouraged.

50. Protection against overseas competition and a gradual move towards basic food standards would help both the more modern segment of this industry and the general public. (More detailed recommendations will follow in Chapters 6 and 8).

4.3.2. Light industries

51. An establishment is making wearing apparel, (shirts, shorts, ladies' dresses, singlets and underwear), umbrellas, and sandals.

The factory is located at Kanifing near Bathurst. It is in a fair technical condition equipped with modern sewing machines and housed in a new building on the industrial estate. It is a new unit, the subsidiary of a bigger factory in Ghana engaged in similar production. There has been a change recently in the person of the Manager. In principle, this could be a viable industry, however, it works only 6-8 months per year and its annual sales reach £ 30,000.

52. It is a heavy burden on costs (overhead, amortization) if a factory has to stop working for 4-6 months/year. The sales are covering the local market and even there difficulties are met due to the fairly low quality and the competition of importation at low tariff rates.

53. The only mechanized wood-working plant in the country is the Utilization Unit of the Forestry Division of the Ministry of Agriculture. The Utilization Unit is at Brikama, adjacent to the Nyambai Forest Reserve, about 18 miles from Bathurst along the main road. The unit is well-equipped with fairly efficient primary wood-working machines. Its production consists of (a) fence made of poles dipped in Kreosote, (b) planks for building and furniture-making, (c) crates made of wastewood, (d) lumber for boat-building. This production classifies the unit under ISIC Groups 3311 (Saw-mills) and 3312 (Manufacture of wooden and cane containers ...).

Products (a) to (c) are made of Gmelina which is a semi-hard wood native in Asia and which is dominant in the forest reserves nearby. (d) is made of mahogany of which the Unit uses about 300 tons per annum.

54. The annual output of the Unit in the 1968/69 financial year was estimated at £9,000. The total costs cannot be calculated for the Unit takes its log supply from the forests under the jurisdiction of the Forestry Division without having to pay for it. A felling licence fee, not really a price, has to be paid for the mahogany. Cash expenses for other than wood amount to about £5,000 for the above period.

55. Two carpentry/joinery workshops represent the furniture industry, i.e. ISIC Group 3320 (Manufacture of furniture and fixtures, except primarily of metal). The bigger of the two is the joinery workshop of the Public Works Department at the site of the PWD complex in Bathurst. The activities of this workshop include manufacturing of building timber, e.g. doors, window-frames; heavy type of furniture for offices and government houses as well as odd private jobs most of which is cutting rough sawn timber to size. The joinery employs 130 people.

56. The PWD workshop does not buy any wood from the Utilization Unit of the Forestry Division or from local small-scale or handicraft sawyers. All its supply comes from Ghana under a tender which has in the past few years always been won by the United Africa Company, the agent of African Timber and Plywood Limited in Ghana. In the 1968/69 financial year sawn timber was purchased for about £72,000. The purchase consisted of 62,000 cu.ft. (1,760m^3) mixed hardwoods the majority of which was mahogany and 10,000 cu.ft. (280m^3) Opepe, an insect-resistant hardwood.

57. Besides many small carpenters there seems to be one furniture-maker whose operations may qualify his workshop as industry. He is a Gambian entrepreneur who from time-to-time receives contracts to supply the Department of Education with simple school furniture. The contracts are - for the time being - more or less regarded as trial by the Department. The survival of this carpentry unit seems to depend on such contracts.

58. There is only one major printing press (Group No. 4320 in the ISIC) in Bathurst and that is the Government Printer with the conventional activities of organizations of this kind. The Government Printer takes occasional jobs from the general public, but the volume of this is negligible.

. . . . heavy industries

59. In ISIC Group 3523 a small factory, a subsidiary of the United Africa Company is engaged in manufacturing candles, simple cosmetics, perfumes, balms, etc. Employment exceeds 30.

60. The small factory making wearing apparel has a department manufacturing plastic sandals, which is classified into ISIC Group 3560. There are two moulding presses. The straps of the sandals are fastened to the sole by metal clips and so are the buckles. All this assembly is done by hand as is the trimming of the moulding overcasts. The capacity is much underutilised as this type of sandal is not very popular in the local market. (The model is actually borrowed from the mother company in Ghana).

61. The concrete blocks-making plant that appears under ISIC Group 3699 is actually operated by the Prison Department using the labour force of prisoners and supplying concrete building blocks to the Public Works Department.

62. The ISIC Group 3849 (Manufacture of transport equipment not elsewhere classified) is represented by a workshop of the Department of Agriculture making oxcarts for sale to farmers. Actually these steel-framed and wooden-planked oxcarts are said to be very popular in the rural areas.

63. It will be seen that the units which happen to be classified under the head of heavy industries according to the raw material (chemicals or plastic) or the use (transport equipment) of the product are not seriously heavy industries in the true sense of the word. That is, these are not strategic, key industries that could serve as supporters of further industrialization. The Gambia does not as yet possess industries of this kind.

1.4. Estimated aggregates of manufacturing industries

64. It would be extremely interesting to know the basic aggregate data of the Gambian manufacturing sector. At this stage of the industrial survey no reliable data are available. The following is nothing more than an exercise - using guesswork [illegible] - to [illegible] what manufacturing weighs approximately. For obvious reasons this exercise had to be limited to non-government operations.

Table 8

Main estimated aggregates of manufacturing, 1967

	Number of establishments	Total annual sales (output) '000	Total number employed
3115 Vegetable oil	2	4,170	430
3134 Soft drinks	1	41	20
3220 Wearing apparel a/	1	90	5
3320 Furniture	1	..	18
3523 Candle and toiletry	1	..	34
3560 Plastics b/	1	—	—
Total	10	4,601	615

a/ Includes: ISIC 3560 Plastics.

b/ See under: ISIC 3220 Wearing apparel.

65. If - for want of better information - the Nigerian output values per number employed are used, the unknowns in the sales output columns can be substituted with assumed values that bring the total sale (output) up to about 4.7 million pounds. Value added should be between 0.3 and 0.4 million pounds.

4.5. Manufacturing by government departments

66. The mission maintains the view that, while it is perfectly all right for public corporations to be engaged in economic activities as power supply, etc., the running of typical manufacturing operations by government departments is not the best way of gaining maximum benefits for the community. As long as operations are in the experimental stage (e.g. the lime juice pilot plant), as well as the maintenance and repair of government buildings, vehicles and equipment, there is a clear case for a government to own and operate a workshop.

67. It flows from the early stage of industrial development in The Gambia that government departments had to take on the responsibility for operations that are clearly beyond the experimentation or maintenance stage. Serial manufacturing of oxcarts in the Agricultural Department, routine manufacturing of timber and crates in the Forestry Division are apparently cases that require reconsideration. The problem is not in that these manufacturing type of operations are <u>owned</u> by the government. The problem is rather that these operations, being parts of governmental departments, do not have separate accounts, their expenditure is part of the estimates of the department in question, whereas their receipts from sales are paid to the treasury through the normal government revenue channels. Expenses and revenues are never complete as regards the manufacturing operations because supplies are sometimes received free of charge (the Utilisation Unit of the Forestry Division does not have to pay for the log to the forest, except licence fee for felling the mahogany tree). Some of the workers, chiefly supervisors, and all of the staff is paid on ministry payroll, etc.

68. Manufacturing operations of this kind have to be run on commercial basis in order to see whether they make or lose money. Running these operations on commercial basis may be arranged by selling them to interested private enterprise or by re-organizing their structure. In the latter case, such operations

may remain in the ownership of the government but should be given the legal status of a company with the proper accounting and with management responsible for the success or failure of the business. As long as these industrial units are run on expenditure and revenue basis, very little can be done to assess the efficiency of this part of the manufacturing sector. As these units happen to be among the biggest industrial units this fact reflects on the possibility to assess the accomplishment of the whole industrial sector.

4.... Selected manufacturing projects in process

69. In its search for industrial possibilities the mission studied several proposals, i.e. applications for Development Certificate by various foreign concerns. A great part of the proposed projects - explicitly or implicitly - aim at the exploitation of the local natural resources rather than their exploitation combined with industrial processing in the country. A couple of the major projects on hand will be dealt with briefly in the following paragraphs. A more detailed description of these projects is placed in the Annex: "Profiles of Manufacturing Projects, Annex VI").

70. The fishing, freezing and ice-plant project of the "Seagull Fisheries Limited" total investment £335,000 in three phases:

(1) As from January 1970 to catch fish and examine extent and seasonal distribution of shrimp;

(2) To build freezing plant, cold stores (for frozens), and ice plant. Work to start 1 June 1,70 and production to start 1 June 1971;

(3) Will start approximately from fifth year onwards to expand installations built in second phase.

It is a joint Ghanaian, Japanese, British investment, that collects all necessary means and tools which can make the project, once it is earnestly and sincerely started and carried on, quite a success.

71. Nevertheless, the following points have to be seriously and carefully studied and discussed before the final agreement takes place:

(1) To accept the idea of another way of expanding, to make the project serve the best Gambian interests, in the direction which will be clarified and explained in the survey team's main project, "The Food Freezing - Cold Storage-Ice Plant-Complex". In short, it allows freezing of other items than seafoods, such as meat (from slaughter-house), vegetables and fruits for export;

(2) Nothing is mentioned in the project about rock lobsters; according to the information offered by the owner of one of the fishing companies operating in The Gambia, the rock lobsters' peak season in Gambia coincides with the shrimps' peak season. (See also Annex IX). There is a danger that in the absence of a strict "marine-control" over the shrimp fishing vessels, quick depletion of the lobster resources may occur.

A law should be made to restrict the minimum size of lobsters caught: at least to 8 inches (20 centimetres), and the smallest width of openings of the shrimping nets to at least 3/8 inch (10 millimetres) before this project starts its fishing operations. It should affect all other fishermen (local or foreign) catching shrimps and lobsters.

Fisheries are the most potential and competitive natural resources in The Gambia. All measures should be taken to exploit it reasonably, to guard it, to try to save it from depletion and to strictly protect it. The "richness" of this natural resource can be measured by the great number of projects presented to the Gambian Government to exploit it. One of the companies, a Japanese concern, proposes to invest over £1,000,000 in it.

(3) The prices of fresh fish discussed in the "Seagull Fisheries Limited" project is too low, namely £5 per metric ton F.O.B., i.e., 1 kg. fresh fish (2.2 lbs.) costs only 1.2 pence. It is to be noted also that they want to export 5,000 metric tons yearly to Ghana to be shipped to Mankoadze Company (of Ghana) for freezing and for exporting from there. The question now is: why do they not freeze all the fish catch and export it from The Gambia?

On the other hand, this project offers export of each metric ton of frozen fish for £25, i.e., each 1 kg. (2.2 lbs.) exported will bring only 5 pence. And, with a brief glance at the project of the "Kawakami International Limited", one finds that they put a price of 1 lb. of frozen fish at 1 shilling, i.e., each 1 kg. at 2 shillings and 2.4 pence.

Therefore, the price of frozen fish for export offered by "Seagull" should be at least calculated on the basis of their competitors as above, for the best of Gambia's interest.

(4) Regarding the price of frozen headless-shrimp that "Seagull" offers, it is very good compared to that of "Kawakami" (£900/ton for former and £770/ton for latter).

72. The rest of "Seagull's" project is sound and acceptable, except that they might reduce the investment outlay on the freezing and cold-storage equipment if they make the temperature for former - 40°C (= -40°F) instead of -45°C; and, for latter -18°C (0°F) to -23°C (-10°F) instead of -25°C.

73. Plan of "export duty" on fish and crustaceae exports, offered by Government: "Lobsters 1s./1 kg., shrimp 6d./1 kg., Fish 3d./1 kg", could be reviewed on following basis:

(a) To specify whether such items are fresh or frozen;

(b) In case of shrimp, in addition to (a), there should be specification as to whether it is going to be exported headless (55 per cent yield of fresh by weight), or headless and peeled (45 per cent yield of fresh by weight). And even, in any of these forms whether it has been boiled (cooked) before freezing, or frozen raw?

(c) The correlation of export duty of each of the above items should be in harmony with their prices in international markets. According to the Mission's information the price of each 1 kg. lobsters is 1 on the average (alive). Also, the price of each 1 kg. shrimps (fresh) in local retail market equals around . And, while 1 kg. fresh shrimp yields only about 55 per cent headless shrimp, i.e., each 1 kg. headless comes from 1.82 kg. fresh (with heads). Accordingly the price of 1 kg. headless shrimp (not frozen) equals 8/44. while, after freezing it and selling in foreign markets, price FOB, would be, say between 14 shillings/1 kg. and 18 shillings/1 kg.

74. A modern joinery is the subject of the proposal of the single biggest building and contracting company in The Gambia. The project is basically meant to serve the building company by supplying high-quality (machine-made) timber components required in buildings, (doors, window-frames, built-in cupboards, etc.). The importation of such items is, namely, very expensive due to their bulkiness. The building timber requirement would not occupy the capacity of a modern joinery all the year round. That is why at intervals, the projected joinery will manufacture modern collapsible house furniture, and export it. It should be noted that in the past 12-15 years the modern collapsible house furniture assembled by the consumer himself has become very fashionable, and remains very popular.

75. The envisaged joinery plans to take its raw material supplies, viz. West African hardwood from the most competitive suppliers in West Africa, and intends to buy timber already cut to size. The total employment in the independent joinery establishment will be in the region of 50 people. The building of the workshop has actually started last month, and operation is expected to begin in the middle of this year. The project represents the first of its kind, i.e. modern mechanized furniture manufacturing for export.

4.7. Conclusions

76. The present set-up of manufacturing industries is - as it was seen from the summary figures and from the description of each individual sector - extremely small. This is due to the number of establishments, the size of each operation and the little value added produced. It was pointed out that the seasonal fluctuation of the main cash-crop has its ramifications also in the manufacturing industry. It was also mentioned that the profitability of some of the manufacturing units run on budget accounts cannot be measured, and therefore cannot be guaranteed.

77. At this juncture it is necessary to point to one more feature of the manufacturing sector which makes it extremely vulnerable to externalities. This is the fact that even in the small group of industries there are several missing inter-industry links. Thus, for instance, on the one hand the "soap-stock" is going to waste in the oil mills; on the other hand there is a company producing toiletry articles. The missing link is the manufacturing of soap at either end. Another example is that while the saw-mill is at pains how to dispose of its waste wood, the bottlers pack most of the soft drinks in imported crates. Furthermore, while the saw-mill is working below its theoretical capacity, expensive timber is being imported to be converted into cheap furniture. The lime juice pilot plant is exporting raw lime juice; the bottlers of "mineral waters" use imported essentials to concoct the syrup from which the soft drink is made.

78. The Gambian manufacturing sector could be definitely stronger and less vulnerable if assistance and encouragement could be offered to identify and fill the gaps of this kind. This is a kind of action where government (planning) and private enterprise have to work closely together.

79. In the view of the mission the manufacturing sector of the Gambian economy has not reached the stage yet where growth can be expected to take place spontaneously, under the impetus of demand in the market, etc. On the contrary, the manufacturing with its weaknesses described above and with the missing links in it (and a host of other problems it has to face) is at the present time not free from the danger of shrinking or relapsing. In order to prevent this from happening and in order to make industry grow, positive measures will be necessary, a few of which will be outlined in chapters to follow.

30. In conclusion, it must be said that there are phenomena that seem to augur well for a chance to The Gambia to have her industrial sectors developing. The purchasing power of the population is slowly growing. Some of the valuable natural resources are far from being fully utilised. The possibilities of co-ordinating agricultural development with industrial development have not yet been tapped. The elaboration of an industrial development plan as part of national economic development planning may add significant impetus to the process of industrial growth.

5. POTENTIAL FOR INDUSTRIAL DEVELOPMENT

5.1. Market

81. Next the report will briefly review the potential for further industrial development. It is convenient to start this review with a cursory purvey of the market for industrial goods. The mission tried to go beyond the generally excepted view that the Gambian market is too small to support any kind of manufacturing industry.

5.1.1. Purchasing power

82. The population - as it was said before - was around 350,000 last year, it may be 360,000 this year and reach 400,000 by 1975. The economically active population is estimated at 150,000. It should not be too far from correct to estimate that the heads of families and grown-up family-members with incomes of their own, that is to say those who spend money, could be in the order of magnitude of between 50 to 70 thousand.

83. It is next to impossible to assess the purchasing power of this very small group of people who are likely to buy goods at all. There are however various guideposts. The Gambia Oilseeds Marketing Board has in the past few years made the following purchases of groundnut from the farmers:

Table 9

Groundnut purchases 1958/59 - 1969/70

Year	Crop sold (thousand long tons)	Producer price (£ per long ton)	Total amount paid (thousand £)
1958/59	61.5	22	1,353
1959/60	52.8	24	1,267
1960/61	75.3	27	2,033
1961/62	84.8	27	2,290
1962/63	75.0	27	2,025

(continued)

Table 9 (continued)

Year	Crop sold (thousand long tons)	Producer price (£ per long ton)	Total amount paid (thousand £)
1963/64	73.3	27	1,979
1964/65	91.0	27	2,457
1965/66	118.0	28	3,304
1966/67	126.4	28	3,539
1967/68	117.0	27	3,159
1968/69	123.8	28	3,466
1969/70	120.0 est.	30	3,600 est.

Source: Gambia Oilseeds Marketing Board. Nineteenth Annual Report, Bathurst, (1969), Appendix E. (for 1958/59-1967/68) Information of Statistical Office (for 1968/69) Gambia Oilseeds Marketing Board. Estimated Buying Schedule 1969/70 Season (for 1969/70).

84. There seems to have been a slight increase in the real wages of urban wage-earners. The retail price indices moved as follows in the past few years:

Table 10

Movement of retail price index

(March quarter 1961 - 100)

Quarter	Food	Rent, fuel, light	Clothing	Household goods	Miscellaneous
1964 March	105	103	103	105	108
1965 March	104	100	99	100	103
1966 March	105	97	103	104	107
1967 March	112	98	100	102	104
1968 March	106	104	107	115	122

Source: The Gambia. Statistical Summary ... p.4

85. Minimum daily wage rates were constant between 1964 and 1967. But in February 1969 the government decreed an increase of daily minimum wages. The increase is 1s. in the lowest category, i.e. from 5/- to 6/- per day, which is an increase of 17½ per cent. A further increase to 7/- per day was accepted as of 1 July 1969. The overall wage increase in the daily rated categories is now 26.5 per cent including the previous increase of 17.5 per cent. Increases given to government employees range from 2 to 25 per cent.

86. It is next to impossible to assess the earnings of the small traders and the changes in their income. The higher income group is very small in number. According to the income tax statistics the total number of "effective cases assessed" was less than 3,000 individuals in 1967. 8/ This number was said to reach almost 5,000 this year.

5.1.2. The pattern of consumer spending

87. The question remains, on what and how people spend their cash income. The starting premise is that The Gambia has almost entirely moved ahead from subsistence economy and almost every family is involved in market farming even in the rural areas. This is chiefly due to the almost universal role played by the groundnut.

88. As in other parts of Tropical Africa, also in The Gambia, the spending pattern of those in the monetised sector of the economy, that is those who have some of their income in cash, is governed by a peculiar income elasticity of demand. It can be generally observed that the consumers have a propensity to spend a considerable part of their cash earnings on fairly sophisticated commodities much before the need for more nutritive food and better housing is saturated. This may be wrong from the point of view of health standards and may need correction. But this is still a fact that makes the demand for industrial goods far greater than suggested by the otherwise low levels of income. This is an inducement for industrial development that is sometimes lost from sight by economists who tend to calculate the effective demand according to Euro-American income elasticities of demand.

8/ The Gambia. Statistical Summary ... p.10.

89. This [illegible] the "groundnut cycle". A great majority of the people do not get their income spread over the year in equal instalments, but most of the annual income is received almost in one sum. With very little frustration in savings or investment, this naturally elicits an exceptional desire to spend. Once again, this phenomenon may be rightly disfavoured from a purely humane point of view, but it remains a fact nevertheless. And as long as this is a fact, it only adds to the demand for sophisticated goods, mostly industrial goods.

90. It may not be [illegible] in this connexion that there is really no conflict between health (improvement of nutrition and housing) and industrial development. As long as incomes are at very low level it is futile to fight against "luxury"-spending. The voice of the health educators will not reach the majority of people concerned, they have no radios and do not read the press. However, it can be done the other way round. Determined policy measures can help to develop industries. Industrial employees will earn more. Processing industry will act as a stimulus to farmers to produce more and better and farmers will earn more. There are measures to make sure that a great part of this incremental demand for industrial goods can be met by local industries. Profits can be ploughed back and the process may become self-propelled. When this stage is reached, that is when people have the means to listen to it, and can afford to follow it, the time will have come for health propaganda to use all available means of mass media, education and the network of health services to advocate for the improvement of the diet and housing standards. Better food means the inclusion of industrially processed food in the diet, better housing means using more industrial goods. The spiral movement continues upward. Health and industry are not conflicting, they are mutually interdependent.

5.1.3. Import substitution

91. Most, if not all, of this demand is at present met by imported goods. Obviously, one has to investigate the possibilities of import substitution. The total value of imports of all kinds was 7.5 million pounds in the financial year of 1967/68 which was, incidentally a good year from the point of view of groundnut harvest.

92. The following table shows the breakdown of the value of the total imports to the main commodity groups and the share of each group in the total:

Table 11

Value of imports by main commodity groups, 1967/68

SITC code	Commodity	Value £G'000	Percentage distribution
0	Food and live animals	1,253	16.6
1	Beverages and tobacco	541	7.2
2	Crude materials inedible except fuels	123	1.6
3	Mineral fuels lubricants and related materials	268	3.6
4	Animal and vegetable oils and fats	11	0.2
5	Chemicals	533	7.1
6	Manufactured goods	2,560	34.0
7	Machinery and transport equipment	1,481	19.7
8	Miscellaneous manufactured articles	570	7.6
9	Commodities and transactions not classified according to kind	110	1.5
	Customs/Provinces	70	0.9
	Total	7,520	100.0

Source: The Gambia. Customs Department Report for the period 1967/68. Government Printer, Bathurst, (1969). various pages.

93. It is characteristic to the early stages of industrial development that section 6, mainly comprising consumer goods plays a much bigger role than section 7; (machinery and equipment). It may be useful to quote, at this juncture, the corresponding figures of the imports into Liberia, another West African country at a not much higher stage of industrial development. In the Liberian imports section 7, takes up 33.4 per cent of the total imports, while sections 6, 8, and 9, together amount to 33.7 per cent.

94. If one proceeds from the major commodity sections (which include extremely heterogeneous groups of commodities) to more detailed items (which are sufficiently homogeneous to be used in an analysis of import substitution possibilities), one finds 25 commodity groups the import values of which individually exceed 1 per cent of total imports. In search of possibilities of import substitution it is advisable to regard these major items first. (See Table 12).

95. Out of the 25 items which each one exceeds 1 per cent of imports, 3 items individually exceed 5 per cent of the total value of imports. These are: rice, woven cotton fabrics and motor vehicles. Rice is not an industrial product. Textile and automotive industry has much bigger minimum economic size than the value of present imports. Thus, these items are not lending themselves to substitution by local manufacture.

96. Among the items between 5 and 1 per cent of the total import value one may find several industrial products that might, in principle, be considered as substitutable. These commodities are the following (with the imported value in thousand £G in parentheses):

Table 12

Major import items, the value of which individually exceeded 1 per cent of total value of imports, 1967/68

SITC group	Commodity	Value £'000	Chiefly consisting of:
022	Milk and cream	87.3	
042	Rice	415.7*	
046	Meal and flour	137.7	
061	Sugar	339.6	
112	Alcoholic beverages	120.2	
122	Tobacco, manufactured	357.2	
232	Vegetable materials	92.2	(Kola nuts)
332	Petroleum products	266.1	
533	Pigments, paints, etc.	94.6	
541	Medicinal, pharmaceutical	154.7	
554	Soaps, cleansing, etc.	101.5	
561	Fertilisers, manufactured	75.7	
652	Cotton fabrics woven	1,149.3*	
653	Textile fabrics, non-cotton	126.5	
656	Made-up textiles	315.0	
661	Cement and building materials	173.1	
674	Plate and sheet	198.9	(Corrugated roofing)
712	Agric. machinery and equipment	84.6	
719	Machinery and appliances	175.4	
724	Telecommunications apparatus	150.2	(Radio receivers)
729	Other elec. machinery and apparatus	106.8	(Batteries)
732	Road motor vehicles	641.1	(Passenger cars, lorries)
841	Clothing and knitted	139.9	
851	Footwear	94.8	
899	Manufactured n.e.s.	75.9	(Matches)

* Items which individually exceeded 5 per cent.

Source: The Gambia. Customs Department Report for the period 1967/68. Government Printer, Bathurst (1969), pp. 1-8.

055	preserved vegetable	(52), of which tomato paste, etc. (47)
062	sugar confectionery	(41)
111	soft drinks	(9)
243	lumber	(13)
554	soap	(6)
656	[illegible] textile	(19)
821	wooden furniture	(16)

More details on commodity imports are given in Table 13.

97. These are the most obvious cases for import substitution. There may be some more "hidden" items. The next necessary step is to investigate the viability of such import substitution industries. At the outset it should be kept in mind that import can never be fully substituted. For reasons of technical requirements, consumers' preferences, etc. even after the establishment of an import-substitution industry in the country and even if this local industry is protected by high tariffs, a certain part of the importation of that kind of commodity will necessarily continue. The substitutable part of the imports is difficult, but not impossible, to determine. This part, which may be expressed by a "substitution coefficient" would, of course, vary from one commodity group to another. Arbitrarily assumed but rather optimistic "substitution coefficients" are given in Table 13 for general guidance as to the general scope for import substitution.

98. In an attempt to preliminarily determine the broad viability of various import-substituting industries the mission compared the size of the Gambian annual imports with the sizes of the smallest manufacturing industries in other developing countries. The assumption is that if an industry of a fairly small size can survive in another developing country, it is at least worth examining how it could be established in The Gambia.

Table 13

Preliminary estimates of the scope for substitution of selected commodity imports, 1967/68

SITC sub-group	Corresponding ISIC group	Commodity	Measurement	Quantity	Value £'000	Substitution coefficient	Estimated substitutable import £'000
055-530	3113	Tomato juice, paste and concentrates	cwt	9,216	46.1	0.5	23
062-010	3119	Sugar confectionery	lb	528,400	40.9	0.5	20
111-000	3134	Soft drinks	gall	12,063	6.0	0.9	
112-300	3133	Beer	gall	132,242	80.7	0.5[b]	40
243-400	3311	Lumber	cu.ft.	19,457[a]	19.0	0.6	11
554-120	3523	Soap	cwt	18,335	49.6	0.4[b]	20
631-200	3311	Panels, boards	cwt	2,928	16.6	0.0	-
655-620	3215	Nets	cwt	43	2.3	?	?
636-110	3212	Bags and sacks, jute	thou. pcs.	361	37.6	1.0[c]	195
656-120	3212	Bags and sacks, textile	pcs.	1,307	157.1		
662-000	3691	Bricks and tiles	ton	576	7.4	0.0[d]	-
666-000	3610	Pottery, porcelain	cwt	387	3.4	0.3[e]	1
821-100	3320	Wooden furniture	no.	992	10.1	0.5	5

a/ The importation of this item by P.W.D. alone amounted to 72 thousand cubic feet in 1968/69 (see paragraph 56).

b/ Allowance is made for consumers' propensity to buy foreign but this propensity is not inflexible if appropriate fiscal policy measures are applied.

c/ The local "manufacturing" in this case would not mean more than sewing the bags from yard-goods. Spinning and weaving does not seem possible.

d/ The use of concrete blocks has taken deep roots. It seems unlikely to reconvert builders to using burnt bricks. To achieve this would require drastic restrictive measures which would be difficult to control. The acute shortage of firewood and the lack of any other fuel also argue against the case of manufacturing burnt bricks unless in small-scale industries.

e/ This is solely based on the discovery of kaolin deposits.

Source: The Gambia: Customs ... various pages.

99. The mission had at its disposal the detailed data of a very great number of manufacturing establishments in various developing countries.[2] A detailed comparative analysis is at Table 14. The result of this analysis is negative. The annual outputs of the smallest known units are between 10 to 100 times larger than the corresponding Gambian imports. This remoteness of the magnitudes may be partly due to the fact that our sample contains units from fairly developed countries, such as India, Israel, Japan, and Yugoslavia.

100. Therefore, the mission then proceeded to compare the Gambian import values with outputs of manufacturing units in somewhat less advanced countries. (The mission has brought along the Industrial Survey of Nigeria). In Table 15 are given the average annual sales receipts of selected Nigerian manufacturing industries. For the purpose of comparison, besides the overall average sales output of all Nigerian companies, the mission has included in the table the data of the smallest Nigerian companies, as well. In this last exercise the results are somewhat more promising. A review of the table in the annex will show a number of industries in Nigeria which are operating with annual sales values similar to or lower than the substitutable Gambian import of the corresponding commodity group. Such industries are: fruit and vegetable preserving, made-up textile articles (bags), saw-milling and furniture.

101. Before leaving the subject of import-substitution a note of caution is necessary. The figures in the Gambian import statistics contain not only consumption in The Gambia. As it is widely known and discussed (sometimes, the mission feels the discussion is exaggerated) some of the imported

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2/ United Nations Industrial Development Organisation. Profiles of Manufacturing Establishments. Vol.I and II United Nations, New York, 1967 and 1968. Industrial Planning and Programming Series, No. 4 and 5, 818 pp.

Table 14

A comparison of substitutable imports with outputs of similar establishments elsewhere, 1963-1965

ISIC Group	Commodity	Ref. No. a/	Country	Year	Annual production value £'000	Estimated substitutable imports £'000
3113/ 3114	Canning and Preserving fruit, vegetable and fish	203-(1)	India	1964	125	2
		203-(1)	Israel	1964	427	
		203-(2)	Israel	1964	1,447	
		203/4-(1)	Japan	1964	289	
		203/4-(2)	Japan	1964	277	
		204-(3)	Japan	1964	306	
		204-(1)	Yugoslavia	1963	2,494	
		203/1-(2)	Yugoslavia	1963	338	
		203/11-(3)	Yugoslavia	1963	1,079	
331/ 332	Wood products and wooden furniture	250-(3)	Yugoslavia	1963	1,207	11 plus 5
		250/260-(4)	Yugoslavia	1963	1,490	
		250/260-(5)	Yugoslavia	1963	1,662	
		250/260-(6)	Yugoslavia	1963	4,144	
		250/260-(7)	Yugoslavia	1963	1,929	
		250-(8)	Yugoslavia	1963	1,442	
		250/260-(9)	Yugoslavia	1963	2,036	
		250/260-(10)	Yugoslavia	1963	2,003	
3523	Soap and cleansing preparations	319-(10)	India	1965	4,120	20
		319-(11)	India	1965	140	
		319-(4)	Yugoslavia	1963	4,567	
		319-(5)	Yugoslavia	1963	1,536	
		319-(6)	Yugoslavia	1963	1,907	
3691	Bricks and tiles	331-(2)	Yugoslavia	1963	617	
		331-(4)	Yugoslavia	1963	407	

a/ The reference Nos. are those appearing in the Source quoted below.

Source: United Nations. Industrial Development Organisation. Profiles of Manufacturing Establishments ..... various pages.

Table 15

Analysis of total receipts by employment size in selected Nigerian industries, 1966

ISIC Grp.	(old) ISIC code [a]	Industries [b]	No. of establishments: Nigeria Total [c]	of which [f] employing 10-19	20-49	50-99	Av. total receipts [c] £'000 [d] by establishments [i]: Nigeria Total [c]	of which [f] employing 10-19	20-49	50-99	Est. substitutable import £'000
3111	201	Meat	11	1	2	5	168	125	15	74	?
3112	202	Dairy	4	-	1	2	159	-	70	222	?
3113	203	Fruit and Veg.	3	1	-	1	29	6	-	18	28
3116	205	Grain mill	4	1	1	1	2,700	43	1	485	?
3117	206	Bakery	28	9	9	5	120	13	28	69	?
3119	208	Confectionery	5	-	1	1	526	-	114	382	29
3133	213	Beer	4	-	-	-	3,450 [g]	-	-	-	49
3134	214	Soft drinks	6	-	1	1	227	-	35	104	8
3211/ 3213	231/ 232	Textiles	30	-	5	8	733	-	32	105	-
3240	241	Footwear	11	-	2	4	322	-	30	208	?
3220	243	Wearing app.	12	6	3	2	53	6	17	176	?
3212	244	Made-up textile	6	-	2	3	448	-	102	302	185
3311	259	Sawmilling	39	16	14	3	41	5	8	38	11
3320	260	Furniture	38	11	10	9	102	6	53	73	5
361, 362, 369.	331, 332, 333.	Glass and clay	8	1	4	2	70	21	38	82	-
		Total [h]	464	84	117	105	437	18	81	228	

a/ For the sake of comparability and convenience we are using here the last but one version of ISIC, (United Nations Statistical Office: International Standard Industrial Classification of all Economic Activities Statistical Papers Series M, No. 4. Rev. 1.) as this appears in our source and this can be compared with the SITC - groups recorded by the Customs Department.

b/ Of all the industries in Nigeria only those appear in this table which have any likelihood of becoming established in The Gambia on the basis of import substitution in the near future.

c/ Total receipts is defined by the source as gross output plus or minus the value of inventory changes.

footnotes continued ...

(footnotes continued)

d/ The values are in thousand Gambian pounds, that is at par with sterling. The original N£ (Nigerian pounds) values in the source had to be recalculated for this purpose.

e/ The values and numbers in the "Nigerian total" columns include the former Western Region, Northern Region and Lagos Federal Territory. The survey for 1966 could not cover the Mid-Western and Eastern Regions. The total number of respondent establishments in the 1965 Industrial Survey that covered the whole Federation was almost 600. It should be noted that the industrial establishments in the mid-West and in the East are generally smaller in size than the Nigerian average.

f/ This table only reproduces the three smallest size groups from the source. Other size-groups in the source are 100-299, 300-499, 500-999, 1,000 and over. The average total receipts of the larger establishments not quoted in the table above are represented in the average total receipts of the total number of all establishments.

g/ The smallest brewery in Nigeria falls in the size group of 100-299 employees and had a total receipt of 2,000 thousand £ (sterling) in 1966.

h/ The items in the table do not add up to this "Total" as only selected industries were included in the table (see footnote b) above). The total receipts are given here only for information of the average output size of the smaller Nigerian manufacturing industries.

i/ For technical reasons it was not possible to reproduce in this table the aggregate total receipts of all establishments active in the same industry group. The interested reader may calculate this through multiplying the "Average total receipts by establishments" by the "Number of establishments" or with reference to the source and converting Nigerian pounds into Gambian pounds.

Sources: Nigeria. Industrial Survey of Nigeria 1966.
Federal Office of Statistics, Lagos, 1969.
Tables 19 and 20 pp. 46-47.

commodities find their way across the border without statistical recording. It would be almost hazardous to base industries, in this case import-substituting industries, on a market of this kind. For various foreseeable and unforeseeable reasons this kind of border trade may diminish in the future and the industry that was thought feasible on the "whole" import figure may not be viable on the actual domestic consumption. The kinds of commodities that are preferred by the cross-country traders are fairly well known. Any adjustments in the duties here or over there may change the composition of this "foreign trade". This, again, can be reckoned on. Therefore, in respect of those commodities which are or will be likely to be fully, or almost fully consumed <u>within</u> the country, the assessment of the import-substitution potential should be clearly different from the judgement on the substitution of commonly "re-exported" imported goods.

5.1.4 <u>The bulk purchasers</u>

102. The domestic market does not only consist of families, households. There are institutions that buy various industrial goods in large quantities. Government, P.W.D., education, health, police, local government, etc., regularly purchase industrial commodities. Most of it is at present imported. The quantities purchased by each individual institution may not alone support an industry. But with stern measures it should not be impossible to standardise the requirements of the various organisations and thereby substantially increase the volume purchased of each kind of commodity. This may help to make local industries feasible, such as: clothing industries to make uniforms, paper conversion plants, etc. Unfortunately, due to shortage of time the mission could not - in spite of its intention to do so - study this problem in depth and no aggregate figures could be calculated of such bulk purchases. But on the basis of the scanty information that could be collected, the mission is convinced, that the feasibility of such medium or small industries is not so much impeded by the small quantities to be produced as on the departmentalisation of purchases and on the insistence on the traditional sources of supply.

103. A specific type of "bulk purchaser" in the country is the tourist trade, i.e. the hotels and transport enterprises. It must be conceded that it might be even more difficult to convince this kind of market to buy local than the government store-keepers. But there are several items where there is a strong case and where, consequently, it would not be unfair to exercise strong pressure on the hotel-keepers. Here are a few examples of this kind of product: soft water, plastic buckets and other plastic utensils, brooms and brushes, deck-chairs, cane and wickerwork, mats, laundry soap and other cleansing agents, sunshades, etc.

104. Manufacturing industry itself is a part of "bulk purchaser" of industrial products. It is recommendable to scrutinise the various applications for development certificate from the point of view of where the proposed project intends to take its supplies from. Incentives may be applied selectively to promote backward linkages of this kind within the country.

5.1.5. Export possibilities

105. When trying to enlarge the market one obviously thinks of exportation. For The Gambia there are at least two kinds of industrial export possibilities as yet unutilised. One is the exportation of processed food. This will be discussed thoroughly in the sub-chapter on potential industries.

106. The exportation of other industrial goods made in The Gambia needs somewhat more political and diplomatic preparatory work. There is already a trickle of exports to neighbouring and other West African countries. Most of the West African countries have problems to tackle in the course of industrial development similar to those of The Gambia (although the order of magnitude may be different). The eventual establishment of the West African Economic Grouping, which unfortunately does not seem to have made any progress since the Monrovia meeting in April 1968, would instantly solve the common problem of the smallness of the national markets.

107. However, ambitious bilateral trade agreements can go a long way and need not wait for the final and all-embracing Economic Community to be established. The mission is convinced that a number of commodities now imported by all or almost all West African countries could be easily shared out between smaller or larger groups and thus could be manufactured in West Africa for the West African market at competitive prices. Examples of this kind of commodities will be given in the sub-chapter on other potential industries. They will have one feature in common: these have to be foot-loose industries, i.e. industries in the cost of which the transport cost is negligible, in other words, industries that need not necessarily be located near the source of the raw material or near the centre of the market.

108. Still on the subject of export markets, one may ask an obvious question. There is a great quantity of goods entering Senegal from The Gambia. While it will be agreed that it is hardly recommendable to base industries on illicit export, why not think of exporting Gambian manufactures to Senegal through the customs posts, lawfully? This looks almost excluded for some time to come. What the Senegalese traders mostly buy in The Gambia is Japanese transistors, cigarettes, liquors, printed cotton textiles, etc. It is unlikely that these can be manufactured in The Gambia in the next few years. It is similarly unlikely that the quality and the price (or more precisely the price related to the quality) of the Gambian goods will compete with those of the Japanese, etc. dumped ware. Even if it is assumed that this can be achieved the Senegalese market will remain inaccessible to Gambian manufactures. Under agreements France has a certain quota of the total imports into Senegal. Before this quota is exhausted, it is difficult to obtain import licences for goods of other origin. The protective tariffs in Senegal are very high and very complex. French goods and goods of the European Common Market may enter Senegal duty free, but even on these imports various dues and taxes have to be paid at flat rates sometimes amounting to 50 to 60 per cent ad val rem. Goods of other origin are subject to duties (in addition to the dues, etc., mentioned) and the customs duties are varying between 60 to 260 per cent ad valorem according to the kinds of commodities. This is too high for an infant industry.

109. Negotiations between the two countries to reduce the gap between their respective customs tariffs have, unfortunately, not made much headway so far, and if the mission is reading the various press communiques correctly, there is little hope that dramatic advances may be expected in the near future.

110. The last remark the mission thought of making on the matter of market concerns the possibility of the United Kingdom joining the European Common Market. The implications of this move to The Gambia are very complex and it is very difficult to see them all at this stage. However, this may in a sense mean an easier access to certain markets in Europe which were thus far inaccessible for Gambian goods. The mission believes that it is not premature to start thinking of what kind of commodities could be processed for this type of market. Incidentally, an associate membership of The Gambia in E.E.C. may slightly change the position vis-à-vis the Senegalese market. The comparative competitiveness of the industries and the Senegalese import quota system, however, will stay.

12. Natural resources

12.1. Mineral resources

111. Ilmenite. The possibility of heavy beach sand mineral deposit exploitation has become more positive, although their total reserves in The Gambia are rather moderate in size. In this regard, it should be said that although the Gambian ilmenite has a higher TiO_2 content (56.8 per cent) than the standard grade specification (52-54 per cent TiO_2), yet its chromium content (0.3 per cent Cr_2O_3) may be considered too high and not suitable for producing pigment-grade titanium-oxide by the classical "sulphate process".

112. However, this composition makes it "highly suitable for the new technology of electro-melting to high TiO_2 content slag which may be chlorinated to pigment-grade titanium-oxide".

Both the Gambian Ilmenite composition and the country's location are favourable factors from the standpoint of future market. Already there is a "counterpart", known to UNIDO in Vienna, that has expressed its interest in applying the new technology to use Ilmenit[illegible] concentrates to be exported from the Gambia. In addition, an institution fr[illegible] developed country (USSR) has expressed to UNIDO its willingness to metallurgically test 0.4% ln. (200 kilo) sample of Ilmenite Gambian heavy black sands, employing above-mentioned new technology and submit results of the findings, in a detailed report, in four to five months after submission of the Gambian Government's request to the UNIDO, in case this Government would be interested in this investigation. Test results "would serve for ascertaining the possibility of the material to be processed by the new metallurgical technology". The Gambia's Ilmenite may then become marketable as soon as the potential counterpart mentioned above receives the results of the tests.

The mission is pleased to note that, as a result of correspondence between UNIDO Headquarters and the mission, the Government of the Gambia is definitely interested in the investigation suggested by UNIDO and will make the necessary arrangements with UNIDO 10/

113. Kaolin: Tests have shown that the Gambian kaolin is of a good quality, and thus can be developed and exploited. However, its reddish colour (due to iron content) prevents it from being considered as a top-quality kaolin usable in manufacturing paper and fine-ceramics. On the other hand, its high aluminium content makes it desirable in clays used for fire-proof products.

It was also found that the Gambian kaolin meets the requirements for various types of clay such as fire-clay and clays for refractory and building bricks.

114. Possibilities of finding phosphates should not be completely disregarded. Iron stone that can be found in the Gambia cannot be regarded as "iron ore" in its modern sense.

10/ A letter dated 7 March 1970 of the Permanent Secretary of the Ministry of Finance to the Leader of UNIDO Industrial Survey Mission.

115. Reports of B.P., which was searching for petroleum on shore in coastal regions, say that they have transferred their activities to the sea area including Gambian territorial waters. They did not give up the hope of finding off-shore oil deposits.

5.2.2. Agricultural Resources:

5.2.2.1. Fish and Crustaceae:

116. From all reports and interviews it can be generally said that fisheries are the most potential resources, and the most readily available to exploitation in The Gambia. There is nothing that can better describe the importance of the rock lobsters (langouste) being caught here than the statement in the FAO report about the Gambia's fisheries that, "along the West African coast, the largest catch of rock lobster in the world is reportedly taken. Substantial quantities are caught by Senegalese fishermen from Gambian beaches on the coast".[11] Needless to say, lobsters are nearly the highest priced crustaceae in the world as a whole, whether fresh, frozen or in a canned form.

117. Next to lobsters come the shrimps, which, although they are not so scarce in the world fishing and market as a whole, yet they enjoy a very high demand, with also considerably high prices, by several countries such as USA, France and Japan mainly. Shrimps can be found in abundance in The Gambia, especially in the Gambia River. The only thing that is necessary to catch it and to bring more revenue to the fishermen, and accordingly to the Government, is the availability of modern fishing facilities and their use by able fishermen.

118. Freezing these two important items, i.e., lobsters and shrimps, using the best modern techniques, can bring a very good return to The Gambia.

11/ United Nations Food and Agriculture Organisation. "Report to the Government of Gambia on the Fisheries of Gambia". Based on the work of A.J. Thomas, FAO/TA, Fisheries Development Adviser. Rep. FAO/UNDP (TA) (TA 2223): p.6 1966.

119. Other good items are the oysters and mackerels (which can also be frozen or dried etc.) and fish (mainly "bonga", i.e., African herring to be smoked or salted and smoked, with or without freezing afterwards. Gambian waters are also full of suitable fish for canning such as mackerel or several tuna varieties, or for valuable nutritionally rich oil-extraction (Vit. A and D precursors) as from the livers of the sharks.

. . . . .

120. Again, this is one of Gambia's important, but little exploited, potentials. Last estimates reveal that the cattle population at present is about 250,000 heads (due to Veterinary Department's efforts); and, that the average yearly increase nowadays can be safely regarded at the rate of about 10 per cent. Only a small fraction of this is slaughtered or utilized as a meat-source (beef). No exact information is at hand at present to reveal either the exact number of "dairy" cattle, or to be specific, cows able to give milk, or the approximate quantity of milk yielded by such a number - or the quantity on the average that is produced by each cow. Such figures, plus exact data on local milk consumption in its various forms (normal milk, sour milk, butter, ghee and cheese etc.) are essential. The per capita consumption of all these (milk) items is also important to be known. Same, to a less extent, applies the "beef" cattle, especially the "killing-out" percentage on the average of each animal and how much it yields in form of meat and bones.

121. Besides, if data is to be collected, it would be suggested to classify the animal in both the "dairy" and "beef" group, according to: (a) urban area (which is nearly solely Bathurst and its surroundings within the range say of 40 miles) which, frankly speaking, benefits directly from and is easy to reach by the members of the active Veterinary Department at Yundum; (b) the rural areas, or in other words, the rest of the country. Both the "dairy" and the "beef" groups, both in the urban and in the rural area will then have to be classified into various quality categories, which will also vary according to the season, viz. wet and dry season. In the absence of information of the kind described above, it is very difficult to know how great a part of the total cattle population of the country does come up to the minimum qualitative requirements of a meat industry (or dairy industry) and at what exact time periods is this part available.

122. Apparently the collection of such or other data does not solve the problem but it is necessary to find the right solution. The substantive problem is how to improve the quality of the available livestock so that large quantities of it can be industrially utilised. This is a task of immense complexity and much beyond the scope of the industrial survey mission. Here only a few, loosely interrelated, hints will be made at what may be termed as 'beef improvement scheme':

(a) "Beef improvement" is not necessarily identical, though fairly overlapping, with livestock improvement. The mission notes with interest that the latter is gaining momentum. (The Draft Development Programme attaches high priority to this item). A continuation and, if possible, broadening of the extension services to generally improve cattle-breeding and the condition of the livestock is naturally most welcome by the industry. This is, however, apparently a slow process.

(b) In the meantime, in order to quickly increase the quality of as many animals as are required by the continuous operation of an industry a fairly simple method could be used. Between the farm and the industry one or several buffer stores, or feeding stations should be established. These should buy the cattle from the farmer; feed it according to modern technology, using high-efficiency feeds (the FAO-Kassem reports list quite a number of locally available feeds, and there is the oilcake); build it up to the required quality (more meat than everything else in the total weight); sell it to the factory. These feeding stations could be organised by government (possibly from the aid funds ear-marked for livestock development) or commercially or as state-private joint ventures. If good feeding technology is used the price margin should be sufficient to be able to offer a high enough price to the farmer to make him part with his animal and still leave a modest profit for the station within the price at which the factory buys. (Needless to say, the beef improvement scheme would contribute also to the hides scheme, would shorten the time by which a dairy industry may be feasible, as well as general health and nutrition would benefit from it.)

.... [illegible]etables

123. As mentioned under the natural resources, and a very important one, which, very carefully and systematically organized, fruits and vegetables can play a great role in creating the many chances [illegible] types of food industry and related industries, and, [illegible] "know-how" and "requirements" will be needed, which will be [illegible]. It is important [illegible] to list a few of the industries [illegible], whenever the raw material (fruit or vegetable) is available in the quantity, quality [illegible] necessary for industrialization, and, within [illegible] reach (by necessary means of transportation, etc.) that will make it "flow" in the shortest time possible, whether to the "site" of the factory (as a raw material) or from it to the markets (as a finished, well-packed product). Such industries are: freezing, canning, dehydrating, pickling, etc.

124. But before reaching the stage of [illegible] food manufacturing industry, it might not be a bad idea to suggest that "suitable" fruits and vegetables can be prepared and packed fresh for export to Europe, especially during the cold season there, starting November to the end of March, which fortunately coincides with the "dry" season in the Gambia when farmers are free to engage themselves in other rewarding activities ([illegible] finished the "groundnut" season). And, that means that "packing-houses" for fruits and vegetables, established in the most modern form to serve that purpose can bring a good foreign-currency revenue to the Gambia ([illegible] time when sometimes a kilogram of "tomatoes" for example would be sold say in Austria, in the retail market, for about 6 to 10 Gambian or English shillings - and a "single rose" for 3 to 5 shillings).

125. How to describe the "horticultural crops" which are needed for industry in the Gambia i.e., fruits and vegetables, and considering the situation at the time this report is being written, it seems unavoidable to classify those as follows:

(1) Organized plantations:

Practically non-existent. For example there are a few acres of "limes" at Yundum, plus two tiny "orange" plantations (one consists of 200 trees and the other 100 trees) that the mission know of in its visit to the Lower River Division and about 5 acres of limes in the MacCarthy Island Division, besides a few citrus trees scattered here and there in private houses' gardens.

126. (2) Popular, widespread, unorganized plantations are those of mainly mangoes. They yield their crop in huge quantities and over-flood the local markets, then are left to fall on the ground to rot unutilized. Unfortunately, it seems that there was little, or maybe nothing, done to select the good mango varieties and organise their planting to prepare the crop for industry. The real good mango suitable, for example, for juice extraction (to be canned, frozen, concentrated or bottled as such, for aquash or syrup-making, sun-drying or dehydrating, canning with sugar-syrup, jam-making, etc.) should be of a variety which has a smaller seed but full of flesh, a good orange or orange-yellow colour, a full-fragrant flavour, and an excellent taste.

127. Yes, one has to be "choosy", very particular and thoughtful when he plans and before he plants, to prepare a necessary top quality horticultural (or other) crop for industry. In our time now even, there are "special varieties" of the crop needed for industry, particular to the type of industry that requires it, that is to say whether for canning or freezing, etc.

Industry is a serious investment that requires all the skills and energies to be drafted to serve it, especially in a country that desires to gear its status from only "modestly agricultural" to "industry-geared agricultural". If this is done, then success and prosperity will definitely follow.

128. Climatically suitable crops on which experts have successfully experimented and say that they can be planted but are not planted yet.

It could also be added to the above that planting such crops (as certain fruits and vegetables) can start at once for the purpose of "fresh-packing" for export (UK, Europe, etc.). Most or nearly all of them can later be planted in quantities sufficient to start an industry only after careful planning. In this regard, the following are examples:

(1) Fruits: limes, lemons, oranges, grapefruits, tangerines, mangoes, guavas (two healthy-looking trees were seen growing in Georgetown, MacCarthy Island). They are valuable as a vitamin C rich source, and are rich in "pectin" needed for making some jams also), strawberries, passion fruits, bananas, papaya, avocado pears and even grapes (mission saw a big healthy grape-vine in the back garden of a Lebanese in Bathurst).

129. (2) Vegetables: Tomatoes (Yundum Agricultural Station has succeeded in planting the variety called "money-maker" and gave a yield of 18.5 tons/acre. It is a crop that can be grown and harvested within 3 months only), okra, garden-eggs (egg plants), sweet peppers (paprika or green peppers', carrots, potatoes, onions, green beans (missionary bean a good long variety planted by Chinese experts in MacCarthy Island and can be planted and harvested any time of the year), summer-squash, cucumbers and hot peppers (cayenne).

It is not necessary that the Gambia has to import fruits and vegetables while she can plant them. Only to remember, in the season 1968/69, onions were imported from Holland for £10,000, Irish potatoes for £3,000, legumes (beans, peas, etc.) for £1,000, frozen vegetables for £400, and other vegetables, etc., for £400.

5.3.2.4. Other Cash Crops

130. Some of the important crops that are playing, or can play a useful role in industry are:

(1) Groundnuts which is Gambia's single cash-crop at present. It was well covered in our report until now. The 1969 crop is expected to reach 110,000-120,000 tons of unshelled groundnuts.

(2) Cassava is a popular staple food. There is only one commercial plantation growing it on a large scale, namely the 265 acres located about 24 miles from Bathurst. Plans for expansion are already thought of, to serve the "Edgar Hasri Cassava Plant" project to produce cassava necessary to support the present factory with an annual intake capacity of about 6,000 tons of raw material. The scheme is a healthy one aimed at producing enough cassava to supply the existing factory to produce gari with the maximum capacity. Comments about the factory, that was recently built and is carrying out the test-runs at present, has been already written under sub-chapter 4.6. They have also a plan to expand the plantations to produce later a starch factory with an annual input raw material (cassava) of 30,000 tons. There are other cassava plantations scattered all over the country.

It is estimated that there are already about 2,000 acres of cassava, planted in the Gambia.

N.B.: Waste of cassava from gari-plant can be dried and used as animal-feed.

131. (3) Rice: Its plantations, under the Taiwan (China) technical assistance experts, are progressing gradually and successfully for the aim of at least covering Gambia's local demand instead of importations, and to take its place among the necessary cash-crops of the country.

Later (when enough rice is available), plans for big-size rice mills will be set, to replace the several small rice husking and hulling machines (these are scattered now in the rice areas and are lowering the grade of rice by the higher percentage of "broken rice"). The rice itself is a good medium long-grain variety which apparently is very easily and quickly cooked. It was striking to the mission that the husks and hulls of rice (rice-bran) are either sold as fertilizer material or burnt.

132. (4) Cashew nuts grow very well, but the trees are scattered and unorganized. This crop would be also of interest, if grown in organized plantations and yields enough quantities to deserve the rise of a new export industry, for example dried, salted and canned under vacuum like in the case of salted canned groundnuts.

133. (5) Coconut grows very well especially near the sea-shores. One of its industrial uses is the production of coconut-oil, or being shredded fresh and used in bakery, confectionery, etc. Some countries cut it into pieces and dry it for export in this form.

134. (6) Cotton: There are already about 50 acres of it experimentally planted in the Upper River Division near Basse, to teach farmers how to plant, irrigate and care for the new crop. The mission knows of plans to extend these plantations to an area which however, will by no means be able to grow enough raw cotton to supply a local textile industry. Besides, the mission cannot see the possibility of a textile industry from the point of view of the textile goods market either. Therefore, in the view of the mission, the diversification of agriculture in this specific direction will not link up with the desired industrial development. (While dealing with cotton, the mission would wish to sound a caution with regard to the commercial and biological/ecological disadvantages of cotton).[12/]

12/ More details of these disadvantages were communicated to the Development Secretary orally.

135. (7) Oil palms constitute the second largest crop in The Gambia. For example, in 1966/67, about 6,900 tons of palm kernels valued at £125,000 were exported. Besides, it yields oil for local consumption, produced by no modern means, a kind of palm juice wine, and leaves are used for fencing and thatching.

Several oil palms, of a low oil yield, are growing wild in the Gambia and scattered all over the country. The only exception are the 350 acres of improved oil palms which give higher oil yields and are planted in the Western Division, plus the 60,000 seedlings of the higher yield type that were sold to farmers. In spite of that, the belief is that a real industry, based on above, can be started.

b.2... . Forest [illegible] ources

136. The forestry resources of The Gambia are not very rich, especially when compared with those of the other coastal West African countries. The total forest estate of the country is less than 3 per cent of the land surface area. The difficulty of utilizing this resource does not only lie in its smallness but also in the fact that the small area of forest comprises 86 "forest parks" scattered all over the country and some of them not easily accessible by vehicles in the rainy season. Only 40 per cent of the forest parks has been assessed to have a productive potential. The remaining 60 per cent is to be retained as protective forest to prevent erosion as they are situated on very poor types of soils, where at places the laterite crops out right to the surface. The removal of trees in places of this kind would be dangerous.

137. The species most common in the forests of productive potential are as follows: Mitragyna ciliata, an acidity resistant hardwood, Khaya senegalensis, by popular name "jallow", a kind of mahogany which is a typical heavy construction timber, Chlorophora regia, commonly known as African walnut, an excellent timber for furniture and Daniellia oliveria, a timber widely used for boatbuilding. The Gmelina species mentioned above (chapter [illegible]) is an introduced planted species.

138. On the basis of the statistically, officially recorded volume of standing timber, in principle, it should be possible to extract about as much as 10 thousand c.ft.(280 m^3) of log. There are, however, two factors reducing the actual potential: the shifting cultivation destroys some of the standing stock by burning large parts of the forests; rural pit-sawyers fell trees and they do not in every case buy the licence, and even if the licence is properly bought it does not necessarily guarantee systematic, selective utilization of the tree stock. The Forestry Division hopes to gradually increase the extraction of logs from the forests to about 5 to 10 thousand cu.ft. (280-280 m^3) [illegible].

5.3. Industries Based on Natural Resources

5.3.1. Food-freezing, Cold-storing and Ice-making Complex

139. Introduction:

This project is aimed to utilize the existing most important, much under-utilized potential natural resources of the Gambia, and to open an outlet for other improving agricultural resources. Examples for the former are the fisheries and livo-stock and for the latter, vegetables and fruits. In the beginning, the fresh-packing for export will encourage farmers and businessmen to expand this activity till the stage is reached where these horticultural crops would serve the food industry as soon as the quality, quantity, homogenity and prices become suitable for industrialization.

The "freezing/cold storing/ice complex" is mainly an export industry which has to produce high quality products with the most modern techniques, preserving much of the flavour, colour and nutritional values of the foods. Such good quality frozen products enjoy a great demand in the world markets and bring a good profit. As a result, the Government revenues and foreign-exchange earnings will also increase.

140. The project will have also an impact on reducing the seasonality (groundnut cycle). This cycle has impeded the use of potential natural resources such as fisheries. For example, during the "wet season", i.e., from June until end of October, which coincides with the peak seasons of two world-cherished seafood items, namely the rock-lobsters (langouste) and the shrimps. Both of these

items, when caught in good quantities and sizes, carefully handled until they are delivered to the factory, then quickly and carefully prepared and quick-frozen with modern technology, then exported to the world markets (France, U.S.A., etc.) will bring very high prices.

The fact that the "complex" is designed as a multi-product operation (i.e. not only sea-food) would also accelerate the turnover of its working capital, thereby reducing costs such as interest on tied-up capital.

141. Purposes of Project:

(1) Catching fish and crustaceans (especially fish and shrimp because lobsters can be supplied by other fishermen through their co-operative) for the purpose of supplying a good part of the catch to the freezing plant.

(2) Freezing shrimp, lobsters and meat as the three main production items.

(3) Ice production, mainly for factory's work and for supplying fishermen with ice, at a nominal price, to preserve their catch (preferably through their co-operative).

(4) The cold storage of some "fresh-pack" (vegetables and fruits) for export, to encourage export of such items and utilise full plant capacity.

142. Raw Materials needed for project:

A guaranteed flow of supply of raw material that are of good quality, enough quantity and reasonable price will be needed, as follows:

(1) Cattle are listed in the beginning because the animals are there, but they have to be first dealt with to serve industry. Animals needed for this project will be 12,000 heads of good healthy cattle of "grade A", i.e., with 55 per cent killing-out, plus if grade A would not be guaranteed in such a number, then it has to be completed from "grade B" cattle, i.e. with 50 per cent killing-out. (Dr. Knaesen's Recommendations, FAO Report, 1964). This number of cattle (12,000) is possible to provide because from the cattle population, which is about 250,000 heads, only

Table 1[illegible]

Tentative estimates [illegible] fixed capital needed [illegible] the food-[illegible], [illegible]old-storing and ice-making complex a/

	Estimated (£)
Equipment and machinery	
Equipment for "Beef" quick-freezing [illegible] (capacity: beef-carcasses [illegible] (metric) tons = 4.92 long tons, -40°F (= -40°C), uses air-blast and indirect [illegible] coils arranged as shelves. Air [illegible] ft./min.)	[illegible]
Equipment for "Seafood" quick-freezing ([illegible] plate-type freezers) (Automatic, each of cap. [illegible] (metric) tons (= 1.40 long tons) per batch, [illegible] -4[illegible] (-4[illegible]°C))	[illegible]
Equipment for "Agricultural [illegible]" [illegible] (Automatic regulation of [illegible] and relative Humidity, cap. 120 (metric) tons (= [illegible] l.t.) 30°F. to 60°F. R.H. [illegible] per cent)	[illegible]
Equipment of Automatic Ice Plant (Cap. [illegible] (metric) tons (= 9.84 l.t.) per [illegible], [illegible])	[illegible]
Equipment for freeze-storage warehouses (Automatic control, Temp. -10°F. (= -23°C), cap. 200 tons "frozen ice-foods", 16000 cu. ft. (= about 450 m^3) + 60 tons cap. frozen beef, [illegible] cu. ft. (= about 240 m^3))	25,000
Freight costs of machinery from [illegible] port to Bathurst (10 per cent)	7,[illegible]
Buildings	
Construction of buildings for frozen food warehouses (Area 460 m^2 (= about 500 sq. ft. x 130 s./sq. ft.))	32,500
Construction of freezing-tunnel (for "beef") (10 m^2 (= about 110 sq. ft. x 140 s./sq. ft.))	800
Construction of "fresh-pack" cold store for 100 tons (about 40 m^2 = 420 sq. ft. x 130 s./sq. ft.)	2,750
Construction of others (offices, quarters, etc.) about 230 m^2 (= about 2450 sq. ft. x 50 s./sq. ft.)	6,125
Others	
Vehicles (including at least 1 mechanically refrigerated truck), furniture etc.	25,000
Two shrimp-trawlers (each 450 HP, sub-engine 100 HP, 6 sets trawler-nets)	142,000
Contingencies	47,335
Estimated Total Fixed Capital	340,000

The working capital is estimated between 30 to 120 thousand pounds.

a/ List of equipment and machinery given below provides only a tentative estimate of the equipment and space of the proposed project. It does not include, for example, equipment and space needed for the preparation of shrimp for freezing (washing, grading, heading, eventual deveining and peeling and packaging).

about 12,000 heads at present are slaughtered yearly in The Gambia for food consumption. The cattle population increases yearly at a rate of about 10 per cent on the average; and this is why, at such a rate, 12,000 heads can be slaughtered only to supply the project's factory for freezing. Needless to say, as a result, another 12,000 good cattle hides will be also available for preparation, drying, etc., for the purpose of export. <u>The daily intake capacity of the plant would be 40 carcasses</u> (300 days/ year).

<u>Calculations:</u>
1. Each animal yields a carcass weighing about 300 lbs., i.e., 136.2 KG.
2. 40 carcasses of these [illegible] 136. KG. each [illegible] tons (metric) per day.

143. (2) <u>Lobsters and shrimps:</u> About 3-5 tons of both per day, or even up to 10 tons per day whenever available, depending on catch and season, keeping in mind that peak of rock lobsters' season is from middle April until end of November, i.e., 7½ months (not counting the months of "medium" availability, i.e., from 1st March till middle April, and December), and peak of shrimps' season (overlaps with lobsters) is from 1st May until end September, being in "medium" quantities in both April and October months, i.e., again about [illegible] months. In other words, if fishing is done properly, catch handled carefully as mentioned before, then the factory would guarantee working a good seven months continuously without being interrupted by holidays or anything else. (Enterprise can donate yearly a sum of money to be given to the fishermen's co-operative (which <u>should</u> be formed) to pay for overtime work during the holidays or extra daily working hours). That is to say working on lobsters and shrimps about 7 months x 30 = 270 days/year.

144. It is recommended to restrict by law, catching lobsters of less than 20 centimetres in length which will and have to be rejected by the factory to guarantee the continuous growth of, or at least preserve, the country's most valuable fisheries resources. Also, catching shrimps with nets which have mesh openings that are less than 12 millimetres in diametre (unstretched) should be forbidden. The factory should also refuse accepting smaller shrimps.[13] Otherwise there will be

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13/ Matters relating to restrictions on catching lobsters below certain size and/ or the use of nets with certain minimal mesh size for catching shrimp fall within FAO's competence and have not been reviewed by UNIDO.

...h waste, high production costs in the factory, and quick depletion of this ... rtant resource. Violators should be strictly punished. Violations of ... territorial waters by commercial fishing is ... will-known problem. The Gambia should ... k whatever assistance is available to protect her most valuable resource.

145. If no refrigeration facilities are at fishing boats, then the factory ... ll supply the fishermen with ice (that should be kept in boat in special insulated ... -box), at a nominal cost, to mix it with the shrimps when still freshly caught, ... ratio of 1 to 1 by weight. Such a step will greatly improve the freshness ... shrimps for a maximum period of 5 days. Lobsters must be delivered live.

146. Fishermen for shrimps should, (through their co-operative for example) ... rchase and use specially designed wooden trays, all of equal form and size, to ... rry the shrimps in a depth of 4 inches (10 centimetres) to hold, in preserving ... the shrimps from crushing, easy mixing with ice, and easy handling.

147. (3) Fish: This item could be supplied in a quantity of about 5 tons per ... y (or more whenever enterprising would exist) especially during the months or days when ... stors and shrimps are not arriving to the factory (as they are out of season; ... that means 3-5 months yearly for cod and 3 working months/year).

148. (4) Some vegetables or fruits or oysters might be requested as needed, for freezing, to supply local market needs (as in Bathurst year round) where a considerable number of expatriates and higher income group live will is familiar to using these items. Also, to start testing the export-market for such commodities, especially during Europe's cold months (November-March). Items such as strawberries, greenbeans, carrots, sweet peppers (green peppers or paprika), grapefruits and oranges (and even okra and summer-squash) would be suitable and interesting for freezing.

149. **Remarks:**

A. Yields from above raw materials per year, as frozen articles, can be estimated as follows, as maximum yearly utilized capacity of the freezing factory:

(1) Frozen beef: about 5 tons/day x 300 days = 1,500 tons (metric)

(2) Lobsters and shrimps: about 1½ tons/day x 210 days = 315 tons

(3) Fish: 5 tons/day x about 90 days = 450 tons.

150. B. There will be a cold-storage space in the factory for exporting fresh sweet potatoes, tomatoes, grapefruit, green beans, sweet peppers, etc., with a total storage capacity of about 100 tons of packed (fresh) produce.

Table 17

Estimated annual sales of a proposed food industry complex

(at full capacity):

(1)	Frozen beef 1,500 tons x £250	= £375,000
(2)	Frozen shrimps and lobsters 315 tons x £900	= £285,000
(3)	Frozen fish 450 tons x £110	= £ 50,000
(4)	Fresh exports (approx.)	= £ 50,000
	Total	£760,000

The annual operational costs could not be worked out in details at this stage. Having, however, carefully studied the proposed projects (see Annex VI) of similar production plans the mission is sufficiently confident that the project as outlined above should easily be at least as profitable as the others because this project is supposed to work all the year round and is in certain respects less sophisticated. Naturally, more detailed feasibility studies would be required to arrive at a more definite position.

151. To summarize: the above outlined quick-freezing/cold-storing/ice-making complex is in several respects similar to projects already proposed (see sub-chapter 4.6). The mission still felt it necessary to submit the above preliminary plan, for the differences between the proposals and this plan of the project are also significant.

(1) The project combines the utilization of fishery resources with resources from two other major sectors of agriculture (livestock and horticulture). This combination should have two results on the industrial complex: (a) it can work all the year round thereby essentially reducing overheads, (b) with this additional flexibility it is less exposed to imponderables, such as fluctuations of demand and prices in one or other of its export products.

152. (2) While other projects suggest to start with the exploitation of resources first and proceed to industrial processing at a later stage, this project plan emphasizes the need to start industrial processing immediately. This project is also based on a combination of exportation of fresh produce and processed foods, but the former is only regarded as impetus to introduce the crop (for the suppliers) and cost-saving to use all the space (for the complex), the emphasis still remains on the fullest possible industrialization within the country of the said natural resources as soon as possible. The fixed asset structure and the cost structure of the complex is designed so that it must become interested in not only buying but also processing all available food.

5.3.2. Fruit Juice and Syrup Factory.

153. Several factors had direct impact on the mission, which pressed on the need to give priority to such a project, to be carried out within the next few years. Some of these factors are:

(1) The method used now at the Citrus Pilot Plant, Yundum Agricultural Experimental Station, in producing raw lime juice (highly oxidised) and lime-oil. Such a juice is very much oxidised (flavour and ascorbic acid content) by long exposure to air (several days) at room temperature. The destruction of ascorbic acid (precursor of Vitamin C) is also accelerated by the copper ions present in the residue of copper sulphate being left in the cracks of the wooden-vats from washing them with the copper sulphate solution before they are left to dry until next season.

From this, it becomes obvious that another method should be used to produce a higher quality juice in the shortest possible time, following modern techniques.

154. (2) The urge among the people to start a new industry, once they understand its merits and they learn the "know-how" to do it, which led to the participation of one of our mission-members in producing the first all-Gambian lime-syrup in Georgetwon, MacCarthy Island Division, on 27 February 1970, successfully.

(3) Some of Gambia's businessmen and land-owners have started to grow citrus-trees near Bathurst and in MacCarthy Island.

155. (4) In the Gambia, the most popular drink is the "Mineral-water" (soft drink, or carbonated beverage) to the extent that it is imported - in spite of its manufacture in the several small plants existing all over the country especially in Bathurst. Everything that enters into the manufacture, even the bottle itself, is imported, with the exception of only the water.

156. (5) A great part of the imports of "fruit-squashes" and cordials, especially those made from citrus, should not be necessary, because Gambians can make them, even if on a small-scale. Evidence to that is the experiment in Georgetown mentioned above.

In short, a small project to produce high quality fruit juices, namely citrus (especially limes and oranges), and probably mangoes (if they prove suitable for industry), fruit syrups and squashes, could start within 2-4 years from now. In this regard, guidance of an experienced technician (an expert from UNIDO can help, who has a good knowledge and training, especially in citrus products industry). Special fruit syrups could be produced for use as a mineral-water (soft drink) base in existing bottling factories.

157. Calculating from the aggregate output of the "mineral water" bottlers and from the import figures the mission is estimating that the syrup and squash factory could reach an annual output of 50 thousand pounds. This would make an investment of about 30 thousand pounds necessary (inclusive of fixed and working capital). The employment is estimated at 30 people. It should be noted that these figures are not based on detailed studies and are but guess estimates.

158. Interesting an overseas company possessing a well-known brand-name is establishing a subsidiary to take up the project outlined above should help solve the financial problems and should make exportation also possible.

5.3.3. Woodworking complex

159. In view of the existing woodworking industries (see paragraphs 53-57), of the joinery project in process (see paragraphs 74-75) and of a cursory survey of the market the mission believes that a new woodworking complex can be visualised in the short term, i.e. within the next 3 to 5 years. With regard to the views expressed on manufacturing operations by government departments (see sub chapter 4.5) suggested below woodworking complex is not really new, it is rather a re-organization and expansion of existing units.

160. The suggested woodworking complex would have two major sections:

(a) a sawmill with auxiliary workshops (ISIC groups 3311/3312) and

(b) a carpentry and joinery workshop (ISIC group 3320).

For considerations of costs involved in storing and seasoning of timber it may be necessary to think of the two sections of the complex as two separate establishments. The comparative benefits of these two solutions need further study.

161. The sawmill would have to engage in the following operations:

A. main production lines:

(1) cutting logs from Gambian forests to cants,
(2) cutting Gambian and imported cants to size,
(3) manufacture building timber,
(4) manufacture shuttering for concrete casting.

B. auxiliary, by-product lines:

(5) manufacture of fencing from early gmelina thinnings,
(6) supply random lengths of millwaste for parquet manufacturing,
(7) burn charcoal in kiln of the remaining waste wood.

C.

(8) manufacture of crates.

162. A comparison of the above list with the existing plants and the project on hand will disclose that part of this profile is already covered. Ad (1): The Utilization Unit of the Forestry Division is already cutting logs, but the output is limited. It remains to be investigated whether it would be more economic to import part of the hardwood in logs and cut it here. Ad (2): The P.W.D. workshop is cutting timber to size for the general market, an operation which is not really well placed in a basically maintenance workshop. The main building company is importing timber cut to size and the joinery project is intending to do the same. In the course of a meeting of interested parties with the mission it was found that there is no objection to buying timber cut to size for the intended joinery from the new (re-organized) sawmill envisaged by the mission. This would make it necessary for the new sawmill to have additional high-efficiency saws. It remains to be investigated whether the P.W.D. joinery could dispense with a part of this kind of its machinery provided its activities in the future will not continue in the primarily commercial field.

163. Ad (3): Manufacture of building timber is meant for that part of the market of this commodity which is outside government building (done by P.W.D.) and the building of the major building company (self-suppliant). In view of the development programme for the next three years there are expectations of an increasing rate of public and private building activity.

164. Ad (4): This is an arrangement provisionally (for a trial run) agreed between the Utilization Unit and the building company (initiated by the mission) to replace imported softwood.

165. Ad (5): This is a continuation of what is already being done in the Utilization Unit. Ad (6) is starting on an experimental basis to make use of the pieces of mahogany too short to be sold as plank. Ad (7) is a new idea suggested by the Utilization Unit to simultaneously solve the problem of the fullest possible utilisation of the wood and of the acute shortage of household fuel (the most popular kind of it is charcoal). Ad (8) is already being done but could be increased about 7-8-fold if measures are taken to make importation of crates less economical. The food-freezing project will also need many crates.

166. If it is agreed that the Utilisation Unit could be re-[illegible] company, the ownership of it could be shared between the government and private concerns (some of which have already expressed interest to the mission). In this case the new sawmill could be but a re-organisation and expansion of the Utilization Unit. Provided that the re-organisation of the P.W.D. joinery is also undertaken, this approach would minimise the necessary additional capital investment.

167. Calculated from the market estimates (including timber sizing for P.W.D., the Marine Department, and the building company) the re-organized sawmill would - in addition to retaining its present machinery and taking over some, if possible, from P.W.D. - require the following investment into fixed assets:

	(thousand £)	
Buildings:		
1 shed		0.7
Machinery:		
1 pc. 72" vertical bandsaw, self-turning log-carriage	13.6	
1 pc. 5-ton gantry	1.2	
1 pc. trim saw	1.6	
1 pc. 36" bench saws	3.0	
2 pc. 36" vertical bench saws	3.5	
2 pc. 18" radial arm bench saws	2.4	
1 pc. pressure impregnating plant appr.	6.0	31.3
Machinery for auxiliary production:		
4 pc. steel charcoal kilns	1.2	
1 set paling fencing machines	0.4	1.6
Vehicles:		
1 tractor with tipping trailer	2.4	
Contingencies	4.0	
	40.0	

The above prices are calculated to include freight and land transport. The total fixed capital investment would, thus, be needed in the region of £40,000. Working capital is estimated at £10,000.

168. The additional annual output would be composed as follows:

	(thousand £)
Timber from local and imported cants	20.0
Shuttering	1.0
Random lengths from millwaste for parquet	1.0
Crates	7.0
Charcoal	1.0
	30.0

169. Thus the annual output of the new sawmill could in about 3 years reach the level of £[illegible],000-£50,000, which is an increase of [illegible],000-£10,000 over the present output of the Utilization Unit. The payback period of the incremental capital investment should not be longer than 5 years.

170. The re-organized sawmill would require the following additional manpower:

manager		1
clerk		1
labour:		
72" bandsaw and gantry	4	
trim saw	1	
36" bench saws	2	
36" vertical bench saws	2	
18" radial arm bench saws	2	
impregnation	3	
charcoal kilns	4	
fencing machines	3	
tractor and trailer	2	
labour	3	
	-	26
		28

The above permanent employment of about 30 people would be in addition to the present employment of 25 in the Utilization Unit.

171. What are the alternatives to the above re-organization plan as far as the sawmilling industry of The Gambia is concerned? One alternative may be to continue with the present setup. This basically means that all timber users, except the Utilisation Unit continue to import timber in a fairly high stage of processing (or to size). The Utilisation Unit - if continuing to rely solely on local logs - will exhaust its supply and would face increasing costs.

172. Timber resources in the country were judged in 1955 to be sufficient to provide an annual output of approximately 10 thousand c.ft. Since that date timber-sawyers have been steadily nibbling away at the indigenous timber resources. Added to this is that agricultural expansion over the last decade has made considerable inroads into forested land and where mahogany trees have not actually been cut or destroyed by fire, the conditions to natural regeneration have been seriously affected. It is thus a matter of conjecture regarding how long the surviving stock of commercially exploitable timber can continue to meet the demand. It is guessed that at the current rate of demand possibly 20-25 years would elapse before the end of the exploitable Khaya senegaliensis (jallow) supply become imminent. An increased rate of conversion (if the re-organized sawmill cannot take over most or all of the timber production now being imported) will bring about an exhaustion of local raw material considerably sooner.

173. If the alternative of continuing along the present setup is chosen it will mean a sharp increase in the production costs of the local timber as the Utilization Unit has to take its log supply from ever increasing distances from its base and from places which are difficult to access by vehicles. Alternatively a mobile canting unit would have to be purchased to move about the country, possibly, together with the charcoal kilns. This again would increase the costs. The increasing costs of the exploitation of local timber may be offset by the combination of this with the manufacturing of timber from imported raw material.

174. This again is not unambiguous. The cutting of timber to size from imported raw material would involve the operation in extra costs of transportation from port to sawmill and back to port wn. All these aspects of comparative merits of the various alternatives need much more analysis.

175. The mission was looking into the problem of manufacturing particle board from groundnut shells including several studies on this subject carried out mainly by the Technical Department of the Tropical Products Institute, London, and some studies published in technical journals.[14/] [15/] After reviewing these and other reports, it was found that such a project would not be advisable for many reasons, the most important of which are:

1. The statement in "Board" (Ref.[14/] below) that "all these boards were weak when compared with British Standard Specification". In spite of that, they reported that "these boards would be very useful for building purposes, if produced locally in economically under-developed countries".

2. After experimenting in a small plant in Southern Europe (operating originally on wood flakes), which was modified to use with groundnut shells, it was found that:

   (a) Fine "dust" particles, which represent about 33 per cent of the weight of groundnut shells, should be removed because if left, then later after mixing shells with the "resin mixture", they have a tendency to absorb an excessive quantity of the resin mixture and form lumps in the mixers (Ref.[15/] below).

   (b) In spite of the fact that the quantity of preservative used (2 per cent) was "much higher" than normal, it did not prevent fungal growth where fragments of kernels formed a focus for growth. All boards showed a small fungus growth in 14 days. This is why shells should be as free as possible of kernels (Ref.[15/] below).

14/ Board. Report by Chittenden, A.E. and Palmer, E.R. (Tropical Products Institute, Dept. of Sci. and Indust. Research). "The Production of Particle Board from Groundnut Shells". (Reprint, 4 pp).

15/ Board Particle. Report by Chittenden, A.E. and Palmer, E.R, Trop. Prod. Inst., Ministry of Overseas Development, London "Particle Board from Groundnut Shells" (Reprint, 8 pp).

(c) All shells must be artificially dried to equalize moisture content and prevent glue bond failures.

(d) Mixing glue-raises a problem, as shells have to be handled more carefully.

3. About half of the groundnut shells are now being used in the boiler-house as fuel. The replacement of groundnut shell by imported fuel would increase the "opportunity price" of the groundnut shell much above what it is worth in particle board manufacturing.

4. The above points all mean excessive costs, the total of which makes the manufacturing of low-quality boards practically impossible.

176. The carpentry and joinery workshop mentioned in paragraph 163 would cater for the general public (household and office furniture) and would have occasional contracts from government (schools, hospitals, etc.). This would not have to compete with the joinery project in process as the latter is planning to produce expensive, fashionable furniture almost exclusively for export.

177. If the furniture manufacturing is not going to be part of the suggested woodworking complex (the mission was advised by the experts in the field to keep it apart), it could be suggested to encourage the already active small furniture manufacturers to combine their efforts and finance to build a modern, mechanized furniture factory. Finance should be partly available from a future Development Corporation (a subject to which the report will revert later). Technical know-how should be available from bilateral or multilateral technical assistance (e.g. United Nations Industrial Development Organization).

178. As this part (the furniture section) of the woodworking complex is at present in such a fluid form the mission was not in a position to calculate the investment or output figures.

5.4. Estimated total investments, output and employment

179. As it was [illegible] in respect of the existing industries (see sub-chapter 4.4.) the mission made an attempt at estimating the aggregate capital investments, output and employment of the three industrial projects outlined in the preceding paragraphs. It is very emphatically noted that the figures given below are not based on deep studies and are, therefore, rough estimates between very wide (not less than 20 per cent, plus/minus) margins of error. The sole purpose of giving these estimates is to give an approximate idea of what role the proposed new industries may play in the industrial sector of the economy.

180. The following table gives the estimates for the 3 major projects:

Table 18

Main estimated aggregates of selected manufacturing projects

ISIC Group	Commodity	Capital investment thousand pounds	Annual sales thousand pounds	Employment number
3111/ 3113/ 3114	Quickfrozen Foods	440	760	150
3113	Syrup and squash	30	50	30
311/ 3312	Sawmill[a/]	50	30	30
	Total	520	840	210

a/ In addition to the data of the already operating unit and also excluding the furniture factory.

181. If these estimates are compared with the corresponding data of the already existing manufacturing industries, it would seem to show that the implementation of these projects would increase the output of the manufacturing sector by about 20 per cent and the employment by about 40 per cent (if the estimates of both the existing and projected industries are fairly correct). These growth rates underscore the need for urgently undertaking the necessary feasibility studies.

5.5 Other potential industries

182. The previous sub-chapter (5.4.) listed three industrial complexes that are, in the opinion of the mission, the most likely to become feasible in the nearest future. The three complexes do not exhaust all potentials for further industrial development. In this sub-chapter more possibilities will be listed. However, these are likely to be smaller in size and less significant in their linkage effects. This is why the mission did not (and in many cases could not) study these to such an extent that would make it possible to make any statement as to the feasibility of these projects of secondary importance. (Their listing therefore does not reflect any kind of ranking according to priority or urgency, they are simply listed in the order of their code numbers in the industrial classification). The following list of secondary industrial potentials is a mixture of projects that seem necessary and likely on the following grounds: (a) import substitution, (b) linkages with existing or suggested (primary) projects, (c) footloose industries for exchange trade in West Africa, i.e. to make room for industrial development that would otherwise remain impossible, (d) the need for modernisation, etc.

183. ISIC group 3112. A dairy projects industry may become feasible as a forward linkage and import substituting industry if and when the systematic beef-improvement scheme (cattle feeding stations) described in connexion with the food-freezing complex (see point, 5.3.1.) will have been established and will have taken up the job of selective breeding as well. This is a long-term project.

154. ISIC group 3113. A tomato paste (puree) canning factory appears to be feasible on the basis of import substitution. This will not become feasible before a congenial agricultural (horticultural) development would have taken place (which, in turn, might be encouraged by the exportation of fresh tomatoes via the cold storage and quick-frozen vegetables from the food-freezing complex). Even in this case this project must be treated with extreme caution in view of the cut-throat competition from abroad. The history of a similar factory in Mali should also be studied carefully. This is a very long-term project.

155. ISIC group 3117. A modern mechanised bakery will become necessary with the envisaged growth of tourism (new hotels are being built) and local and international catering (both the port and the airport are going to be rebuilt to take more and bigger ships and planes). The bakeries seen by the mission are using obsolete technology and equipment, the sanitation standards leave much to be required.[16]

156. ISIC group 3119. The analysis seems to show some possibility for local manufacturing of sugar confectionery. There is actually an application for a development certificate but the applicant told us that he might change his mind because he heard that somebody else also applied. It could be a short-term project.

157. ISIC group 3131. The company mentioned in paragraph 46 as producer of [illegible] "...ri" plans to extend its operations towards producing starch from [illegible] which has a very high starch content. The mission discussed the various aspects of this project with the managing director, who is generally referred to as one of the most dynamic entrepreneurs. However, in the memorandum subsequently submitted by the managing director to the mission the project is but very vaguely mentioned and thus it is very difficult to evaluate. In the best case it can be regarded as a long-term project.

16/ The mission cannot make a very strong case of this project as it may be personally influenced by the fact that since their stay they have not eaten a single loaf of really good bread. Curiously enough, it was during the tour of the provinces when the team enjoyed delicious, well-baked bread apparently baked by very unsophisticated rural bakeries.

188. ISIC group 3212. This is an idea which can be described as partial import substitution and which has not been studied yet. As it can be seen in Table 13. More than one and a half million [illegible] are imported annually. While there is no likelihood for the time being to spin and weave the (cotton and jute) fabric for those in the country, it may deserve a further study, whether purchasing the fabric in yard-goods and sewing them up in the country would be of benefit. The benefits may be: saving of foreign exchange on the value added, employment, flexible adaptation of the supply to the needs of the users (mainly U.N.R.B. and the buying agents for exports) thereby saving storage costs, etc. This could be a medium-term project. The major problem is protection.

189. ISIC group 3215. As and when the fisheries will develop, mainly as required by the new fish-freezing project which is a priority item in industrial development, the demand for fishing nets of various description will shoot upwards. For purposes of foreign exchange saving and employment it would be therefore a highly desirable backward linkage industry of fishery and the processing industry if the net-making could also be developed simultaneously in the country. Incidentally, a local net-making industry would also be very useful from another point of view. It was pointed out above that in order to prevent the depletion of the fish and crustacean resources it will become necessary to regulate the maximum openings of the nets. This is very difficult to control so long as nets are imported. If nets were to be made locally and therefore the importation of nets could be restricted, the anti-depletion regulations would instantaneously become very simple to enforce: the nets could be controlled in one place, viz. the makers premises. This could be regarded as a medium-term project.

190. ISIC group 3220. It was already mentioned in connexion with the bulk purchasers' market, that uniforms could be made in a clothing factory. This could cater for the government (messengers, drivers), police, hospitals, schools, as well as for the hotels. This is partly import substitution partly replacement of handicraft by factory. The socio-economic problems involved in the latter part could be easily solved by employing the tailors who used to receive contracts of this kind in the would-be factory where with their previous experience they could easily fill senior jobs (foremen, heads of groups, etc.). This could be a project in the short term.

191. ISIC group 3412. As and when the priority project of food-freezing develops there will be demand for cardboard boxes. Other industries too may add to this demand. A small-scale industry to cut and assemble cardboard boxes from imported sheets does appear to be a feasible backward linkage. The printing of the labels may prove a small auxiliary industry. The timing of the project depends on when the exportation of frozen crustacea and other foods starts.

192. ISIC group 3529.0. On the grounds that significant quantities of soap-stock are wasted in the mills and that there is already one establishment making candles and various toiletry articles, it may be useful to study the viability of soap manufacturing. The market would be the general public and the bulk purchasers, such as hotels, hospitals, etc. If the owner of a well-known brand name could be interested to establish a subsidiary or if a local manufacturer could obtain a franchise, there should be no difficulty in getting hold of an essential part of the market. A modest protection should help the process. Whether this is a short or long term project depends on the feasibility study.

193. ISIC group. With a view of the import substitution possibilities and the articles used by the hotels and other bulk purchasers it should be investigated whether there was room for a plastic goods factory. This would make moulded goods, such as plastic buckets, vessels, various other plastic utensils as well as coloured plastic tubes. This latter could be used to make the plaited seating and squab surfaces of light-metal framed easy chairs and deck-chairs. The raw materials would be granulated plastics on the one hand, and aluminium tubes on the other hand. The manufacturing process is very simple and the value added is high,[17] whether the term of this industrial project is short or long depends for the time being on how long the present monopoly in the hotel business prevails.

17/ The mission wonders how seriously can one think of a rapid growth of tourism so long as the comfort and services provided by the hotels are as they are. In this particular case, for example, there seems to be an urgent need to replace the old fashioned, uncomfortable upholstered chairs so uncomfortable and so impracticable to holiday-makers (who sometimes come with wet bathing costumes right from the beach) by modern, comfortable, washable, collapsible, easy-to-carry and easily stockable seating devices.

194. ISIC group 3610. The mission visited one of the villages where pottery is a traditional household industry with a view to assessing whether the potters could be regarded as the basic cadres of a future china and earthenware factory. The answer is: no. The project for a small-scale factory making simple tableware is still included here and is based on the single argument that there is a big pit of good quality kaolin in the country (see point 5.2.1.). The market could be found in the bulk purchasers, hotels. Furthermore this could be one item offered for exchange in an intra-African trade agreement (see paragraphs [illegible] and [illegible]). This is apparently a long-term project in need for a great deal more of studying.

195. ISIC group 3832. The idea is the establishment of a transistor radio assembly unit. The idea may seem striking at first sight. There are, however, arguments which may not have been considered carefully before. The Gambia is very likely to be the last remaining country in Africa where the Japanese transistors enjoy a liberal entry which is not accorded to those in other places. In a sense, the Gambia is practically the distribution centre of Japanese transistor radios over a fairly wide area. With appropriate government policy measures and slight pressure on the makers' representatives it could, perhaps, be achieved to have the radios assembled here in The Gambia. In that case the distribution of the transistor radios (which will have to remain "Japanese" in quality but will now be "made in Gambia") will become a legal exportation. In spite of the fact that countries of the Franc zone apply discriminative tariffs to Gambian goods, these tariffs are still lower than the almost prohibitive tariffs (and in certain countries the complete ban) on Japanese goods. The number of receivers sold may decrease slightly but the market will turn from an instable, illicit market into a stable one. The idea is further supported by the existence of a Telecommunications Training Centre (maintained and run with technical assistance of UN - ITU) which trains highly qualified skilled workers who are ready at hand to act as founding cadres of the assembly plant. This is a long-term project.

196. ISIC group 3839. In a country so poorly endowed with natural resources as The Gambia, the mission had to go beyond the letters of its terms of reference which stipulated identification of "opportunities of establishing industries based on local natural resources". The mission has given much thought to the problem of the so-called foot-loose industries, i.e. industries making goods that are cheap to transport in raw materials that are cheap to transport, in other words industries whose location is practically immaterial from the point of view of costs. One such industry could be the manufacturing of electric light fixtures and fittings such as plugs, sockets, switches, bulb-holders, etc. mainly of bakelite. With the increasing volume of building activities all over West Africa it is becoming ever more uneconomical why such a simple commodity has to continue to be imported. The technology is simple, the value added is high. Unfortunately, due to the differences between French and British standards, the products of this industry could only be exported to places like, Gibraltar and Malta in the North and Sierra Leone, Ghana and Nigeria in the South. If the establishment is going to be a subsidiary of a British firm, it may be found profitable - due to the low wages - to have part of the requirements in the U.K. manufactured in The Gambia. More study is needed, of course, but if dealt with seriously, this may become a medium-term project.

197. ISIC group 3901. Jewellery, if organized on a co-operative or factory basis, may become a very important foreign exchange earning industry of the country. It is a typically footloose industry in as much as the weight of the raw material which is practically equal to the weight of the finished product is extremely low in relation to the value. The industry could be established with fair hope of success as the basic cadres are available in the persons of the goldsmiths and silversmiths. The mission has seen jewellers at work with rudimentary equipment and is convinced that with technical assistance and organization this could be gradually developed into a small but important industry.

.. Summary of industrial potentials

190. At this early stage of studying the possibilities it is almost impossible to summarize the potentials in The Gambia for industrial development. A few highlights should be still repeated here.

191. The mineral resources are very poor, almost negligible. The natural resources provided by agriculture need time-consuming, expensive, patient but persistent efforts to be developed to such a degree that makes their industrialization economically viable. Industrial development in The Gambia, therefore, is almost impossible if agricultural development is not positively geared to the needs of industrial development. If this is going to happen, not too many but a few fairly profitable industries will become feasible. Evidence to this statement is the growing number of applications from various more or less serious concerns for exploitation of such resources. (See sub-chapter 5.3.).

200. Several more, somewhat smaller and somewhat less certainly profitable industries were preliminarily identified (but not sufficiently studied) by the mission. With a little generalization it may be said that one thing is common in this second group of potential industries (mentioned in sub-chapter 5.5.) and this is that these industries may become feasible but this cannot happen spontaneously, all of them need one kind of a push or another. Some need protection, some others require international trade agreements, some others again call for a slight government pressure on certain business interests, etc. These potentials have to be nursed.

201. On the whole, the picture is not bleak. Having looked at The Gambia on the map, the outlook for industrial development seemed to be very dim. Having now briefly looked at The Gambia in the field, the image of the future industries is still not clear but the outlook appears to be definitely brighter. To achieve results institutional and organizational steps will be necessary. Most of these will have to be initiated by the government. These aspects will be dealt with in the next chapter.

6. INSTITUTIONAL BACKGROUND FOR INDUSTRIAL DEVELOPMENT

6.1. Industrial development policy

202. In developing countries industries do not grow spontaneously (as happened in the industrial revolution). If they do so exceptionally, the process is too slow and the results are almost always too poor. Industrial development requires government action. This is the more necessary the poorer the resources and the smaller the market. Government action may not achieve the best results without definite guidelines. Industrial development must be based on carefully elaborated, profoundly considered, long-term industrial development policy. This policy must give answers to questions, like why do we want industrialization: to maximize the per capita national income, to provide employment, to stabilise the balance of payments, etc.? Some of these criteria can sometimes be fully satisfied only at the expense of non-satisfying the other. One must attach priorities to these criteria. Once the priorities are clear, it will be much easier to know how much industry is needed and what kinds of industries are most needed.

6.1.1. Protection

203. It is futile to believe that industries in developing countries, especially in poor developing countries with terribly small markets can grow without protection. The mission fully appreciates the insistence of the Government on a liberal trade policy. This issue has been rendered even more delicate since the proposal was tabled that The Gambia and Senegal should gradually decrease the gap between their respective customs duties. Ipso facto it would be difficult to suggest a unilateral change in the tariffs.

204. However, what industrial development requires is not a general increasing of customs duties across the board. Where a slight increase of tariffs is desirable it is only to protect those commodities that have a likelihood of being manufactured in the country in the foreseeable future. Fortunately, the list of such commodities does not coincide with the articles which are known to be smuggled in large quantities. The Gambia is unlikely to have cigarette factories and textile mills in the near future. (The revitalization of the now non-operative distillery - if this is all desirable - may be one exception). The assembling of transistors is not conflicting

in the above as these will be clearly destined for legal foreign trade. Therefore, if protective customs duties are going to be introduced only in respect of future Gambian manufactures, it cannot be interpreted as an uncompensated unilateral move which would prejudice a bilateral scheme under negotiation.

205. The custom duties protecting future Gambian manufactures should be high enough to assist the infant industries through the teething troubles. But under no circumstances should the Government allow tariffs to grow as high as would create a monopolistic situation (possibility to neglect outside competition) in the new industries and thereby reduce their efforts to reach maximum efficiency in the shortest possible time. It might be a good idea to grant protection on a pre-scheduled <u>decreasing scale</u>.

206. The customers' interest is not necessarily conflicting with protection. If customs are not regarded as source of revenue (as in many African countries) the final consumer need not suffer <u>at all</u>. As soon as the consumer's price of a commodity is increasing due to its duty having been increased the consumer finds a comparable commodity in the market made by the local industry and sold at a price that was the price of the imported article before. (If this cannot be achieved, the mission would advise against that industry). If the consumer still insists on the imported goods, he should pay the higher price and let the Government collect the revenue. In the long run the consumer will not lose, but gain through increased employment and income in the country.

207. One way of removing the danger of a price spiral due to increasing customs duties is to take a definite and final decision by the Government not to regard the incremental customs revenues as source for increased administrative expenditure. All such incremental revenues should be irrevocably earmarked for further industrial development. That can be one source to build up an industrial development fund, more of which will be said later.

6.1.2. <u>Selective industrial incentive policy</u>

208. The Gambia shares a practice with most of the African countries. The industrial incentives are not applied selectively. The Gambian legislation offers incentives to a curious mixture of industries producing the "development products", some of which are so primary stages in processing that they should not be induced

at all (e.g. dried and smoked fish; incidentally, this is happening on such a small scale that there is no necessity to apply for development certificate on this account); some are not really manufacturing industries (e.g. soap); while some others are and will remain out of reach for long (e.g. fertilizers, assembly of motor vehicles, etc.)[16]. The mission would hardly permit for consideration the replacement of the somewhat referred to and by a closer specific definition of what is regarded as a manufacturing industry. More important: once the industrial development policy is clear, once the priorities are set, the application of the incentives law should be selective. This is done in several countries by setting up 3 or 4 grades or categories, the applicants are graded and the privileges are granted according to the grade into which the applicant is classified. In the initial stage such a grading system may be difficult to establish and implement. It should be sufficient to say that granting of a development certificate does not necessarily qualify for all the incentives and not necessarily to the full extent. The grading could be done by the Government according to the individual merits of each case and in view of the previously accepted priorities. This could be applied to the various forms of inducements in respect of income tax, import duty, export tax, etc.

209. The mission would wish to recommend two criteria which could be used to determine how much of the incentives should be granted to each project. (a) In view of the smallness of the internal market exportation is a vital question for industrial growth. The more a manufacturer exports the higher incentives he should receive. (b) For reasons too well known to be repeated here, manufacturing industry in the Gambia is not much more than primary processing. Unless serious measures are applied it is going to remain that. The value added will remain small. Therefore, the further an industry goes in the subsequent stages of industrial processing, the more incentives it should be given. (To mention just one example, here is the case of the fish and crustacea fishing, freezing, packing projects. The proposals are phased; initially only catching, then later exporting fresh, then later freezing, etc. But the incentives asked for are the same all along the period. This is wrong. As long as the resources are merely being exploited and exported there is really no case for inducements; when initial, primary processing will have started a partial incentive is perfectly acceptable; but the full incentives should only be granted when the project has already reached the stage of real processing, manufacturing).

16/ The Gambia. The Development Ordinance, 1964. No.27 of 1964. First Schedule p.202-203.

[illegible] Evaluation of industrial projects

210. This leads the discussion to the next important subject. There is an increasing number of projects arriving at the pertinent ministerial offices. This is a good sign. But those projects must be carefully studied, evaluated, competing projects compared. There is a definite need to scrutinise the projects for various (all fairly common) business tricks, "embellishments", etc. The success of the industrial policy once agreed upon, of the priorities once established, of the effective application of the incentive law are all dependent upon the correct evaluation of the industrial projects. This is a problem that needs very serious thought. Evaluation of projects requires specialized skills. This is not as a trade as carpentry. Everybody can learn it but nobody can do it before learning it. Even the best administrator may be weak in evaluating projects.

Industrial planning

211. Assuming that there is an industrial policy with clear priorities, projects are evaluated and treated according to their merit. A collection of unrelated, individual projects does not yet mean industrial development in an orderly fashion, the best possible benefit to the economy. Projects have to be co-ordinated in time (placed on a time-table), co-ordinated with supply of raw material, co-ordinated with market organization, with training of manpower, etc. This, in brief, is industrial planning.

[illegible] Inter-sectoral linkages

212. Industrial planning must, of course, be an integral part of overall national economic planning. The mission studied with great interest and satisfaction the new development programme for the period 1971/72 - [illegible].[1/] The envisaged total amount of capital expenditure to be spent on development in the course of the three years is very impressive. It is, however, subject to negotiations with donor agencies.

1/ Draft Programme of Development 1971/72 - 1974/75. Stencilled. 41 pp.

[illegible]

[illegible] development programme expenditures

[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

a/ Details [illegible] to total [illegible] to rounding.

213. Following previous tradition, the new plan does not include capital expenditure items specifically earmarked for industrial development. This is implicitly suggestive of a policy of leaving the industrial sector to be developed by the private sector, while the Government takes care of general infrastructure.

214. There is one item under the head "Others" called Artisan Development Centre for which an outlay of 200 thousand £ has been earmarked. This is the implementation of the recommendations made by an ILO expert who recently studied small enterprises and handicraft industries.[2/] The sum allocated in the development programme is assumedly the counterpart fund to meet the costs of the Centre assisted by the Special Fund or UNTAO. The Centre is "to train artisans and craftsmen in small scale and cottage industries like hand printing of fabrics, masons, carpenters, electricians, mechanics, tailors, etc.". The mission is convinced of the urgency and necessity of technical assistance of this kind. It would, however, like to submit two remarks of minor importance: (a) is the Government going to be in the position to financially support the artisans trained in the centre to establish their own small enterprises?;

2/ International Labour Office. Regional Office for Africa. Draft report to the Government of the Gambia on the Development of Small Enterprises and Handicraft Industries, Addis Ababa, 1968. Stencilled.

[illegible] if all these people will be self-employed artisans and as a result of their training in the Centre are going to produce more handicraft products, in what market [illegible] these products going to be sold? It might be a good idea to co-ordinate the training for small-scale and handicraft industries with the training for manufacturing industries. And to co-ordinate both with the market for the products of both. [illegible] best way of helping small-scale and handicraft industries seems to lead through co-operatives (see Chapter 7).

[illegible]. The mission appreciates the commanding position of agriculture in the country and would not discuss the allocation of funds to that sector. However, [illegible] what has been said before on the need to gear agricultural development to raw material requirements of industry (and this is the [illegible] in The Gambia), it may be worth a second thought if within the total [illegible] to the agricultural sector a slight shift [illegible] sub-sector [illegible] other could better serve the purpose of [illegible] agriculture and industry simultaneously. In the Development Programme the total [illegible] allocated to agriculture is broken down as follows:

1. Agriculture .... 1,[illegible] thousand pounds
2. Livestock .... [illegible] " "
3. Fisheries .... [illegible] " "

In view of the importance of and the benefits that can be derived from the three major manufacturing projects the mission recommended (see sub-chapter 5.4.) and with regard to the fact how much the success of these projects depend on the quantity, quality and reliability of supply of raw material, the mission respectfully submits that - within the same total - essentially more may be usefully allocated to the fisheries, to the livestock and within the agriculture to forestry (at present it is £[illegible] allocated to it)

6.2.2. Inter-industrial Linkages

216. What is true to the need for and usefulness of linking up the development of the various sectors (industry, agriculture, transport, etc.) is also true to linkages between the sectors within the broad sector of industry. As it was seen, the manufacturing sector of the Gambia is represented by a very small number of units only. In a situation like this there might be a temptation to welcome any kind of industry. The mission would wish to stress that a small but coherent group of

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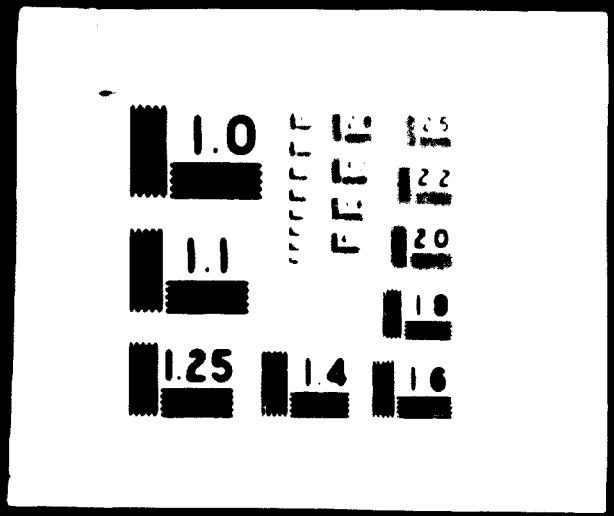

industries which is mutually inter-dependent through various linkages (supply of raw material from one unit to another, processing of the by-product of one unit by the other, etc.) may sometimes provide a better and more solid start for industrial development than a greater number of units which, however, are not linked up in a complex. In the first case the impetus to grow will partly come from within the group. In the second case the danger of failures is greater. From the point of view of the balance of foreign exchange earnings and spendings, again, a complex with linkages is better, than unrelated units.

6.3. Government participation in industries

6.3.1. Conditions of successful participation of government in industry

217. During its short stay in the country the mission witnessed lively discussion whether or not government should participate in the capital of manufacturing industries. In more concrete terms, whether it should be made a condition to granting development status to new industries that the government should be allowed to take up a certain part of the equity. There is no sacred principle, there is no cure-all recipe that can provide the answer. Participation is good and desirable if this is the best way to gain the most benefit. Participation is not necessary and not advisable if the representation of the government in the shareholding does not guarantee profits (if the business is a safe profit yielding business the entrepreneur will not rush to offer shares), if the shareholding is not accompanied with effective participation (not only in the risks but also in the executive power of the company).

218. A further question to be investigated in respect of government participation is the financial aspect. As long as the participation can be bought by means which do not require cash outlay or sacrifice of source of income (that is if the government participation is paid by land or similar assets) the question of financing does not arise. However, if the participation requires actual expenditure the mission would like to sound a caution. It is definitely necessary in the early stages of industrial development for the government to mobilize capital resources for industrial development. But to use these funds in direct investments is not the only and perhaps not the best way of using them. There are better ways of doing this and some of the other African countries can provide examples of success.

6.3.2. Industrial development corporation

219. If the government can raise funds to support industrial development (and there will be suggested some means and ways of how funds can be raised) it could be suggested that the best way of using this money to promote industrial development is to establish an Industrial Development Corporation or a general Development Corporation. In the initial stage the government may wish to invite the Commonwealth Development Corporation (and/or other similar institutions) to establish a subsidiary in the Gambia. The funds allocated for development of manufacturing industry by the government would be channelled to the capital stock of this Development Corporation as the share of the government. (C.D.C. and others may subscribe the remaining shares).

220. The (Industrial) Development Corporation (especially if initially assisted by foreign capital and expertise) will be equipped with the know-how of investment evaluation and industrial promotion. The Corporation could comment on the applications for loans to establish manufacturing industries, and with its credit policy would implement the industrial development policy of the government. The government representatives in the Board of the Corporation would learn the industrial promotion business while doing. The staff of the corporation would participate in an on-the-job-training. It is essential that the Corporation should be active, that is to say, not just sit and wait for applicants, but be in the field all the time and bring together those who have money with those who have skill and others with ideas, others again with entrepreneurial ability, etc. (The mission managed to organize a small industry in the course of less than a day in a similar way).

6.3.3. Industrial finance

221. How does the government raise the money to participate in the Corporation? One source was already mentioned: all customs duties levied in order to protect industries should be paid into an Industrial Development Fund. Unlike in other places, in The Gambia there is very little conspicuous spending by the elite. True, the savings of the Gambian elite cannot be as much as those of their opposite numbers in other countries but it is also true that such savings are not so quickly absorbed in conspicuous spending as those in other places. There must be some savings. There are savings, the mission was told by many of the savers themselves, in the rural areas, too. These savings cannot be converted into industrial investment directly because very few people have industrial know-how, have experience in management of industries and this

is why, for the time being very few are really inclined to do it. These savings have to be accumulated first so that they can be converted into investment. One way of doing it is the issue of government bonds (with good interest rates) and invest the receipts in the Development Corporation as debenture capital. Furthermore, the mission believes, that in certain cases the granting of incentives is sometimes slightly too liberal. In several instances it could be stipulated that the investor must, according to a time schedule, re-invest part of his net profit or else he should buy government bonds. This could be made a condition to repatriation of the remaining part of the profits. The mission may have some more subtle sources of industrial finance to suggest through appropriate channels.

6.4. Some organizational problems

222. The mission noted that for the time being there is no established post in the government for any officer at any level who would deal with problems of industrial development, planning, who would represent the government in companies (if the government would eventually decide on participation), etc. There is nobody who would be through his post interested in co-ordinating agricultural development with industrial development and vice versa.

223. The mission is aware of the extreme shortage of staff. It must be pointed out, however, that now is the right time for the establishment of a post to look after industry. This is the period when the new development programme will be elaborated in more details. This is the period when applications for industrial manufacturing projects wait for the decision.

224. The mission would recommend the earliest possible creation of a new established post possibly at Principal Assistant Secretary or similar level. The post may - for an interim period - be filled by an industrial planner seconded on bilateral or multilaterial basis. In the mission's view there should not be any difficulty in obtaining the services of an expert from the United Nations Industrial Development Organization who could then be appointed to the said post and work under the OPEX scheme. If there is no possibility to establish a new post, the services of a UNIDO expert (industrial policy adviser, planner) may be requested.

225. It is another question what would be the best place for this industrial planner in the organisation. There might be various solutions. If the post of the Development Secretary is to be continued after the departure of the present incumbent, the right place for the industrial planner might be to work as Deputy Development Secretary or Senior Assistant Development Secretary. Another solution might be to shift the whole group of problems of planning and industrialization to the Office of the Prime Minister, where a unit could be organized with a name something like Office of Economic Planning and Co-ordination, the members of which would be in close touch with the various ministries in charge of the economy (Agriculture, Transport, etc.) and - due to the lack of a ministry of industry (the creation of which seems to be premature in the opinion of the mission) - the industrial policy adviser and planner would represent the industrial sector and make sure that its development is best co-ordinated with the development of the economy as a whole.

7. COTTAGE INDUSTRIES

226. The problems of small-scale processing workshops and handicraft industries are, in fact, outside the terms of reference of this mission. The members of the team, however, do not have the heart to conclude this report on the Industrial Survey Mission, without saying a few words about what they saw and what they thought could be done in the field of small-scale and handicraft industries.

7.1. Existing industries

227. A brief list of the small-scale processing workshops known to the mission was given in Table 5 in paragraph 38. In addition to those mentioned there, there are several hundreds of handicraftsmen working on their own or with one or two family members to help.[21/] Some of the most populous crafts are the carpenters (there are about 20 only in Basse, the headquarter of the Upper River Division), the tailors (about 100 in Basse), the weavers (weaving colourful narrow straps of fabric on hand-looms, then sewing the straps together), the mat-makers, sawyers, boatbuilders, basketry workers, potters. The metal working branches are represented by the gold-smiths, silversmiths and the jack-of-all trades "blacksmiths" who do all kinds of jobs from repairing sewing machines to tinkering.

7.2. Need for encouragement and organization

228. Most of these people are terribly poor and hopelessly deprived of any kind of outside help. The products they make and their working technique the mission observed, are considerably higher than one could expect from people who are so desperately abandoned. To put it bluntly, it appears there is a significant waste of human talent and industrial skill. All this could be put to much better use to the

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21/ The mission believes the number and the variety of the artisans and handicraftsmen is much more than is suggested by the ILO report quoted above. And it does appear that their status in the society is higher than in other traditional African communities.

benefit of the whole economy and for the betterment of the livelihood of the individuals with a little bit of encouragement and organization. There is a strong case for urgently extending the co-operative movement to artisans and handicraft workers. Without essential loans or without any loans at all, with the pure concentration of this scattered skill, the technology could be improved, the existing tools better used, the marketing better organized.

7.3. Reserve cadres for manufacturing industry

229. The mission with its main interest for factory-based manufacturing industries cannot help looking at the wealth of skill in the artisans of the Gambia as a reserve of skill for future manufacturing industries. Therefore, another reason why the presently scattered and helpless handicraftsmen and artisans should be helped by organising themselves in co-operatives is that they can learn from one another, they can gradually buy machines and learn how to use machines, they get groomed to the routine of daily working hours, etc. This is more than half the way to becoming an industrial worker.

8. RECOMMENDATIONS ON TECHNICAL ASSISTANCE

230. Needless to say, that if only a part of the industrial projects will be undertaken, if only some of the institutional and organizational recommendations of the Industrial Survey Mission will be accepted, obviously there will be some need for further outside technical assistance. This will be necessary partly to make further and deeper studies of the several projects and partly to help implement the projects and policy measures. The following is a broad list of technical assistance projects, the Industrial Survey Mission recommends, the Gambia could request from the pertinent specialized agencies of the United Nations. The sequence in the list does not reflect priorities.

8.1. Industrial planner and policy adviser

231. Reference is made to Chapter 6 and it is recalled that industrial development cannot take place spontaneously. It requires the formulation of policies, implementation of those policies, planning and co-ordination. It is highly recommendable that these duties are allocated to a person in the establishment whose qualifications are congenial to the task and who, therefore, can be made responsible for the work.

232. As industrial development in developing countries is a highly complex problem and requires very specialized knowledge, it is recommended that for an initial period the suggested post be filled by a United Nations expert. If a post can be established, the best solution seems to be to recruit the expert under the OPEX scheme. If no post will be established, the industrial planner policy adviser will have to be an expert attached to the government.

233. The duties of the expert could be provisionally described as follows:

- Assist the government in the formulation and periodical revision of industrial development policies, recommend appropriate fiscal, financial and institutional measures required to implement the industrial development policy;
- Draw up a draft medium-term plan for the approval of the government to cover the industrial sector of the economy; make recommendations to

- Co-ordinate the development plans of the various sectors of the economy with the industrial plan and vice versa; to oversee the implementation of the agreed steps of such co-ordination and suggest corrective measures as necessary;
- To assist the government (Development Corporation) in the evaluation of industrial projects and in industrial promotion activities;
- Keep permanently in touch with the industrial market and prepare preliminary plans for potential industries for the future;
- Assist in requesting technical assistance (technical, managerial advisory services and training) needed by new industries;
- Train his successor.

234. The suggested duration of the services of the industrial planner and policy adviser is three years.

235. Qualifications required: senior industrial economist with experience in industrial planning, preferably in developing countries. Knowledge of the specific problems of industrial development in Tropical Africa and of the problems of small developing countries. Experience in investment evaluation. Fluency in English is necessary, a working knowledge of French is desirable.

9.2. <u>A project evaluation team (food-freezing/cold storing/ice complex)</u>

236. Apparently the food-freezing/cold storing/ice complex is one of the most feasible projects. The interest is shown by the fact that at the present there are about half a dozen proposals before the government by various foreign concerns to develop one or other part of this industry. (The two most serious proposals were briefly analysed in this report). The Industrial Survey Mission only added to the problem of choice by outlining a preliminary plan for such a complex (see point 5.3.1.). The various proposals are, naturally, different and sometimes conflicting. Certain merits of some of them are missing in the others. It seems necessary to seek clarification from the proposers on various issues.

237. Therefore, the Industrial Survey Mission would suggest that the government request the United Nations Industrial Development Organization to send a team to advise on the selection among the proposals. The team would have to consist of two members: a project evaluator and an expert in quick-freezing and cold-storing foods, mainly seafoods. The duration of the field work could be two months approximately.

238. The duty of the team would be to:

- Examine all the related proposals and ask for the necessary clarifications;
- Compare the proposals with one another and inter alia with similar plants operating elsewhere;
- Rank the best three proposals according to their comparative merits and give reasons of this ranking;
- Make recommendations to the government as to what conditions should be offered to the proposers.

8.3. Various advisers on industrial technology and instructors

239. In view of the fact that all industry is practically new in the country it is recommended that whenever a major industrial project is undertaken, the government requests the services of engineers (technicians) to assist it in supervising the installation of the plant and equipment, of the running-in stage of the new industry and in the provision of training facilities to the key workers of new industries (in the framework of appropriate compensatory arrangements with the industry if it is a private one). In addition to this, selected workers may have to undergo training abroad, and this should be kept in mind in granting development certificates.

240. The qualifications of the experts required and the duration of their services will have to be considered when more details are known about the projects. The type of technical assistance described here could be available from the United Nations Industrial Development Organization (Special Industrial Services).

8.4. **Expert to advise on establishing food standards**

241. In view of the fact that industrial development will mainly comprise food processing industries there is an urgent need to establish food standards. Particularly, once the decision is taken to establish food-freezing, cold-storing and ice-making complex. This is necessary to guarantee the standard quality of the product, to ensure the competitiveness of food industries and last but not least to safeguard the interests of the consumer.

242. The duties of the expert should include:

- In close co-operation with the government (Health and Medical Department, the Department of Agriculture and whoever is going to be in charge of industrial development) lay down the basic prinicples for the elaboration of specific food standards;
- Assist in drawing up a list of priorities as regards the food products most urgently in need of being standardized;
- Assist in determining and in securing food standards for selected items;
- To train counterpart personnel in working out food standard specifications;
- To assist in formulating request for technical assistance to provide a skeleton quality control and analytical laboratory and for training its personnel.

243. The expert should have the qualifications of a senior food technologist with experience in standardization and quality control. Knowledge of tropical food products and specific aspects of microbiological conditions of food production in the tropics is essential. The expert should have a good command of English and should be able to read French and German. The expert could, perhaps, be recruited by UNIDO under the Special Industrial Services scheme for about one year.

8.5. Co-ordination of technical assistance recommendations for the development of natural resources

244. It is imperative that industrial development should gain momentum as soon as possible to increase the national income, employment and alleviate the vulnerability of the economy. It is obvious that industries will have to rely mainly on natural resources and primarily on agricultural resources. The various segments of the broad field of agriculture (plant cultivation, fishery, forestry, horticulture, animal breeding) have their institutions, development plans and most of them have in the past few years made notable progress. However, as it has been emphasised throughout this report, agricultural development per se is not necessarily identical with a development of the various sectors of the agriculture so that these can supply the future industries with raw materials in sufficient quantities, high and stable quality and in time. It seems that the key to the fast development of the economy is: industrial development combined with an industry-oriented development of agriculture.

245. This is a very complex problem and has not yet been studied. Many and deep-going studies will be necessary in the next few years. At this stage it is recommended that the government ask technical assistance from the United Nations to help its harmonising recommendations of the previous FAO Missions' reports and those of the Industrial Survey Mission and assist the government in the harmonisation of agricultural and industrial development of the country.

246. It is suggested that a very brief mission of perhaps one staff member of UNIDO and one of FAO should travel to The Gambia before any UNIDO/FAO joint meeting is held at the Headquarters of either one of these organisations to sort out the recommendations of the previous FAO and UNIDO Missions.

9. CONCLUSIONS

247. It is not easy to draw the conclusions of this report in a few pages. The Industrial Survey Mission was the first of its kind in the country, it had to cover a broad field and problems of great variety.

248. In the present stage of the economy of The Gambia there is very little stimulus for the early and steady growth of manufacturing industries. Nevertheless, industrial growth may easily be the key to opening the gate for economic development in order to reach the stage of financial self-reliance and self-sustained growth. Industry offers higher per capita national income growth, contributes to the foreign exchange earnings and retains a part of the value added and profits of production within the country. There are few but promising signs that industrial development may soon gain momentum.

249. In accordance with the request of the Government, the Industrial Survey Mission assisted it in the definition of the industrial data requirements and carried out a preliminary survey of the existing manufacturing industries. There are only 15 manufacturing units employing more than 10, which are operating at present. There are several more small-scale industries. The total employment of the (non-governmental) manufacturing industries is less than 1,000 people, i.e. approximately 0.6 per cent of the economically active population. The annual gross output of the manufacturing sector is slightly more than 4.5 million pounds out of which an estimated 0.3 or 0.4 million pounds is the value added.

250. The manufacturing sector is extremely vulnerable due to the seasonality of demand (purchasing power) which, in turn, is the consequence of the domination of the economy by the groundnut. The groundnut cycle introduces a cyclical movement through the consequential cyclical movement of the trade to all parts of the economy, including manufacturing industries. Non-seasonal industries are not exceptional either.

251. In fulfilment of its term of reference the Mission tried to identify opportunities of establishing industries based on local natural resources. Availability of industrially utilizable natural resources were briefly examined and it was found

that there are valuable natural resources that could be fruitfully used in future industries. However, none of these resources are concentrated, organised and developed well enough to serve immediately as sources of industrial raw material.

252. On the basis of the available resources (or rather resources that may hopefully soon become available) of the market and of projects in process there seems to be a prima facie case for <u>three major industrial projects</u> that may become viable in the country:

(1) A food-freezing/cold-storing/ice-making complex to prepare, quick-freeze and pack seafood for export. In order to lower costs and to give impetus to other sectors the project was designed to process other items as well, e.g. beef, fruit and vegetables.

(2) A fruit juice and syrup factory to substitute imports, to supply reliable syrup to the public and the bottlers of the popular "mineral waters" and possibly for export.

(3) A wood-working complex to saw timber, make building timber and a variety of inter-linked by-products. As part of this mill or separately, there is room for a furniture factory. The wood-working industries are envisaged as reorganisation and expansion of existing units rather than brand new establishments.

253. In addition to the above three major industrial projects a number of other industrial potentials of smaller scale and minor importance have also been identified. In respect of the three primary projects the mission was trying to make preliminary plans (as required by its terms of reference) using all available information. It should be noted that a great deal more work has to be done to ascertain the feasibility of any of the suggested projects. With regard to the other potential industries of lesser industries no preliminary plans could be made, except a few hints on various possibilities.

254. It must be pointed out that industrial development cannot take place spontaneously. In order to make industries grow, several conditions have to be met. This applies both to the specific industries mentioned in this report and to any other modern industry.

255. One of these conditions is even more crucial in The Gambia where almost all industrial potential will have to be based on agricultural resources. The development of the various branches of the broad sector of agriculture (plant cultivation, animal husbandry, fishery forestry, horticulture etc.) has to be coordinated with the development of industry. This requires serious efforts in harmonizing the activities of various departments, schemes, the utilization of funds from various donors and domestic sources. This is not going to be an easy task, and one that will be almost new to many people concerned. Still, this may easily be the key to the development of the economy as a whole.

256. Another important condition to the success of industrial (and with it and through it, of economic) development generally is to create as quickly as possible the institutional and organizational framework of industrial development. Again, the latter part of this task will be new. Fundamentally, the following things seem to be necessary:

(a) The formulation (and periodic revision) of an industrial development policy; lay the foundations for industrial planning;

(b) The revision of the existing industrial inducements and a gradual introduction of a more selective system of incentives;

(c) A fresh look at the whole question of protection both from the fiscal point of view and from the point of view of the needs of industrial development;

(d) Determined steps to create and safeguard funds specifically earmarked for industrial development;

(e) A review of the problem of government participation in industrial development (its purpose and modes);

(f) The establishment of an institution (Development Corporation) to promote and help finance industrial development (and, if government participation is favoured: act as the agent of the government in such participation);

and last but not least:

(g) The creation of a governmental or advisory post to assist in designing all the above-described policies, co-ordinate interrelated plans, supervise the various agencies concerned and work constantly and unfalteringly to make sure that the policies are implemented.

257. As industrial development has generally been recognised as the main lever of economic development, in its efforts to meet the aspirations of the people by speeding up the development of the economy, the Government may wish to use a part of the available multilateral technical assistance in the field of industrial development. Therefore, at the end of the report, several suggestions were made on what were thought to be the most urgently needed projects of technical assistance for industrial development. The various specialised agencies of the United Nations including the United Nations Industrial Development Organization are ready to extend all possible assistance that may be required by the Government of The Gambia.

ANNEX I

LIST OF VISITS AND MEETINGS

PART ONE

30 January - 13 February 1970

Name	Post	Organisation	Address
BANCURA, V.K.	Executive Officer	Statistical Office, Ministry of Finance, Trade and Development	Bathurst
BENSOUDA, A.K.	Wholesale Trader	Bensouda A.K. & H.	Bathurst
BHAGU, V.	Manager	Chellarams Bottling Co. (Gambia) Ltd.	Bathurst
BREMER, E.P.	Forestry Officer	Forestry Division, Ministry of Agriculture and Natural Resources	Brikama
CESSAY, M.A.	Income Tax Commissioner	Income Tax Office, Ministry of Finance, Trade & Development	Bathurst
DRAPER, A.T.	General Manager	Gambia Oilseeds Marketing Board	Bathurst
FARAGE, M.S.	Proprietor Manager	Farage Mineral Water Factory	Bathurst
FOON, T.B.	Labour Officer	Labour Department, Ministry of Education & Social Welfare	Bathurst
GRAHAM D.T.	Veterinary Adviser (O.D.M.)	Veterinary Department, Ministry of Agriculture & Natural Resources	Abuko
JACKE, BABA, A.	Assistant Secretary	Ministry of Finance, Trade and Development	Bathurst
JALLOW, M.B.O.	Registrar of Co-operative Society	Department of Co-operation, Ministry of Agriculture & Natural Resources	Bathurst
JUNE, M.S.	Extension Officer	Cotton Ginnery Agric. Experimental Station	Yundum

LIST OF VISITS AND MEETINGS (continued)

Name	Post	Organisation	Address
KEITA, J.B.	Development Secretary (OPEA)	Development Secretariat Ministry of Finance, Trade & Development	Bathurst
KHUBCHANDANI, K.	Manager	Glamour Enterprises (Gambia) Ltd.	Bathurst
LANE, K.J.W.	Regional Development Administration Advisor (UN)	P.M's Office	Bathurst
LAWMAN, D.A.	Direct Taxation Adviser	International Monetary Fund	Washington, D.C.
LEGER, Jacques	Regional Representative	UN Development Programme	Dakar
MARENAH, L. R. Dr.	Chief Agricultural Officer & Natural Resources	Agricultural Department, Ministry of Agriculture & Natural Resources	Cape St.Mary
McLEOD, A.E.A.	Produce Chemist	Laboratory, Agric. Experimental Station	Yundum
MONDAY, H.R. Jr.	Permanent Secretary	Ministry of Finance, Trade & Development	Bathurst
MORAN, J.P.	Director of Public Works	Public Works Department	Bathurst
MOUCHABECK, E.	Asst.Regional Representative	UN Development Programme	Dakar
OLDFIELD, S.J.	Proprietor/ Manager	Oldfield Mineral Water Factory	Bathurst
OLIVER, H.A.	Permanent Secretary	Ministry of Health	Bathurst
RACHID, A.	Wholesale Trader	Rachid A. & Son	Bathurst
SAHO, Awo (Mrs)**	Manager	Mandally Mineral Water Factory	Bathurst
SAVAGE F.A.J.	Permanent Secretary	Ministry of Works & Commerce	Bathurst
SIMS, G.J.	Horticultural Officer	Agricultural Experimental Station	Yundum
SIMSON, J.D.	Hides and Skins Adviser (O.D.M.)	Vet. Dept., Ministry of Agriculture and Natural Resources	Abuko

** Owner considers building new modern factory.

LIST OF VISITS AND MEETINGS (continued)

Name	Post	Organisation	Address
SOSSEH, Mustapha	Permanent Secretary	Ministry for Local Government, Lands & Mines	Bathurst
SOWE, K.C.	Permanent Secretary	Ministry of Education, Labour & Social Welfare	Bathurst
TAYLOR-THOMAS, A.O.	Fisheries Officer	Fisheries Division Ministry of Agriculture and Natural Resources	Bathurst
WILTSHIRE, C.A.	ITU Expert	Tele. Course, Vocational Training School	Bathurst

PART TWO 1/

14 February - 15 March 1970

Name	Post	Organisation	Address
BERGE, H.	Manager	C.F.A.O. Compagnie Francaise pour l'Afrique de l'Ouest	Bathurst
BLAIN, John	Mechanical (Engineer)	(Export-Import & Owner of a TV-Photography group in Koln)	Bathurst
CHRISTENSEN, E.M.	Permanent Secretary	Prime Minister's Office	Bathurst
BOOTH, J.	Agent	"Elder Dempster Lines"	Bathurst
CHAMBERLAIN, R.	Owner and Director	Atlantic Marine Products Ltd.	Bathurst
COLLINS, M.	-	British High Commission	Bathurst

1/ Part Two of the list of visits and meetings does not repeat the names of those the mission has repeatedly seen but whose names already appeared in Part One, though there have been many instances of repeated meetings.

The list does not include the visits and meetings in the course of the Up-country tour of the mission.

LIST OF VISITS AND MEETINGS (continued)

Name	Post	Organisation	Address
DOUGLAS, A.J.A.		O.D.M.	London
FYE, M.H.	Principal Assistant Secretary	Ministry of Finance, Trade and Development	Bathurst
GERSCHWILER, L.M.	Manager	Standard Bank of West Africa Ltd.	Bathurst
GODDARD	Agent	Shell-BP	Bathurst
JAMHA, E.	Assistant Dev. Secretary	Ministry of Finance, Trade and Development	Bathurst
JONES, S.H.M.	Director	Ministry of Education Labour & Social Welfare	Bathurst
LLOYD	Keeper of Stores	Public Works Dept.	Bathurst
LUSACK	Manager	Electricity Dept.	Bathurst
MAHONEY, John Dr.	Chief Medical Officer	Medical Services, Ministry of Health	Bathurst
MARTINO, J.P.	Manager	BICI, Banque Internationle pour Le Commerce et l'Industrie	Bathurst
MASRI, S.F.	Managing Director	Edgar, Masri & Co.Ltd.	Bathurst
MORRIS		ODM	London
N'GUH, M.Y.	Superintendent of Surveys	Survey Department	Bathurst
REY, L.	Manager	Etablissements Vesia	Bathurst
SALLAH, B.M. (Captain)	Director	Marine Department	Bathurst
SALIMAN, H.A.	Merchant	Export, Manchester	
VAN HAGHT, G.R.	Chief Engineer	Gambia Milling and Trading Company	Bathurst
WOODLEY, R.J.	Managing Director	Seangam Construction Company Ltd.	Bathurst
.....	Bakery	Kingsway Stores (U.A.C.)	Bathurst
.....	Bakery	Maurel & Prom	Bathurst
.....	Gov't Printer	Printing Department	Bathurst

ANNEX II

DRAFT QUESTIONNAIRE FOR THE INDUSTRIAL SURVEY

GOVERNMENT OF THE GAMBIA STATISTICS OFFICE
MINISTRY OF FINANCE, TRADE AND DEVELOPMENT
THE QUADRANGLE, BATHURST, THE GAMBIA

Industrial Survey for the year ended 31st December, 19....

Name of Establishment	.....	For Office Use Only
Postal Address	.....	
Physical Location	.....	
Telephone Number	.....	
Principal Activity	.....	
Number of Units	.....	

Note: Record only workers who worked for 2/3 or more of the period under review.

	Number of Paid Employees	Wages and Salaries Paid
Managerial		
Technical		
Clerical		
Skilled Workers		
Un-skilled Workers		
Others		
Total		

Raw Materials Used During Year

	Unit of Measurement	Quantity	Value £
1.....			
2.....			
3.....			
4.....			
5.....			

Finished Products

	Unit of Measurement	Quantity	Value £
1.....			
2.....			
3.....			
4.....			
5.....			
Other			

For Office Use Only

Electricity Generation:

Maximum Capacity (KW)	
Units Generated (KWH)	
Operating Cost (excluding staff)	

ANNEX III

DRAFT QUESTIONNAIRE FOR THE INDUSTRIAL CENSUS

GOVERNMENT OF THE GAMBIA STATISTICS OFFICE
MINISTRY OF FINANCE, TRADE AND DEVELOPMENT
THE QUADRANGLE, BATHURST, THE GAMBIA

Industrial Census 19.....

Name of Establishment (a) .....

Postal Address .....

Physical Location (b) .....

(c) .....

(d) .....

Telephone Number .....

Principal Economic Activity .....

Number of Units .....

Type of Ownership State Owned .....

Joint State-Private .....

Co-operative .....

Private .....

Year covered by this report: From ..... To .....

For Office Use Only

Labour, Wages and Salaries

Number of Paid Workers	Permanent		Temporary	
	No.	Wages & Salaries Paid	No.	Wages & Salaries Paid
Managerial/Administrative				
Technical				
Clerical				
Skilled Workers				
Semi-skilled Workers				
Un-skilled Workers				
Others Including Labourers				
Total				
Working Proprietors, Active Business Partners and self employed				
Un-Paid Family Workers				
Total Engaged				
Of which Gambian				
Of which Other African				
Of which Non-African				

	Permanent		Temporary		For Office Use Only
	No.	Wages & Salaries Paid	No.	Wages & Salaries Paid	
Of which University or Equivalent					
Of which Secondary School					
Of which Other Education					
Normal Working hours per shift					
Number of shifts per day					
Average Number of man hours per week					

Fixed Assets

	Year Bought	Present State Excellent, Good, Poor	Original Cost (e)	End Year Cost (f)
Land				
Buildings				
Plant, Machinery and Equipment				
Vehicles				
Other				
Total				

Consumption Cost of Materials Used During Year (g)

	Unit of Measurement	Quantity		Cost	
		Imported	Locally Produced	Imported	Locally Produced
1.....					
2.....					
3.....					
4.....					
5.....					
6.....					
7.....					
8.....					
9.....					
Other					
Total					

Cost of Electricity, Water, Fuel and other Consumption Goods used during year

	Unit of Measurement	Quantity	Cost
1. Electricity			
2. Water			
3. Fuel			
4.....			
5.....			
6.....			
Other.....			
Total			

For Office Use Only

Electricity Generated

	Total
Maximum Capacity (KW)	
Electricity Generated (KWH)	
Electricity Sold (KWH)	
Operating Cost (excluding staff) £	

Products

Description	Local Consumption			Exported		
	Unit of Measurement	Qnty	Value	Unit of Measurement	Qnty	Value
1.....						
2.....						
3.....						
4.....						
5.....						
Other						

Capacity and Utilisation

	Finished Product		
	Unit of Measurement	Quantity	Labour Involved
Capacity of Establishment for one shift of eight hours (approx.)			

Entry

(a) If no special Business name, record name of proprietor

(b) Street and number(s)

(c) City, Town or Village

(d) Administrative Area
- (i) Bathurst
- (ii) Kombo St. Mary
- (iii) Western Division
- (iv) Lower River Division
- (v) North Bank Division
- (vi) MacCarthy Island Division
- (vii) Upper River Division

(e) Including taxes, duties, delivery and installation charges

(f) Add total cost of alteration, renovation and improvement done. Exclude depreciation.

(g) Include cost of all materials used for production purposes during year. Fuels used as raw material are included here.

ANNEX IV

A DRAFT DIRECTORY OF MANUFACTURING INDUSTRIES IN THE GAMBIA 1970

Name	Address	Main Product	Size Group
3111. Slaughtering, Preparing and Preserving Meat			
Slaughter House of Bathurst City Council	Albert Market (Bathurst)	Fresh Meat	A
3113. Canning and Preserving of Fruits and Vegetables			
Lime-Juice Pilot Plant of the Department of Agriculture	Yundum Agricultural Experimental Station (Yundum)	Raw Lime-Juice	A
3114. Canning, Preserving and Processing of Fish, Crustacea and Similar Foods			
Atlantic Marine Products Ltd.	Wellington St. (Bathurst)	Frozen Shrimp	A
3115. Manufacture of Vegetable and Animal Oils and Fats			
Gambia Milling and Trading Co. Ltd.	Oyster Creek Bridge (Bathurst)	Crude Oil, Press-cake, Refined Oil	F
[illegible] Oil Mill	Oyster Creek Bridge (Bathurst)	Crude Oil, Press-cake	E
3116. Grain Mill Products			
[illegible] and Co. Ltd.	[illegible] (Western Division)	[illegible]	D
3117. Manufacture of Bakery Products			
Kingsway Bakery	Wellington St. (Bathurst)	Bread	A
Maurel and Prom	Wellington St. (Bathurst)	Bread	A
[illegible] Bakery	[illegible] Square (Bathurst)	Bread	A
Several Home Bakeries [illegible]			

A DRAFT DIRECTORY OF MANUFACTURING INDUSTRIES IN THE GAMBIA 1970 (continued)

Name	Address	Main Product	Size Group
3111. Distilling, Rectifying and Blending Spirits			
Gambia Distillers Ltd. Ltd. (Not in operation)	Kanifing (K.S.M.)	Alcoholic Liquors	B
3113. Soft Drinks and Carbonated Water Industries			
Chellaram's Bottling Co. (The Gambia) Ltd.	Kanifing (K.S.M.)	Soft Drinks	C
A. A. Bid Mineral Water Factory	Fitzgerald St. (Bathurst)	Soft Drinks	A
Farage Mineral Water Factory	10 Mill Street, Bathurst	Soft Drinks	B
Kombo Mineral Water Factory	Kanifing (K.S.M.)	Soft Drinks	A
Farid Nachif Mineral Water Factory	Albert Market (Bathurst)	Soft Drinks	A
Farid Nashif Mineral Water Factory	Bansa (U.R.B.)	Soft Drinks	A
Mandally Mineral Water Factory	4 Lancaster Place (Bathurst)	Soft Drinks	B
M'Dare's Mineral Water Factory	Independence Drive (Bathurst)	Soft Drinks	A
M'Jie's Mineral Water Factory	Bakau (K.S.M.)	Soft Drinks	A
M'Ting's Mineral Water Factory	Bakau (K.S.M.)	Soft Drinks	A
Oldfield's Mineral Water Factory	MacCarthy Square (Bathurst)	Soft Drinks	B
Ombeia Mineral Water Factory	Bansa (U.R.B.)	Soft Drinks	A
3220. Manufacture of Wearing Apparel, Except Footwear			
Glamour Enterprises (Gambia) Ltd.	Kanifing (K.S.M.)	Shirts, Underwear, Tshirts	C

A DRAFT DIRECTORY OF MANUFACTURING INDUSTRIES IN THE GAMBIA 1970 (continued)

Name	Address	Main Product	Size Group
	3240. Manufacture of Footwear		
Gambia-Dakar Shoe Co.	Hope Street (Bathurst)	Shoes	A
	3311. Saw-Mills, Planing and Other Wood Mills		
Utilisation Unit Forestry Division	Kembuj Forest Near Brikama (W.D.)	Sawn Timber, Wooden Framing, Crates	C
	3320. Manufacture of Furniture and Fixtures		
Joinery of P.W.D.	P.W.D. Half Die (Bathurst)	Sawn Timber Furniture	B
Sam's Carpentry	(Bathurst)	Furniture	B
	3412. Manufacture of Containers and Boxes of Paper and Paperboard		
Jambo Suitcase Factory	Serrekunda (K.S.M.)	Suitcases	A
	3420. Printing, Publishing and Allied Industries		
Government Printer	Macarthy Square (Bathurst)	Printing and Publishing	B
The People's Press	Box Bar (Bathurst)	Printing and Publishing	A
Other Printing and Publishing Establishments Exist			
	3523. Manufacture of Soap and Cleaning Preparations, Perfumes, Cosmetics and Other Toilet Preparations		
Gamcard Division of U.A.C. of The Gambia Ltd.	Wellington Street (Bathurst)	Perfumes, Cosmetics Candles	C

A DRAFT DIRECTORY OF MANUFACTURING INDUSTRIES IN THE GAMBIA 1970 (continued)

Name	Address	Main Product	Size Group*
	3560. Manufacture of Plastic Products		
Glamour Enterprises (Gambia) Ltd.	Kanifing (K.S.M.)	Plastic Sandals	C
	3699. Manufacture of non-metallic Mineral Products n.e.s.		
Prisons Department	Mile 2 (Bathurst)	Concrete Blocks	C
?	James Senegal Street (Bathurst)	Concrete Blocks	A
	3349. Manufacture of Transport Equipment n.e.s.		
Yundum Agricultural Experimental Station	Yundum (W.D.)	Ox-Carts	B

* A = Less than 10 employed
B = 10 - 19 "
C = 20 - 49 "
D = 50 - 99 "
E = 100 - 199 "
F = 200 and over "

ANNEX V

PROFILES OF MANUFACTURING INDUSTRIES 1/

1115. Manufacture of Vegetable and Animal Oils and Fats

Name of Establishment: Gambia Milling and Trading Co. Ltd.
Physical Location: Oyster Creek Bridge, Bathurst
Principal Activity: Expressing Groundnut Oil
Number of Units: 1

	Number of Paid Employees		Wages and Salaries Paid
	In Season	Off Season	
Managerial	3	3	-
Technical	5	5	-
Clerical	10	10	-
Skilled Workers	21	15	-
Semi-skilled Workers	42	15	-
Unskilled Workers	199	30	-
Total	280	88	-

	Raw Materials Used		
	Unit of Measurement	Quantity	Value Thousand Dalasis
Undecorticated groundnut	long ton	45,000	246

1/ In this annex information is contained of the individual manufacturing industries operating in The Gambia at the time of the Industrial Survey Mission (February 1968). Information is basically grouped according to the Draft Questionnaire for the Industrial Survey (see Annex II). A good part of the information that would fill the questionnaire was not readily available.

Finished Products

	Unit of Measurement	Quantity	Value Thousand Pounds
Crude vegetable oil	long ton	12,500	1,775
Oilcake	long ton	6,500	825
Refined vegetable oil	long ton	1,000	167
			2,767

Electricity consumption

Generating capacity (KW)	1,300
Units generated (KWh)	- 2/
Operating cost	-

3115. Manufacture of Vegetable and Animal Oils and Fats

Name of Establishment: Toufik Hanery Oil Mill

Physical Location: Oyster Creek Bridge, Bathurst

Principal Activity: Expressing Groundnut Oil

Number of Units: 1

Number of Paid Employees	Wages and Salaries Pounds
between 100 - 199	-

Raw materials used

	Unit of Measurement	Quantity	Value Thousand Pounds
Unshelled groundnut	long ton	30,000	-

Finished Products

	Unit of Measurement	Quantity	Value Thousand Pounds
Crude vegetable oil	long ton	8,000	-
Oilcake	long ton	-	-

Electricity consumption

Generating capacity (KW)	nil
Units generated (KWh)	nil

2/ Capacity utilisation is estimated at 70 per cent.

1114. Soft Drinks and Carbonated Waters Industries

Name of Establishment: Chellarams Bottling Co. (Gambia) Ltd.
Physical Location: Kanifing, Kombo St. Mary
Principal Activity: Bottling of soft drinks
Number of Units: 1

	Number of Paid Employees		Hours and Salaries Paid
	In Season	Off Season	
Managerial	1	1	-
Technical	1	1	-
Clerical	4	4	-
Skilled Workers	0	0	-
Semi-skilled	1	1	-
Unskilled	5	14	-
Total	12	21	-

Raw materials used

Essential oils, Sugar, Acid — All imported. Quantities unknown

Finished Products

	Unit of Measurement	Quantity	Value Thousand Dalasi
Soft drinks 1/	Thousand bottles	240 - 290 2/	21

Electricity consumption

nil

1/ Coca Cola, Sprite, Fanta orange, Fanta tonic, Soda water.
2/ The theoretical capacity (at one 8-hour shift per day) is used to 20 per cent.

3134. Soft Drinks and Carbonated Waters Industries

Name of Establishment: Farago Mineral Water Factory

Physical Location: Mill Street, Bathurst

Principal Activity: Bottling of soft drinks

Number of Units: 1

	Number of Paid Employees	Wages and Salaries Paid
Managerial	1	-
Technical	0	-
Clerical	4	-
Skilled Worker	0	-
Semiskilled	1	-
Unskilled	14	-
Total	20	-

Raw materials used

Sugar, acid, essential oils, chemical preservatives, artificial colouring	All imported, quantities unknown

Finished Product

	Unit of Measure	Quantity	Value Thousand $
Soft drinks	Thousand bottles	230	40 to 50

Electricity consumption

nil

1114. Soft Drinks and Carbonated Waters Industries

Name of Establishment: Mandalay Mineral Water Factory

Physical Location: Lancaster Place, Bathurst

Principal Activity: Bottling of soft drinks

Number of Units: 1

	Number of Paid Employees	Wages and Salaries Paid
Managerial	1½	-
Technical	0	-
Clerical	1	-
Skilled	0	-
Semi-skilled	2	-
Unskilled	10	-
Total	14½	-

Raw materials used

Sugar, acid, essential oils, chemical preservatives, artificial colouring — All imported, quantities unknown

Finished Product

	Unit of Measurement	Quantity	Value Thousand Pounds
Soft drinks	Thousand bottles	550	12

Electricity consumption

nil

3134. Soft Drinks and Carbonated Waters Industries

Name of Establishment: Olfield's Mineral Water Factory

Physical Location: MacCarthy Square, Bathurst

Principal Activity: Bottling of soft drinks

Number of Units: 2 (other unit under 3117, Bakery) 5/

	Number of Paid Employees	Wages and Salaries Paid (£)
Managerial	1	-
Technical	0	-
Clerical	1	-
Skilled	0	-
Semi-skilled	2	-
Unskilled	5	-
Total	10	-

Raw materials used

Sugar, acid, essential oils, chemical preservatives, artificial colouring, artificial sweetening agent	All imported, quantities unknown

Finished Product

	Unit of Measurement	Quantity	Value Thousand Leones
Soft drinks	Thousand bottles	230	7

Electricity consumption

nil

5/ The bakery is not included in this census as it employs less than 10.

3550, Manufacture of Wearing Apparel, except Footwear

Name of Establishment: Glamour Enterprises (Gambia) Ltd.

Physical Location: Kanifing, Kombo St. Mary

Principal Activity: Manufacturing of shirts, underwear and umbrellas.

Number of Units: 2 (other unit under 3560, Plastics)

	Number of Paid Employees	Wages and Salaries Paid
Managerial	1	-
Technical	0	-
Clerical	1	-
Skilled	1	-
Semi-skilled	24	-
Unskilled	7	-
Total	34	-

Raw materials used

Textile fabrics, and knitted ware — imported, quantity unknown

Finished Products

	Unit of Measurement	Quantity	Value Thousand Dalasis
Wearing apparel	-	-	90 1/

Electricity generation

nil

1/ This sum includes the value of plastic sandals. See under 3560.

3111. Saw-mills, Planing and other Wood Mills

Name of Establishment: Utilization Unit, Forestry Division

Physical Location: Nyambai Forest, near Brikama, Western Division

Principal Activity: Sawing timber, making fencing and crates

Number of Units: 1 1/

	Number of Paid Employees	Wages and Salaries Paid
Managerial	½	-/
Technical	1	-
Clerical	0	-
Skilled	0	-
Semi-skilled	21	-
Unskilled	2	-
Total	24½	-

Raw materials used

	Unit of Measurement	Quantity	Value Thousand Pounds
Logs: Gmelina	Thousand cu. ft.	14	2/
Logs: Mahogany	Long ton	300	3/
Kreosote imported	-	-	-
Nail, wire imported	-	-	-

Finished Products

	Unit of Measurement	Quantity	Value Thousand Pounds
All products combined	-	-	9

Electricity consumption

nil

1/ The manufacturing of crates is classified in ISIC group 3112. As this is but a by-product, it did not seem necessary to enter a separate unit in the survey.

2/ The unit is not charged for gmelina logs extracted from the forest.

3/ There is no price of the mahogany either, the Unit has to pay the normal felling licence fee at £2 per tree.

3320, Manufacture of Furniture and Fixtures [10]
3420, Printing, Publishing and Allied Industries [11]
3699, Manufacture of Non-metallic Mineral Products n.e.s. [12]
3849, Manufacture of Transport Equipment n.e.s. [13]

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[10] One of the furniture manufacturers is the Joinery of the Public Works Department where manufacturing is done under the same roof with repair and maintenance. It will pointless to try to assess data of manufacturing as such. The other furniture manufacturer is a private entrepreneur whose business is unstable and operations are fluctuating according to contracts (mostly from the Department of Education).

[11] The printer of this category is the Government Printer. It is not a commercial operation, data are not easily available and not really necessary for the purposes of the present survey.

[12] This is making of concrete blocks of cement in the prisons. Data are not available.

[13] This is manufacturing of concrete by the Department of Agriculture. The operational figures of this "manufacturing" cannot be separated from the expenditure and revenue of the Department.

[redacted]

Name of Establishment: Coward Division of U.A.C. of The Gamble Ltd.

Physical Location: Wellington Street, Bathurst

Principal Activity: Manufacture of perfumes, cosmetics and candles

Number of Units: 1

	[redacted]	[redacted]
Managerial		•
Technical		•
Clerical		•
Skilled		•
Semi-skilled		•
Unskilled		•
	M	•

[redacted]

[redacted]

[redacted]

3560. Manufacture of Plastic Products

Name of Establishment: Glamour Enterprises (Zambia) Ltd.

Physical Location: Building, [illegible] 30. [illegible]

Principal Activity: Manufacture of plastic sandals

Number of Units: 2 (Other unit under 3220, Wearing apparel)

	Number of Paid Employees	Wages and Salaries ('000 K)
Managerial		-
Technical		-
Clerical		-
Skilled		-
Semi-skilled		-
Unskilled		-
	30	-

Raw materials used

	Unit of Measure	Quantity	Value Thousand Kwacha
Granulated plastics imported	-	-	-

Finished Products

	Unit of Measure	Quantity	Value Thousand Kwacha
Plastic sandals	-	-	1/

Electricity consumption

nil

1/ Included in the value of finished products under 3220, Wearing apparel.

ANNEX VI

PROFILES OF MANUFACTURING PROJECTS

A. [redacted]

Products to be produced: Catching and freezing of fish (mainly barracuda and mackerels), shrimp and other sea products for export.

Capital costs to be undertaken:		**Estimated Costs (£)**
Buildings:	Cold storage warehouse for 500 tons (-25°C)	
	Plant, Machinery and Ice Room	100,000
	Warehouse for Stores	
Plant and equipment:	Freezing plant 25 tons/day (-45°C)	25,000
	Cold Storage Refrigeration Plant	40,000
	Ice Plant 20 tons/day	10,000
Ships:	Fishing vessels	100,000
	Crew quarters, office furniture and vehicles	20,000
	Total	295,000
Working Capital to be employed initially:		5,000

Labour Employment: Number to be employed

(i)	Managerial and Clerical	9
(ii)	Other	100
	Total	109

Breakdown Employment:

Managerial	-	2
Engineer	-	2
Ship's Crew	-	30
Refrigeration Technicians	-	30
Production Technologists	-	4
Total		90

Planning: (a) Rustenburg Fisheries Ltd., Tema
[Established 1952. Has 23 fishing vessels, an engineering workshop and foundry for ships and machinery repairs, several cold stores. Produced in 1968 - 17,000 metric tons of fish, 74 tons fishmeal and 18 tons canned fish.]

(b) Taigyo Fishery Co. Ltd., Taigyo, Japan
[Established 1880. Incorporated in 1924. Has 250,000 gross tons (800 vessels) fishing fleet. Has investments in 11 countries (amongst USA and Canada). Has own farms, livestock and several purposes feed factories.]

(c) Balfour Williamson and Co. Ltd. (Trade and Financing wing of Bank of London and South America).

Technical assistance and technical information: From abroad.

Raw materials: Fishing materials, ammonia and other refrigerants and cartons will be imported.

Annual production capacity of the central unit:

Type of product	Quantity or value (£)
Fresh fish at £5 per metric ton F.O.B.	5,000 metric tons - £25,000
Frozen fish at £25 per metric ton F.O.B.	5,000 " " - £125,000
Frozen shrimps at £900 per metric ton F.O.B.	300 " " - £270,000

Location of proposed factory: On Belmont waterfront at the site previously owned by S. Nabi.

Proposed construction date: 1 June 1970

Proposed production date: 1 September 1969

Tax holiday sought: 5 years

Details for request of new or semi-processed materials: Fishing materials, heavy cold room clothing, paper cartons for packing products, ammonia, freon and other refrigerant chemicals.

Any other request: Relief from export duty on products and import duty on fishing vessels.

Follow-up:

- Seagull Fisheries Ltd. Company is registered on 20 February 1969.
- Purchased under long-term credit four fishing vessels from Mambesico Fisheries Ltd. of Ghana. These vessels were registered under the Laws of Gambia on 19 July 1969.
- Were supposed to have started to export fresh fish, mainly herrings and mackerels starting September 1969.
- After refrigeration installations' completion on Bathurst waterfront, will export also frozen fish.
- In collaboration with Taiyo Fishery Co. Ltd. of Japan, would use one or two of its vessels for shrimping for export.
- Company will buy two shrimp trawlers from Japan if operations prove successful after the first year.
- Has already concluded an agreement for purchasing the plot of land on the Bathurst waterfront leased by S. Madi Ltd.
- Applied for a Development Certificate in accordance with Development Act (Cap. 47) 1966.

Following are details of the "Development Project" of Seagull Fisheries Ltd.:

A. Project's objectives:

(1) Catching fish and shrimp.

(2) Processing these sea products at a shore-based freezing, ice-making and cold store factory to be built at a site on Bathurst waterfront purchased from S. Madi Ltd.

(3) To export frozen and fresh sea products.

(4) To encourage and assist Gambian fishermen to expand their business by offering them ice, freezing and cold storage facilities, technical assistance and market services if required.

B. In order that Project can be properly and profitably established and developed, it will be implemented in three phases:

First Phase:

(1) Were supposed to have started before end of 1969. Company has already acquired four 25-metre fully-equipped fishing vessels from Hankoadse Fisheries Ltd. of Ghana. Already vessels registered in Gambia. Initial crew, to operate ship, from Ghana but will employ Gambians to replace them. Expected in two years that vessels will be manned by 15 Gambians and 5 Ghanaians and later when Gambians qualified, been found, each vessel will be fully manned by 15-20 Gambians. Catch of fish will be exported to Ghana, fresh, at £5/ton F.O.B. to Hankoadse Fisheries where it will be received on Hankoadse Fisheries vessels for freezing for export. Estimated that annual export of fresh fish will be 5,000 tons at £25,000.

(2) Company have chartered from Taiyo Fishery Co. Ltd. of Japan, three shrimp trawlers of approximately 300 gross tons each. First trawler was expected in Bathurst in January 1970. Work will be done to obtain data for a feasibility study and to investigate over 6-9 months the extent and seasonal distribution of shrimp within and outside Gambian territorial waters and to determine best vessel and gear which can be used to catch shrimp profitably with maximum sustainable yields. Taiyo will supply shrimp gears and Japanese experts will work on trawlers to teach Gambians in catching and processing shrimps. Annual catch of frozen shrimps per trawler is estimated at 200 metric tons valued at £180,000. Each trawler will employ 10 Gambians.

Second Phase: This phase will embrace establishment of shore installations, namely:

(1) Freezing plant with an initial capacity of 10 tons per day (-45°C).

(2) Ice plant, with an initial capacity of 10 tons per day.

(3) Cold storage warehouse (at -25°C) for 200 tons of sea products.

(4) Offices, stores warehouse and crew quarters.

Shore installations at this phase are estimated to employ 50-100 Gambians depending on success of the fishing operations. Upon success of shrimping operations five shrimp trawlers will be acquired during the second and third year of operation, each of which will provide 120 metric gross tons of shrimp annually, value (total) at £180,000.

Annual production of frozen fish at the shore installations is also estimated at 3,000 tons valued at £75,000.

Construction date for this phase is proposed for 1 June 1970 and production date is 1 June 1971.

Third Phase: Depending on rate of success of second phase, third phase will start approximately from the fifth year onwards with an expansion of the above installations to the following capacities:

(1) Freezing plant 25 tons/day (-45°C).

(2) Ice plant 20 tons/day.

(3) Cold storage warehouse 500 tons (-25°C).

This expansion in facilities will result in an increase in the annual production to 5,000 metric tons of frozen fish valued at £125,000. Engagement of Gambians will also be raised to about 150 persons.

Five more shrimp trawlers of 100-200 gross tons each may be required during this phase.

B: Kanekami International Ltd., Tokyo 1969

Investment

First Stage:	**Estimated Cost (£)**
Equipment of cold storage warehouse (-25°C) (Cap. 250 tons (metric))	20,100
Equipment of quick freezing unit (-45°C) (Cap. 5 tons (metric) daily)	10,500
Equipment of Automatic Ice Making Unit (Cap. 10 tons (metric) daily)	15,400
Construction (estimated) (Cold storage warehouse (about 20,000 cu. ft.) - 566 m^3, freezing unit, office, etc.)	50,000
Freight Japan Port-Bathurst (Gambia) (about 400 measure tons x £25)	10,000
Office furniture, furniture for dormitory of Japanese engineer and crew	
Cars and trucks	20,000
	119,950

Note: In the course of the examination of the above project the mission discovered several mistakes in the calculations. As the above is but a partial quotation of the original project for the information of the reader the mission did not feel entitled to correct the numerical errors.

	Estimated Cost (£)
Second Stage:	
Five shrimp trawler boats (a 100 GRT) radar, sonar, fish finder, wireless radio and telephone automatic control system and quick freezing unit, etc. at £83,500	417,500
Third Stage:	
Five shrimp trawler boats (a 100 GRT) Equipped as above at £83,500	417,500
Canning factory (300 c/s fish per day) Boiler, seaming machine, conveyer and all necessary equipment including constructions	54,000
Extension of cold storage warehouse (250 metric tons)	53,000
	524,500
Grand total of investment	£1,061,950

"Shrimp Trawler"

	£
Main engine: 450 h.p. **Sub engine:** 100 h.p.	
Fishing gear and nets:	
Six sets of shrimp trawler nets - £520 per set	3,120
Fuel oil and others	
Fuel oil (0.22 l x 24 h x 450 h.p. x 250 days)	£12969
Sub. Eng. E (0.22 l x 24 h x 100 h.p. x 320 days)	
Water oil £100 x 685 kl x 2.5%	£2963
Others oil 17% x 300 days	£240
	16,272

Salaries for crews			£
Captain and Fishing Master	£250 x 12 months	£3,000	
1st Navigator	£200 x 12 months	£2,400	
Chief Engineer	£225 x 12 months	£2,700	
1st Engineer	£200 x 12 months	£2,400	
Radio Operator	£200 x 12 months	£2,400	19,980
Japanese crews	£100 x 12 months x 3 persons	£3,600	
Gambian crews	£25 x 12 months x 10 persons	£3,000	
Foods 15s. x 18 persons x 360 days			4,860
Medicines £3.10s. x 12 months x 18 persons			756
Life Insurance £5,000 x 1.55% x 18 persons			1,404
Insurance for boat and cargo £83,500 x 7%			5,845
For shipstore and liquid ammonia gas £100 x 12 months			1,200
Reparation and painting £83,500 x 6%			5,010
Depreciation of boat £83,500 x 15% (7 years)			12,525
		Total	£70,097

Total expenses in First Stage

Mother fishing boat	£110,293	
Two shrimp trawlers	£141,794	
	£252,087	252,087
Interest for this operation (10%)		25,209
		£277,296

Annual net fishing (Plant Stage)

Herring (headless) 1,500 lbs/day x 55% yield x 250 days	206,250 lbs/year	
Demersal fish 3,000 lbs/day x 250 days	750,000 lbs/year	
Herring (headless, 2nd class) 7s./lb x 206,250 x 3	£216,562	
Fishing 1s./lb x 750,000 x 3	£112,500	
	£329,062	

Office Expenses (Management Charges)

		£
Salaries and emoluments		
Managing Director £500 x 12 months	- £6,000	
Manager for fishing £450 x 12 months	- £5,400	
Assistant Manager £350 x 12 months	- £4,200	
Secretary (stenotypist) £75 x 12 months	- £900	19,500
Accountant £100 x 12 months	- £1,200	
Office cleaner/typist £50 x 12 months x 3 persons	- £1,800	
Stationery and other £75 x 12		900
Telephone and Telecommunications		
Telephone £90 x 12		
Cables/Telex £285 x 12		4,000
Postages £25 x 12		
Rent charges (office) £500 x 12		6,000
Electricity and water supply £150 x 12		
Repair and supplies for vehicles £30 x 12 x 3 vehicles		1,080
Depreciation of vehicles		1,500
	Total	£35,980

		£
Expenses of cold storage warehouse:		
Electric energies: 5d. x 150 kw x 24 h x 365 days x 0.6		15,768
Water supply: 1s. 6d. x 40 tons/day x 300 days		900
Salaries: Manager (Chief Engineer) £225 x 12 x 1 person	- £2,700	
Assistant Manager £175 x 12 x 2 persons	- £4,200	
Gambian Engineer £50 x 12 x 3 persons	- £1,800	
Labour £25 x 12 x 50 persons	- £15,000	
Total 56 employers and workers		23,700
Materials: Packaging material:		
Shrimp inner cartons 6d. x 200,000 cartons/ton		5,000
master cartons 1s.6d. x 20,000 cartons/ton		1,500
Fish (22 lbs) 1s.3d. x 150,000		9,000
Liquid ammonia gas £100 x 12		1,200
Frozen peas for fish 22 lbs x £1.5s. x 300		330
Frozen peas for shrimp 5 lbs x 4s.5d. x 1,500		337.10s.
Other expenses: Repair and gasoline for truck £30 x 12		360
Depreciation for factory: £99,950 x 10% (10 years)		9,995
Trucks		1,500
Total		£58,840.10s.
Interest (10%)		884
		£59,724.10s.

Expenses for extension of cold storage warehouse:

	£
Electric energies	10,512
Water supply	450
Salaries (labour only)	6,000
Material (packaging)	15,500
Liquid ammonia gas	600
Other expenses	1,080
	£34,142

Expenses of canning factory:

Running:

Electricity 54. x 100 kw x 8 h x 250 days x 0.8	3,200
Fuel oil £20.14s. x 0.7 kl x 12 h x 250 days	4,307
Water supply: 1.5m. x 30 tons x 250 days	563

Salaries:

Chief Engineer £225 x 12 x 1 person	- £2,700	
Assistant Engineer £175 x 12 x 3 persons	- £6,300	
Assistant Engineer £50 x 12 x 3 persons	- £1,800	
Labour £25 x 12 x 50 persons	- £15,000	
Employment - 57 persons		25,800

Materials:

Raw materials

Frozen tuna 1.5m. x 1,120,000 lbs	89,000
Other fish 6d. x 1,120,000 lbs	56,000
	£145,000

		£
Seasoning:		
Tomato sauce £120 x 40 tons		4,800
Salt and oil: Salt £75 x 3 tons		225
Oil £250 x 10 tons		2,500
Spices £500 x 2 tons		1,000
		8,525
Empty cans £2.10s. x 75,000 c/s		187,500
Other expenses:		
Motor oil £190 x 5 kl		950
Others £50 x 12		600
Depreciation of factory and machines		
£54,000 x 10% (10 years)		5,400
	Total	£386,895
	Interest (10%)	£38,689
		£425,584
Receipt of the sales:		
Canned tuna 3s. x 48 cans x 37,500 c/s		270,000
Canned fish 2s. x 48 cans x 37,500 c/s		225,000
	Total	£495,000
Benefits (£495,000 - £425,584)		£69,416

Description of Benefit

Description	Unit Price/ lb	1st Year Quantity	1st Year Amount	2nd Year Quantity	2nd Year Amount	3rd Year (4th Year same) Quantity	3rd Year (4th Year same) Amount
Export							
Frozen shrimp (headless)							
1st class	12c.			400,000	240,000	400,000	240,000
2nd class	7c.	518,750	216,562	500,000	175,000	500,000	175,000
Frozen shrimp (with head)							
1st class	8c.			150,000	60,000	150,000	60,000
Local market							
Frozen shrimp	3.5c.			100,000	17,500	100,000	17,500
Frozen fish	2c.	2,250,000	112,500	3,750,000	187,500	3,750,000	187,500
Canned foods (benefits only)							
			329,062		1,680,000		680,000

5th Year (6th Year same) Quantity	5th Year (6th Year same) Amount
850,000	510,000
2,000,000	350,000
300,000	120,000
100,000	17,500
7,500,000	375,000
	69,436
	1,441,936

A BRIEF SUMMARY OF INDUSTRIAL FISHING

A number of international industrial fishing companies have shown interest in the Gambia's fisheries in recent months with a view to future investment. These projects can be summarised as follows:

(1) <u>Continental Sea Foods Inc.</u>

An <u>American</u> firm which is operating in many parts of the world, <u>has been given permission to carry-out a survey in Gambian waters</u> to determine the feasibility of establishing a <u>Crustacean Industry</u> in the Gambia. Their trawler is expected since end 1969.

(2) <u>[illegible] International Company</u>

A <u>Japanese</u> firm operating in a number of other African countries <u>proposes to invest over £1 million over a period of years</u>. The <u>company has been permitted to start operations</u> and it is negotiating for land for its <u>cold stores</u>.

(3) <u>The Gambia Fishing Company</u>

A <u>French</u>/Spanish concern proposes to <u>invest £24,000 initially</u> to set up a <u>cold store</u> and <u>canning factory</u>. Before the Government permitted it to operate, it has been surreptitiously employing Senegalese fishermen to catch <u>lobsters</u> in Bintang Creek, and it has therefore been decided to withhold approval until its <u>bona fides</u> are established.

(4) <u>Seagull Fisheries Ltd.</u>

Is a subsidiary of the Mankoadze Fisheries of Ghana - perhaps the largest African fishing company owned by Africans themselves. It proposes to make an investment of about £135,000 in trawlers, cold rooms, freezing plant, etc. and employ over 100 Gambians and at the same time use and train Gambian fishermen. The Company <u>has already bought land</u> in the sea front from S. Madi <u>for £12,000</u> and four of its trawlers too have been registered in the Gambia, and operations were supposed to have started in January this year.

Government is recommending granting it a Development Certificate under the following term :

(a) Duty free import of plant, machinery and equipment, building materials and easily identifiable packaging material.

(b) A reasonable quota of expatriate personnel - the exact number and duration of stay in Gambia is to be determined after application.

(c) The question of a tax holiday to be considered later after the firm begins the commercial operations.

(d) The company shall not be allowed to sell its catch locally except with the permission of the Ministry of Agriculture.

(e) The Government will have a mutual shareholding in the company at the beginning with the right to increase its share capital at a later date. The Government will be represented in the company's Board of Directors.

(f) The company will pay export duty on fish exports as follows:

Lobsters - 1s. per kilogram, Shrimp - 8d. per kilogram,
Fish - 3d. per kilogram.

Fish exports have been duty free, but the time has come now to levy an export duty on fish exports to enable the Government to obtain some revenue from industrial fishing operations. These rates of export duty will be reviewed from time to time and increased or reduced according to circumstances.

(5) Atlantic Marine Products Ltd.

Started operations beginning 1967 with a Development Certificate, but its contribution to Gambia has been negligible.

(a) The share capital remains at £5,000 although it proposed to increase it to £250,000. Its investment in cold store is only £2,230.

(b) It has no organisation of its own to catch lobsters. Instead, it is employing Senegalese canoe fishermen to catch lobsters. No Gambian fishermen are employed or trained by this Company. It bought two trawlers, but stopped their operations some time ago and has no intention of resuming their operations.

(c) The exports from February 1967 to June 1969 have been 22,036 kg of lobsters, 11,820 kg of fish and 375 kg of shrimps. At local prices these exports are worth about £20,000 and at foreign market prices about double that. But, company's balance sheets have shown losses. In 1968 accounts showed that sales amounted to £6,972 but purchase price was £8,894.

A BUILDING TIMBER AND FURNITURE FACTORY. PROJECT OUTLINE.

The following are the details available on the planned modern woodworking factory mentioned in sub-chapter 4.5 (paragraphs 4-5). The factory is destined to produce high-quality building timber (doors, window-frames, built-in cupboards, etc.) for the already operating building company (Szentgyörgy Construction Co. Ltd., Budapest) of which this factory is a subsidiary and modern, [illegible] furniture for export.

Capital investment:	Thousand pounds
Building	16.0
Plant	3.5
Total	19.5

Capital and current costs, profits

In the project as formulated by the company everything is calculated for the first eight years of its operation. For the convenience of evaluation and comparison the mission also calculated the costs and profits for the period from the third to the seventh year, i.e. five years after running in. In the following tables the original data provided by the company are given but in a few cases regrouped.

Material, i.e. basically hardwood, is going to be imported already cut to size.

Labour: the wages of operators are calculated at 12s. per day, those of labour at 7s. per day (the minimum wages legislated). The total wages are based on an increase of 6 per cent after the first year. Thereafter wages costs appear as constant as the plan is to introduce a bonus system. The mission has doubts whether both the minimum wages and the productivity (bonus paid workers) will remain constant over eight years.

Management (expatriate) is costed at £3,000 p.a. Skilled management is provided by the existing building company free of charge (in which case a shadow cost should have been entered) and this amount is to be the salary of a supervisor - it seems to be on the low side.

The factory is going to work five days a week, 47 weeks a year.

The ratios indicate an efficient, highly productive operation.

COSTS

Year	Depreciation: Building	Depreciation: Plant	Material	Labour	Management etc. @ 5%	Interest	Total
1	2.0	0.7	1.8	3.5	1.8	1.6	11.5
2	2.0	0.7	4.8	3.8	1.8	1.6	14.7
3	2.0	0.7	19.2	4.8	1.8	1.6	30.1
4	2.0	0.7	20.4	4.8	1.8	1.6	31.3
5	2.0	0.7	21.6	4.8	1.8	1.6	32.5
6	2.0	-	22.9	4.8	1.8	1.6	33.1
7	2.0	-	24.2	4.8	1.8	1.6	34.4
8	2.0	-	25.7	4.8	1.8	1.6	35.9
1-8	16.0	3.5	148.6	36.2	14.4	12.8	223.5
Total 1-7	14.0	2.1	128.3	24.0	9.0	8.0	185.4
Average 1-7	2.0	0.4	21.7	4.8	1.3	1.6	32.3

PROFITS

Year	Output	Costs	Gross surplus	Repayment of loan	Profit
1	10.5	11.5	1.0	2.0	- 1.0
2	16.7	14.7	2.0	2.0	-
3	37.3	30.1	7.2	2.0	5.2
4	40.0	33.3	8.7	2.0	6.7
5	43.9	32.5	9.4	2.0	7.4
6	44.6	33.1	11.5	2.0	9.5
7	47.1	34.4	12.7	2.0	10.7
8	50.0	35.9	14.1	2.0	12.1
1-8	290.1	223.5	66.6	16.0	50.6
Total 1-7	240.9	185.4	55.5	14.0	39.5
Average 1-7	40.2	30.3	9.9	2.0	7.9

The profit figures in the above table differ from those in the original which total £12 for eight years, amount to £8.4 in the period from three to seven years and average an annual £1.7 for this five-year period.

The profit (in the above table) is 19 per cent of the output. The total capital investment is £19,980. The cumulated gross surplus reaches this sum after the end of the fourth year and before the end of the fifth year. Therefore, the payback period is roughly 4½ years.

ANNEX VII

EXTRACTS FROM REPORTS ON GAMBIA'S GEOLOGICAL NATURAL RESOURCES

Many surveys were carried out and several reports were written covering Gambia's geological natural resources. The present UNIDO - Survey Mission to the Gambia has studied a few reports on these resources, and is attempting hereby to "round-up" this subject, from the standpoint of positive availability and suitability of the most important mineral resources for industrialisation, in a "blend" of extracts from the following three reports:

(1) The Veltheim Report (1969) which is the most recent important and detailed document covering the whole geological field and its impose on exploitation and industrialization.

(2) The UNIDO Report in the form of a letter of 25/2/1970 addressed to the present Mission's Leader, commenting on Veltheim's Report with regard to the Gambian ilmenite and discussing it in comparison with industry based on latest technological discoveries.

(3) The Bailey, Jr., Report (1964) which summarises in brief the execution and failure of the first ilmenite-exploitation project, which was carried-out by the "Gambia Minerals Ltd." (subsidiary of "The British Titan Products Company").

I. [illegible]

The British Titan Products Company (BTP) was the first to draw attention to the possible occurence of such deposits in the Gambia. This company started a systematic exploration in Gambia in 1953. As a result, two areas were assessed, namely Sanyang and Batukunku, about 30 kilometers south-east of Bathurst, which gave "profitable" results.

"The shortage of ilmenite and the resultant high prices demanded by the major producers in India" (Bailey, 1964) had led the "Gambia Minerals Limited" (GML), a subsidiary of BTP, to start in the above two areas.

By the end of April 1955, an order for purchasing necessary equipment was placed to the value of £700,000. Gailey reported that the Gambian deposits were marginal, but, not withstanding this, work had begun on the selected site in 1956. About £1,000,000 were invested in building a railroad and a large electric dry mill. Deposits did not prove as extensive as first thought, having a maximum life of 10 years. Plant was closed down in 1959. During that period 65,000 tons of ilmenite, 1,400 tons of rutile and 10 tons of zicron concentrate had been extracted and shipped.

Basic reasons, reported by Veltheim, for closing down, were "the high production cost and relatively poor quality of the minerals", while Gailey stated that the reason given was that over-production had caused a sharp fall in the world market price of zicron and rutile, making it non-profitable to continue to operate the deposit.

The most recent technical survey carried out after the failure of Gambia Minerals Limited, was that of Veltheim during July and September 1969. He discovered that heavy minerals are no longer concentrated in the beaches. At Batukunku, heavy mineral concentration occurs immediately behind the sand dunes next to the beach, whereas at Sanyang distance from the beach is about half a mile. His results, in addition, show that in Sanyang and Batukunku areas (some exploited by GML) contain about 5 million tons of ore, with an average content a bit over 10 per cent of heavy minerals. Original estimate made by BTP in April 1956 was a total of 577,400 tons of ilmenite.

Veltheim stated that "the Gambian beach-sand heavy-mineral deposits, although relatively modest in size and quality of minerals, nevertheless have certain advantages, above all easy accessibility, that turn them into an ore occurrence worth serious consideration". Meanwhile, he mentioned that "in the normal course of events, an enterprise will, in any case, conduct its own prospecting before going into operation".

The heavy mineral fraction of the heavy black sands contain mainly ilmenite. They contain also zicron, stanrolite and rutile. Average proportions of the different heavy minerals from Sanyang area are: 74 per cent ilmenite, 14.8 per cent zircon, 7.5 per cent stanrolite and 3.7 per cent rutile.

After reviewing the analyses executed by BTP, Veltheim commented that the chemical composition of the minerals "show some defects likely to depreciate the price in world markets". However, he added that the titanium oxide content of the Gambian ilmenite (58.8% TiO_2) is "well above the standard grade specification ([illegible] TiO_2), but its chromium content (Cr_2O_3) = 0.3%, which may be considered too high".

In any case, in evaluating the Gambian mineral deposits, the basis are now very different than in 1959, when BTP ceased to operate, due to recent development in technical equipment, which make separation of heavy minerals be carried out at considerably smaller cost. Also, technical progress is being made in up-grading ilmenite.

Mr. Veltheim recommended that no further work be done in the field or in laboratories.

After reviewing Mr. Veltheim's report, UNIDO commented that the composition of Gambian ilmenite is not suitable for producing pigment-grade titanium oxide by the classical "sulphate process", because of its high chronium oxide (0.3%). On the contrary, the composition is highly suitable for the new technology of electro-melting to high TiO" - content slag, which may be chlorinated to pigment-grade titanium oxide".

UNIDO recently informed the Gambian Government that a "counterpart has been identified, that expressed interest in implementing this new technology based on ilmenite concentrates to be imported. Both composition of Gambian ilmenite and location of the country are favourable from point of view of this future market. UNIDO also commented that, in spite of its agreement with Mr. Veltheim's conclusion, it seems necessary that a sample of heavy black sands or ilmenite dressed from it be metallurgically tested, from the point of view of meeting the wishes of possible "counterparts" (mentioned above), or eventual other ones. Such a test would be useful to ascertain the possibility of the material to be processed by the new metallurgical technology. Then, Gambian ilmenite may become marketable, when giving results of tests for the new processing technology to the potential counterparts.

UNIDO stated also that they have now, at their disposal, the willingness, in principle, of an institution to undertake the required metallurgical test and prepare a detailed report on the results. They have also necessary funds to finance the project. UNIDO then asked whether the Gambian Government is interested

in this metallurgical investigation, which results would be available in 4-5 months after submission of request. In such a case the Government may request a short SIS mission of a UNIDO staff member to discuss the subject in detail and help in collecting a 200 kg sample of heavy black sands necessary to carry out the project; and in assisting in formulating the request for it.

II. Kaolin:

Various test and analyses were carried out on a reddish-colour Kaolin sample obtained from a hill (called Kebe Konko by the local people) located about 1 mile to the NNW from Kundan village, about 7 miles ENE from Basse. Results were published in the Veltheim Report (1969).

Report drew the following conclusions:

(1) Gambian Kaolin consists mostly of very fine-grained kaolinite. Clays with such a high percentage of kaolinite and such fineness are rare in a natural state.

(2) This kaolin cannot be regarded as of top-quality grade usable in paper-manufacture and fine-ceramic industry, because of its reddish colour - due to iron content - which is considered as a distinct defect.

(3) The kaolin's high aluminium content (37.08% Al_2O_3) makes it suitable to be used for manufacturing fireproof products. The fine particle-size in this regard may be considered as an advantage.

(4) Values of firing shrinkage (18.5% at 1300°C, i.e. 2372°F) and the modulus of rupture (green) which was 15 kg/cm^2 (in DIN51030 scale), are not as good as in top-quality kaolin.

(5) Gambian kaolin meets all requirements of various types of clay, such as fire-clay, and clays for refractory and building bricks.

(6) The use of Gambian kaolin, which quality could be considered as too high for, say, building bricks, even for that purpose can be justified considering the shortage of inorganic construction material in Gambia (Ex.: In 1966 - 8,400 tons of cement were imported, valued at $179,000.)

Following are Mr. Veltheim's recommendations in brief:

(1) An inventory research in the upper river area should be started without delay, by the Gambians themselves, for additional kaolin deposits. It is impossible that this could lead to discovering kaolin of a higher quality.

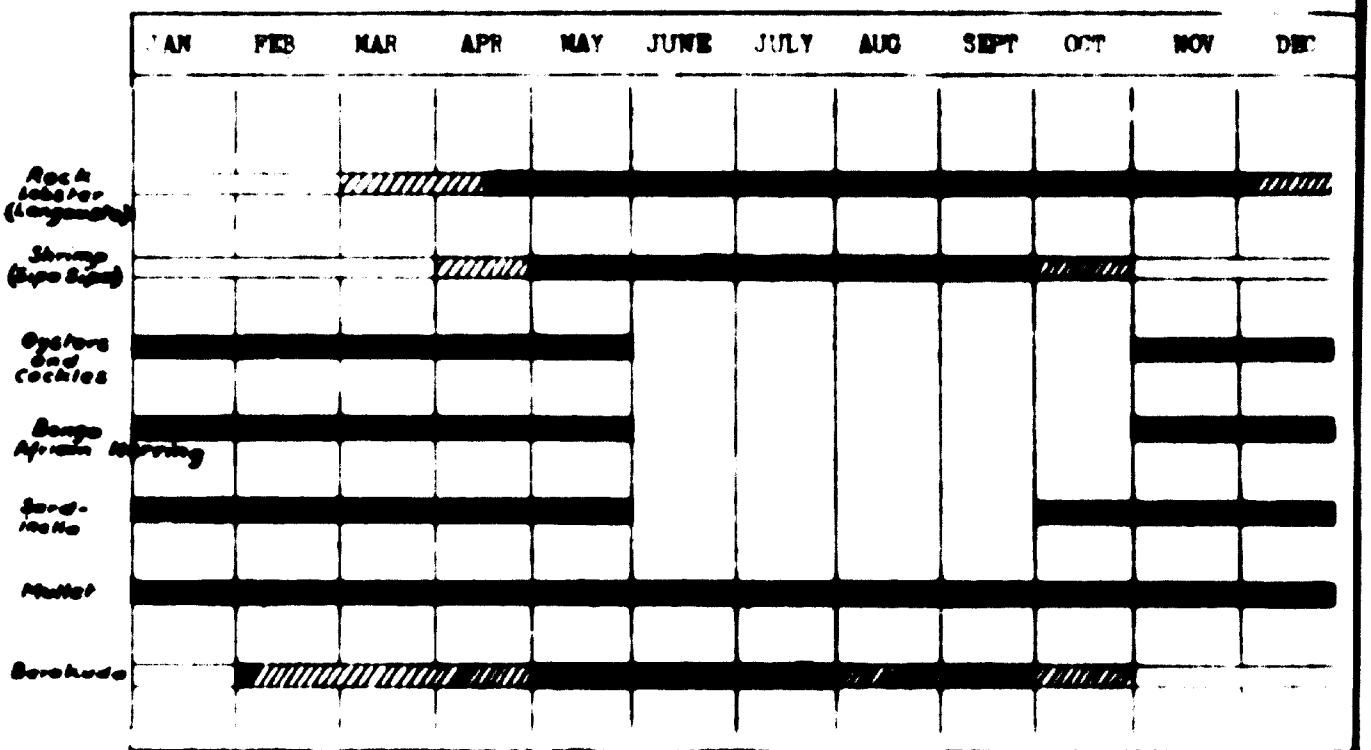
Information on new occurrences should be forwarded to the Commissioners and sent to the Lands Officer's Office, Ministry for Local Government Lands and Mines, Bathurst. And, to avoid delay in waiting for a UNIDO expert to be sent for investigating the matter, it is advised that a geologist be invited to come for 2-4 weeks to examine the new findings preliminary.

(2) Because Gambian kaolin is likely to prove suitable for industrial use, it is suggested that the Gambian Government applies to the UNIDO for a clay expert to assess the quality and clay in the country, put recommendations for industrial uses, and advise on the desirability of establishing a clay production industry.

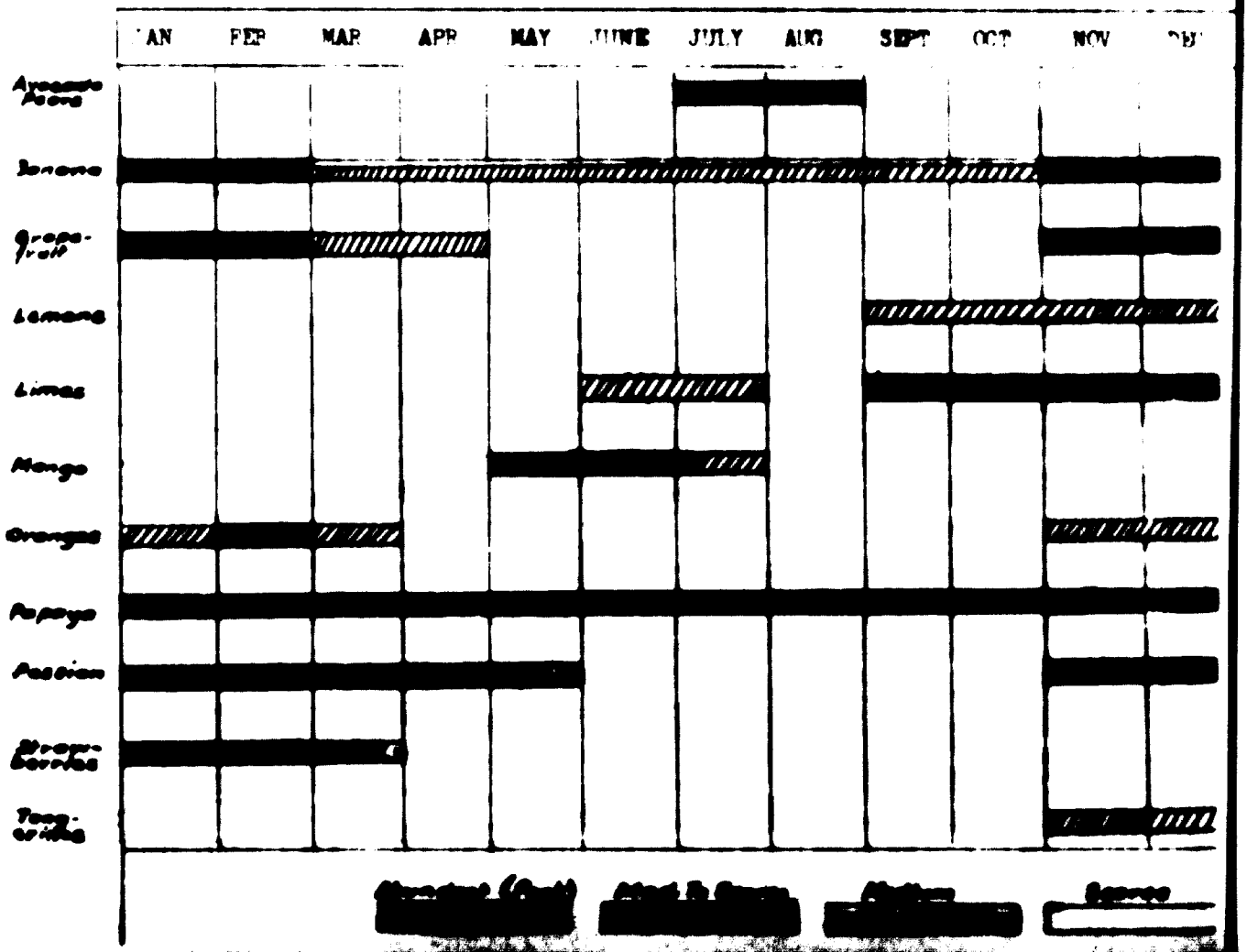
ANNEX VIII

SEASONAL DISTRIBUTION OF AGRICULTURAL RESOURCES

"SEASONS OF FISH AND CRUSTACEAE"

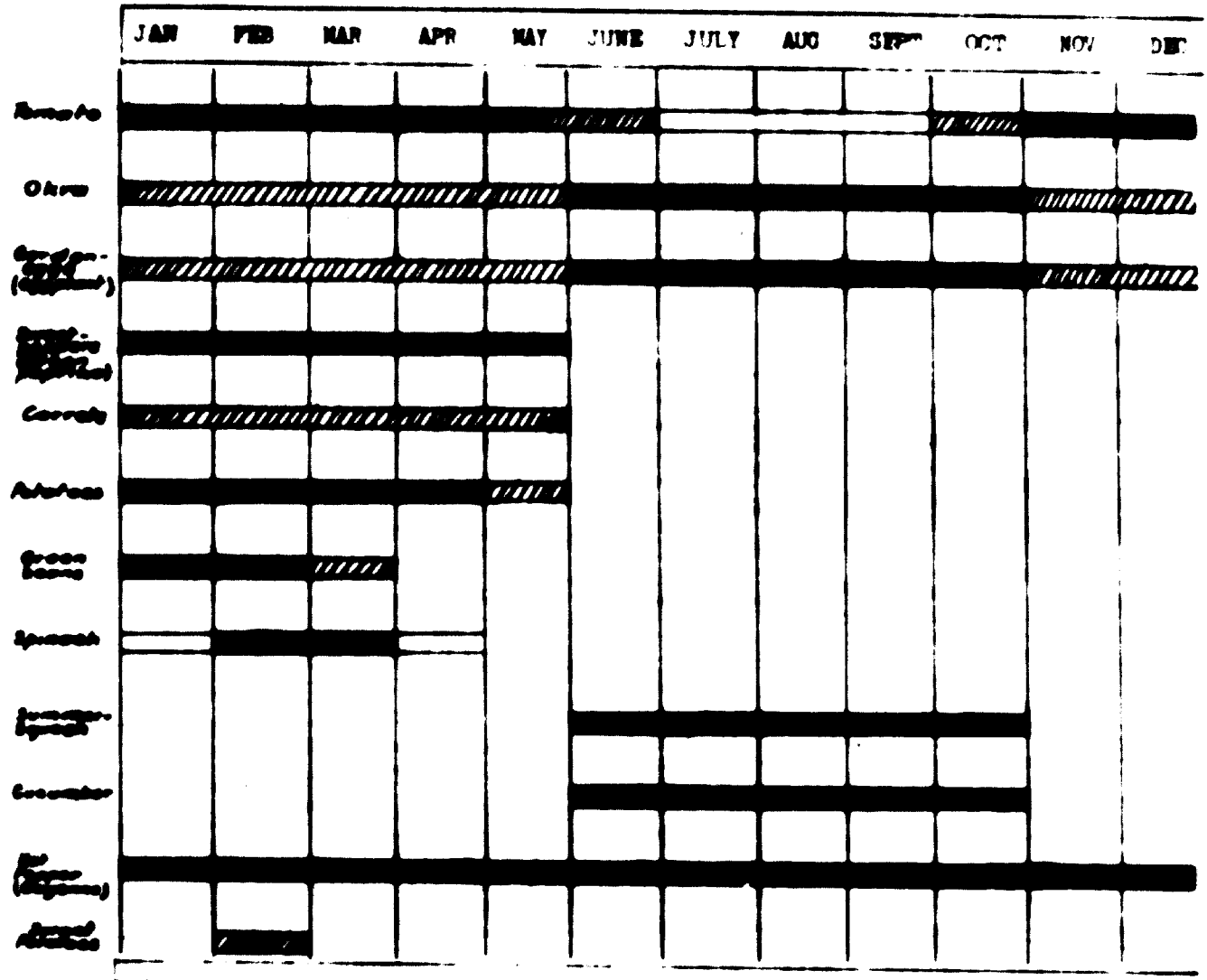


"SEASONS OF FRUITS THAT ARE PLANTED OR COULD BE PLANTED IN THE GAMBIA"

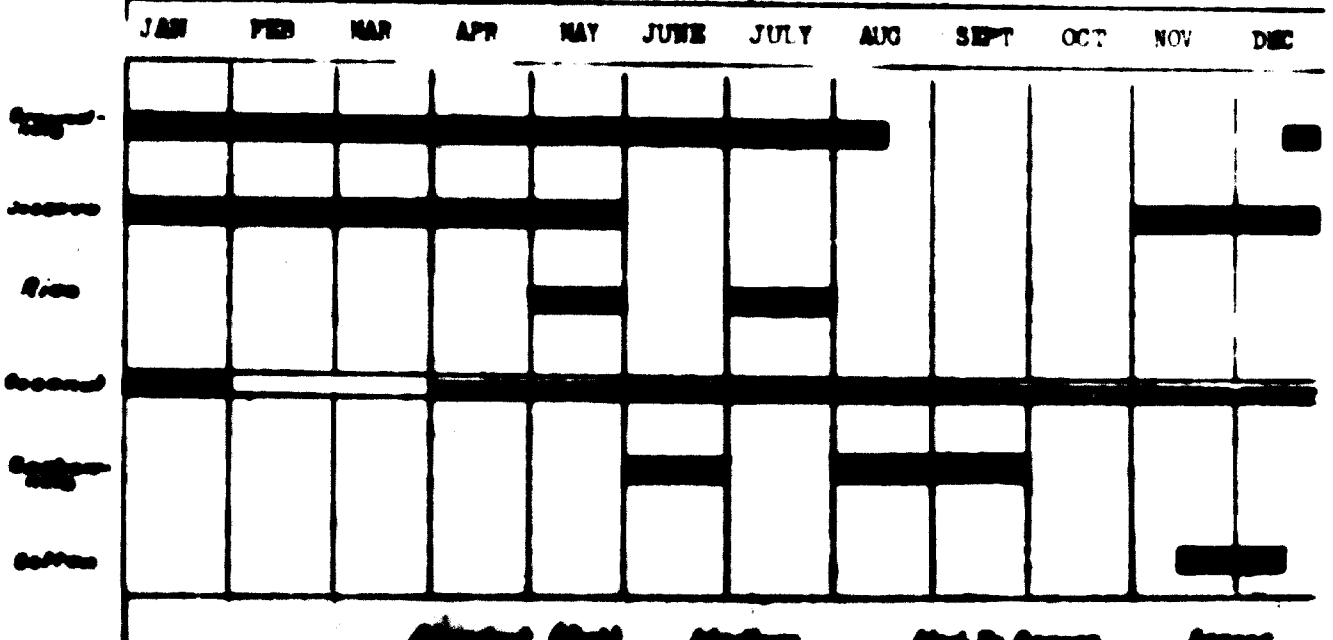


SEASONAL DISTRIBUTION OF AGRICULTURAL RESOURCES

"SEASONS OF VEGETABLES THAT ARE PLANTED OR COULD BE PLANTED IN THE GA[illegible]"



"SEASONS OF OTHER CASH - CROPS"



ANNEX IX

EXTRACTS FROM "UNITED NATIONS FOOD AND AGRICULTURE ORGANIZATION. REPORT TO THE GOVERNMENT OF GAMBIA ON THE FISHERIES OF GAMBIA"

Based on the work of A.J. Thomas,
FAO/TA Fisheries Development Adviser.
Rep FAO/UNDP(TA) No. (TA2223): 34 pp. 1966

Fish and Crustacea in Gambia:

The report gives the impression that the Gambian Waters, and waters off the Gambian Atlantic Coast, are rich with valuable sea-foods.

The report has listed examples of such sea-foods, which are brought in the following:

(1) Rock lobsters, or Langoustes ("Palinurus regius") and ("Palinurus Mauritanicus").

Lobsters are caught at present in October and November.

(2) Shrimp (locally called "Bina Bina"): of which there are two species:

(a) The estuarine shrimp, believed to be ("Penaeus duorarum"), and can be found in the River Gambia as far as Kallingho which is located about 70 miles from the river's mouth. Over this stretch, the river-width is about 2 miles, and mouth-width is about 7 miles. This species exists also in the several "bolons" of the river. This species is caught mostly at present. Catching is from June until October.

(b) Penaeus longirostris, which is the species existing along the West African coast, and is said to thrive in high salinity waters and to be more abundant than P. duorarum. This species is not caught at present by Gambian fishermen.

(3) Oysters (locally called "yabu") and Conchs:

Oysters are harvested in saline mangrove areas. Harvesting takes place mostly during the dry season, i.e., from November to May. Principal oysters' harvesting areas at present are: Kartung, James Island, Albreda, Mandinari, Oysters Creek, Tungi and Tendaba.

(4) Fish: which can be classified in two important types:

(a) Marine fish: Found in the Atlantic waters along the Gambian Coast, important species of which are:

(a1) Sardinella: ("Sardinella aurita"), occasionally mixed with ("Sardinella eba"). Reports show that sardinella "peak season" could be from November until end May (during the dry season).

(a2) Tuna: include yellowfin ("Thunnus [Neothunnus] albacora"), big eye ("Thunnus obesus"), skipjack ("Katsuwonus pelamis"), and blue fin ("Thunnus thynnus"). Tuna caught by Senegal have these species represented with: yellowfin 30 per cent, skipjack 15 per cent in their total tuna production.

(a3) "Bonga" or "West African herring": ("Ethmalosa fimbriata") which is the basis at present of Gambia's smoked fish trade. It is caught mostly from November until end May.

(a4) Mullet or Red Mullet: ("Trigla lineata") and ("Mullus barbatus") which might be found nearly all the year around.

(a5) Grouper ("Serranidae"), Barracuda ("Sphyraenidae"), Spanish fish ("Polynemus quadrifilis"), Sea-bream ("Sparidae"), and Shark ("Selachii"). These might be found all the year around also.

(b) River fish: include a number of coastal marine and other sea fish which travel up river to a considerable distance (sea water enters Gambia River's estuary for more than 120 miles during the dry season, and only to about 93 miles during the wet season). This includes:

(b1) Mullets ("Mugilidae").

(b2) Bonga ("Ethmalosa fimbriata").

(b3) Barracuda ("Sphyraena guachancho") and Spanish fish or Kajoli ("Polynemus quadrifilis").

Fishermen:

There are about 400 fishermen in Gambia who are not organised in any form of organisation or co-operative, no registration of fishermen, and in many areas even their nationality cannot be easily identified. Number of Senegalese fishermen that work in Gambia is estimated at about 300.

The Gambian fishermen are unfortunately lacking in advanced technological skills. On the other hand, Senegalese fishermen that operate in Gambian waters are better trained and more equipped. Farmers are also mostly part-time fishermen, part-time farmers, who go during the rainy season to their farms for cultivating Gambia's first agricultural crop at present, namely groundnuts, while in the dry season they get also partly busy in harvesting and marketing them.

Fishing Boats:

In the sense of modern well-equipped fishing-boats, there are none in Gambia owned by Gambians. Senegalese boats operating in Gambian waters are on a whole in a better position than the Gambian fishing-boats and some of them have modern facilities.

Shore Facilities:

There are two Governmental wharves used by ocean-going vessels in the port of Bathurst:

(1) Has a berthing face of 200 feet with minimum depth alongside of 27 feet. It is used by the Government-operated mail/passenger ship (326 tons) and by cargo carriers.

(2) Has a minimum depth of 21 feet and is fitted to accommodate tankers with oil pipelines. Can handle ships up to 500 feet in length.

Besides, there are privately-owned jetties used mainly by smaller craft which are mostly utilised in transporting groundnuts from up-river.

The Marine Department has a repair yard and slip-way, latter accommodates ships up to 400 tons.

There is a lack of allocation of an area in the port of Bathurst for building fish-factories and storage facilities on the sea-front.

Extent of present sea-food preservation in Gambia and marketing thereof:

Smoking:

Small-scale smoking is done mostly by women either in small earthen ovens or on ovens made by halving 45 gallon drums.

Large-scale smoking is carried out in large wooden-houses that are thatched with palm leaves or grass. They lay fish on perforated steel sheets (reclaimed from the old air strip at Yundum Airport). These "Tanks", on the average, have an area of about 105 square feet. Fire is kindled under the tanks and fed with wood until smoking-process is completed, in about two days.

Fish mostly smoked in Gambia is the "bonga" (African herring). In 1963, there were about 41 "large" smoking-houses and about 18 small ovens. About 60 per cent of the former are operated by Gambians. This "industry" is at present largely dependent on raw fish supplied by Senegalese fishermen.

In 1963 there was a substantial degree of insect infestation of smoked "bonga" kept at Albert Market in Bathurst for shipment to Sierra Leone.

Quantities and Values for exports of smoked "bonga" to Sierra Leone are as follows:

Year	Dry Season (7 months)		Wet Season (5 months)	
	Quantity (Cwt.)	Value (£)	Quantity (Cwt.)	Value (£)
1963	6,095	15,239	8,713	19,721
1964	5,472	14,109	10,694	19,930

Lobsters:

Both oysters and cockles are dried. The bulk of them is exported, mainly to Nigeria and Sierra Leone. That is sold locally receives a price of about £4 to £ 6 per bag of dried oysters (rice-bags, each weighing about 112 lbs).

About 45 tons a year (1962 and 1963) of "dried" oysters, valued at about £60/ton, were exported mainly to Nigeria (75 per cent thereof).

Investment Aims:

(1) Lobsters: Good quantities of lobsters are caught by Senegalese fishermen [illegible] on Gambian beaches, in boats powered by outboard engines, and using lobster nets.

Lobsters are kept alive in floating wooden crates near shore and collected weekly by Senegalese who transport them to Dakar.

From some information, about 2-3½ tons of lobsters were transported weekly to Senegal. Fishermen said they sold their lobsters at 4s.6d. per lb. This price represents about one-third retail market value of lobsters.

Between the October and late November 1964, according to customs documents, just over 1½ tons of lobsters were exported by air. It is believed this was only a fraction of what was exported by boats during same period.

There is no customs control along the Atlantic seaboard and no statistical data on catches are available.

(2) Shrimps: The FAO expert believes that "shrimp is a resource whose exploitation could be considerably expanded through the development of an export trade".

Lack of ice necessary for preserving shrimp is a limiting factor in exploiting this important natural resource.

(3) Fish: It is very doubtful that scale fish production (in time of report) exceeded 7,000,000 lb. (3,500 tons) yearly.

Fish consumption outside Bathurst is considered very low. It does not exceed about 5 grams per head per day in the provinces. Much larger quantities of fish are therefore needed especially in the River Divisions to support the people's health in these areas.

Lack of ice and high cost of river transport (6d./lb.) on the 'Lady Wright are handicaps in transporting fish, especially to the provinces.

In transporting fish to Bathurst or to an agricultural area, what happens in some instance, is that the middleman hires a taxi to carry the fish in, and endeavours meanwhile to pick up passengers in his way to reduce transport costs.

Fishery Imports: during 1961/64 were valued as follows:

	1961	1962	1963	1964
Fish, canned and dried	£11,000	£19,000	£14,000	£11,000

Recommendations:

The FAO-expert ended his report by listing several recommendations, from which are the following:

(1) Organizing the fishermen in Gambia to carry-on their activities "on co-operative basis".

(2) Training local fishermen in technologically more advanced fishing methods, supplying them with credit facilities to enable them to purchase outboard motors and improve their boats, and, supporting them with suitable fishing gear, etc.

(3) Persuading industrial enterprises to purchase from small-boat fishermen certain species of higher unit value finfish, crustaceas and molluscs, which are suitable export items, to help improve their situation, in addition to closing local market on them.

(4) Promoting development of "industrial fishing" basically for export. And, in this connection, in planning installations on the Bathurst front, priority should be given, whether in allocating land or other facilities, for enterprises that carry out such a business.

(5) Expansion in smoking operations through development of additional export markets (bonga). Also promoting export markets for oysters and crabs.

He emphasizes that steps should be taken to combat insect-infestation of smoked products (as with bonga).

(6) Exempting domestic fishermen from custom duties on gasoline and oil used for fishing purposes, to encourage them to acquire outboard motors. Also, exempting them from custom duties on "nets for fishing", "outboard motors and engines designed for marine use and identifiable parts thereof," and on hooks and lines.

(7) Establishment of an ice-plant to supply small fishermen who do not have refrigerated facilities to keep their fish and shrimp fresh and to widen the distribution area of fish caught on Atlantic coast, especially in the River Divisions.

Ice can help also in transporting fresh fish in insulated ice-boxes by road-transport.

(8) Minor amenities, such as running water, lights, sanitary facilities, simple sheds to facilitate motor repairs (wherever motorization schemes are initiated) should be installed on beaches; and, erecting a store-house for smoked fish held in Bathurst pending exportation.

Remarks:-

The Industrial Survey Mission offers the following observations on the above-summarized FAO report:

(1) A law governing and controlling the catch of the ten industrially most important items, namely: lobsters which should not be caught with a length less than 20 centimetres; and, shrimps which nets should have openings of not less than 12 millimetres each. Punishments for violators, whether local or foreign fishermen, should be imposed to preserve two of Gambia's richest resources from depletion.

(2) The methods of smoking fish (Bonga) and drying oysters and conchs should be reviewed, because technically they are of a low quality, if intention is to expand their export. Proper packaging and storing of these items are also recommended.

(3) In reviewing the seasonal distribution of fish and crustacea with the owner of Atlantic Marine Products, who mainly concentrates on exporting alive lobsters to Las Palmas, he pointed out that the peak of lobster-catch is from middle April until end November, then are medium in December and from March to middle April. They are only scarce in January and February.

Shrimp on the other hand, he added, has its peak season from first May until end September, is found in medium quantities during April and October; and, is scarce during November until next end March.

ANNEX I

EXTRACTS FROM KASSEM (FAO) REPORT
LIVESTOCK, ESPECIALLY CATTLE, AND
DAIRY PROJECTS

The Kassem Report on Livestock, especially beef and dairy cattle, and others

The following are highlights of the report, with regard to information necessary to industry:

(1) General: Dr. Kassem started his report (in 1964) by mentioning that, until then, no action has taken place regarding "the recommendations for improvement of livestock and best ways for feed utilization", that were put by "Dr. Aalfs, FAO - expert, who spent one year in Gambia, from October, 1957 - September, 1958".

He attributed these six silent years to the following:

(1) "No official since then was in charge of Animal Husbandry in Gambia to plan for its development.

(2) "The Agriculture Department who is responsible for animal production, was busy:

(a) Increasing plant production to meet nutritional needs of people in some crops.

(b) Exportation (in other crops) to increase national income.

(3) "The Veterinary Department was concerned with disease eradication only.

(4) "No drop in livestock population and no projects for benefiting from existing numbers as well. On the contrary, there was gradual increase in numbers every year".

(2) Livestock population in 1963 consisted of 182,000 heads of cattle, 54,000 heads of sheep and 94,000 heads of goats. It had a surplus of 5 per cent on the average per year (census on a 10 year period basis).

(3) He presented, with figures, the animal - feed potentialities in Gambia, in 1964, interesting from which - in our report - are the "[illegible] acres groundnut [illegible], plus [illegible] of 23,000 tons of rice; and, [illegible] tons of groundnut cake".

(4) He discussed the meat consumption in Gambia saying that, although nationals in rural areas consume a limited part of local meat, none of it was consumed in urban areas. The whole meat provision in Bathurst and suburbs was of foreign origin. The 5,000 head slaughtered yearly in that area were from Mauretania.

(5) A few years before (1964) the so-called Cattle Marketing Board was established to encourage replacement of Mauretanian cattle by Gambian ones, but later was cancelled due to Government's heavy financial losses.

Failure was due to:

(a) Inaccuracy in calculating purchase prices in correlation to the expenses;

(b) Killing percentages;

(c) Meat wholesale;

(d) Retail prices;

(e) Major factor: Bathurst butchers slaughtered only emaciated cattle bought at cheap prices from Mauretanians who drag them to the slaughterhouses.

Selling meat with bone of such emaciated carcasses to consumers [illegible] proportion of bone to the extent that could sell 1 lb. for 1s./[illegible]d. which was not competitive. "In Bathurst meat is always sold with bones; if it was needed alone, price would have been 2s./6d., which indicates that bone constitutes 40 per cent". And, this in turn shows how low is the meat quality.

(6) Dr. [illegible] advised that meat be sold without bone to encourage the first grade local cattle with 55 per cent killing-out and with at most 20 per cent bones.

(7) Recommendations for livestock improvement:

(a) Ban import of Mauretanian cattle. (Consumption in Bathurst and urban areas around 5,000 heads at a price of £20 per head).

(b) Purchase local cattle and fix prices for various quality grades, according to the following killing-out percentages: Grade A ([illegible] per cent), Grade B (50 per cent), Grade C (45 per cent).

(8) "Milk quantities consumed by Gambians in urban areas was (1964) of local origin without any sanitary measures", while the foreigners consumed [illegible] dairy products which amounted to about £[illegible] yearly.

(9) He made a recommendation that the metal European ploughs used are heavy for African cattle, while "the wooden plough is lighter and more convenient and can be made locally in the village from local timber by an ordinary carpenter at a much cheaper price".

He happened to have given "an explanation of a water-wheel design to the Principal Yundum College, and that of a wooden plough to the Manager of Yundum Agricultural Experimental station".

Remarks

Industrial Survey Mission offers the following observation on the above summarized FAO report:

1. Recommendations (6), (7) and (8) above are very necessary if a "beef" industry and a "dairy" industry are to start some day, together with utilisation of animal-feed sources mentioned in his report, amongst which are in point (3) above.

2. A new industry could start one day utilising various animal feed sources to produce animal - and poultry - feed pressed-cubes or pellets (grinding, mixing in right proportions, pressing).

3. If point (9) above was followed since Report was made (1964), country would have spared herself import of the heavy metal European ploughs, would have started a new industry to produce (in a "base" form to still cut down manufacturing costs further) wooden ploughs from local good timber (as the "Julbo" tree-wood for example) needing only to import the necessary metal "blades". Could have started producing the urgently needed water-wheel, (in a separate factory, or even in same that would produce wooden ploughs), especially during the dry season, for irrigation to help out several cultivations (fruits and vegetables especially).

ANNEX XI

REFERENCES

PART I - PUBLICATIONS

CHIFFERIEL, A.E. and Palmer, E.R.

Particle board from groundnut shells. Ministry of Overseas Development, Tropical Products Institute, London. Reprint from Wood Particle [illegible].

CHIFFERIEL, A.E. and Palmer, E.R.

The production of particle boards from groundnut shells. Tropical Products Institute, Department of Scientific and Industrial Research. Reprints from Board. 4 pp.

DEUTSCH, Lexikon, 1968

(The article on The Gambia)

GAILEY, A. Harry, Jr. The History of The Gambia, 1964.

GAMBIA

Amendments to Estimates of Recurrent Expenditure, with the Development Expenditure 1969/70.

Annual Report, Registrar of Co-operative Societies, 1 January to 31 December 1963.
Sessional Paper No. 8 of 1964. 9 pp.

Customs Department Report for the period 1967/68 Government Printer, Bathurst [illegible] 122 pp.
Sessional Paper No. 6 of 1968.

The Development Ordinance, 1954. Bathurst, 1964. pp. 189-203.
No. 27 of 1954.

The Development Programme in Memorandum for the Gambia 1965-1975.
Government Printer, Bathurst, [illegible]
Sessional Paper No. 6 of 1966.

The Gambia Government Development Programme 1967/68 to 1970/71.
Bathurst, [illegible]. 34 pp.
Sessional Paper No. 4 of 1967.

Report of the Registrar of Co-operative Societies,
1 January to 31 December 1964.
Sessional Paper No. 4 of 1965. 48 pp.

GAMBIA (continued)

Ministry of Finance, Trade and Development.
Estimates of Recurrent Revenue and Expenditure, with the Development Expenditure. 1969/70.

The Statistics Office, Ministry of Finance, Trade and Development.

Statistical Survey 1967/68. Statistics Office, Bathurst. Sessional Paper No. 5 of 1969.

The Gambia Information Services. The Gambia in brief. Bathurst, 1967.

Gambia Oilseeds Marketing Board. Nineteenth Annual Report of The Gambia Oilseeds Marketing Board. Season 1967/68. G.O.M.B., Bathurst, 64 pp.

WORLD BANK [International Bank for Reconstruction and Development] Atlas of population and gross domestic product. 2nd ed. IBRD, Washington, 1969.

LLOYDS Bank Limited. Overseas Department - Export Promotion. Economic report. Gambia. October 1967.

LUKACS, L.E.

Import substitution and export promotion. In Proceedings of the Conference on Development Objectives and Strategy, Monrovia, 27-29 October 1969. Republic of Liberia. Department of Planning and Economic Affairs, Monrovia. In print.

NIGERIA Industrial Survey of Nigeria 1966. Federal Office of Statistics, Lagos, 1969.

The Standard Bank Group. Annual Economic Review. Sierra Leone and The Gambia. August 1967. 13 pp.

Annual Economic Review. Sierra Leone and The Gambia. August 1969. 16 pp.

STANDARD BANK REVIEW

(The articles on The Gambia)
Monthly from September 1968 to December 1969.

SURVEYS & Research Corporation

Industry Profiles. Electric Outlet, Switch and Fuse Boxes. I.P. No. 67290 USAID, Washington, n.y. 8 pp.

Industry Profiles. Flush Doors, I. P. No. 66039. USAID, Washington, n.y. 3 pp.

Industry Profiles. Kitchen Cabinets. I.P. No. 66086. USAID, Washington, n.y. 8 pp.

SURVEYS & Research Corporation

Industry Profiles. Kitchen Earthenware. I.P. No. 66136. USAID, Washington, n.y. 8 pp.

Industry Profiles. Laundry and Milled Toilet Soap. I.P. No. 66110. USAID, Washington, n.y. pp.

Industry Profiles. Overstuffed Furniture. I.P. No. 66054. USAID, Washington, n.y. 8 pp.

Industry Profiles. Particle Board I.P. No. 66041. USAID, Washington, n.y. 8 pp.

Industry Profiles. Pottery, Earthenware. I.P. No. 67379. USAID, Washington, n.y. 8 pp.

Industry Profiles. Restaurant and Cafeteria Furniture. I.P. No. 67360. USAID, Washington, n.y. 8 pp.

Industry Profiles. Rough sawing of logs. I.P. No. 66064. USAID, Washington, n.y. 8 pp.

Industry Profiles. School Furniture. I.P. No. 67282. USAID, Washington, n.y. 8 pp.

UNITED NATIONS

Yearbook of international trade statistics 1967
United Nations, New York.

Department of Economic and Social Affairs.
Statistical Office of the United Nations.

Classification of commodities by industrial origin.
Relationship of the Standard International Trade Classification to the International Standard Industrial Classification. United Nations, New York, 1966. vi + 72 pp.
Statistical Papers Series M No. 43.

International Standard Industrial Classification of all Economic Activities. United Nations, New York, 1968. 48 pp.
Statistical Papers Series M No. 4, Rev. 2.

Statistical Yearbook 1968.
United Nations, New York, 1969. 769 pp.

Economic Commission for Africa. Industrial Growth in Africa, A survey and outlook. December 1962.

Quarterly Statistical Bulletin for Africa. October 1969.

UNITED NATIONS Industrial Development Organization

Evaluation of industrial projects. Selected studies presented at the Interregional Symposium on Industrial Project Evaluation held in Prague, Czechoslovakia, 11 to 29 October 1965. United Nations, New York, 1968. 298 pp. Project Formulation and Evaluation Series, Volume I.

Profiles of Manufacturing Establishments Volumes I and II. United Nations, New York, 1967 and 1968. 818 pp. Industrial Planning and Programming Series, No. 4 and 5.

UNITED NATIONS Programme of Technical Assistance

Report on the Alternatives for Association between the Gambia and Senegal.
United Nations, New York, 1964. 87 pp.
(No. TAO/GAMBIA/SENEGAL/1)
Reproduced as: GAMBIA.
Sessional Paper No. 13 of 1964, Government Printer, Bathurst, 1968.

PART II - REPORTS, DRAFTS, MEMORANDA

BRITTON, F.E.K.

Commentary on REMAIN
[UNIDO], Vienna, 1969. 4 pp.

REMAIN, GAMBIA. A Summary of the Original Report
[UNIDO, Vienna] n.d. 16 pp.

FOOD AND AGRICULTURE ORGANIZATION OF UNITED NATIONS

Report to the Government of Gambia on the Fisheries of Gambia. Based on the work of A.J. Thomas, FAO/TA Fisheries Development Adviser. 1966. 34 pp.
Rep. FAO/UNDP(TA), (TA2223): FAO, Rome.

Kofod, H. Exploratory Dairy Survey under The Freedom from Hunger Campaign in The Gambia. 27 October - 14 November 1964. FAO, Rome. 9 pp.
FAO
FFHC/AMB/64/22-The Gambia

[THE GAMBIA]

Draft programme of development 1971/72 - 1974/75.
[Ministry of Finance, Trade and Development, Bathurst, 1970].
41 pp. stencilled.

Estimates of Gross Capital Formation and Gross Domestic Product and other economic indicators. Statistics Office. Ministry of Finance, Trade and Development, Bathurst, 1969. 41 pp. stencilled.

[THE GAMBIA] (continued)

Government publication list. Revised up to 31st December, 1969. Government Printer, Bathurst, n.d. 12 pp. stencilled.

Memorandum. Extracts from the Factories Act. Medical and Health Department, Bathurst, 7 February, 1970. From Acting Senior Health Superintendent.

Memorandum on food standard regulations. Medical and Health Department, Bathurst, 12 February 1970. From Acting Senior Health Superintendent.

Report of the Gambia Oilseeds Marketing mission 1966. [1967]. pp not numbered. roneoprint.

GAMBIA MINISTRY OF EDUCATION

Annual Report, 1968 - 1969, Draft, stencilled, [1970] pp.

GAMBIA Oilseeds Marketing Board

Arrangements for the sale of groundnuts to Gambia millers. G.O.M.B., Bathurst, 1969, 5 pp. stencilled.

Groundnut Trading Estimates 1969/70 Season. 1st November 1969. 8 pp. stencilled.

Palm Kernel Marketing Scheme 1969/70. 17 November 1969. 2 pp. stencilled.

GHANA

Industrial Statistics 1963. Form ID 2A Manufacturing - 1963 Central Bureau of Statistics, Accra, [1963]. 14 pp.

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

International Development Association.
The Economy of the Gambia.
IBRD, Washington, 1969. 90 pp.
Restricted Report No. AA-12a.

INTERNATIONAL LABOUR OFFICE

Report to the Government of the Gambia on the Development of Small Enterprises and Handicraft Industries.
ILO Regional Office for Africa, Addis Ababa, 1968. 14 + 21 pp.

[illegible], E.H.

Regional Animal Production and Health Officer for Africa, Accra Regional Office.
Subject: "Travel Report No. 18 - Gambia". dated 12/2/1964. 12 pp. (covers period from 6/1/64-17/1/64)

LUKACS, Laszlo E.

Report on the preparation of the register of manufacturing industry for the Ministry of Commerce and Industry of the Republic of Zambia.
UN Economic Commission for Africa, Lusaka, 1965.

UNITED NATIONS DEVELOPMENT PROGRAMME

The Regional Representative's semi-Annual Report on Technical Assistance Projects in the Gambia. (For the period 1 July to 31 December 1969).
Dakar, 1969. 9 pp. stencilled.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

Agreement Setting Out Guide-Lines for Co-operation Between FAO and UNIDO in the Field of Industrial Development.
ID/INF.6, 9 July 1969. 6 pp.

General Role of UNIDO in Co-ordinating The Activities of The United Nations System in The Field of Industrial Development.
UNIDO, Vienna, 1969. 51 pp. ID/B/55.

Manock, A.
(Chief of Section for Africa Technical Co-operation Division).
Letter about "Ilmenite" (found in Gambian Heavy Black Sands) to Team Leader, to present UNIDO-Survey Mission to Gambia.
February 25, 1970. 2 pp.
UNIDO, Vienna. OA220 GAMB (2) OA320 GAMB.

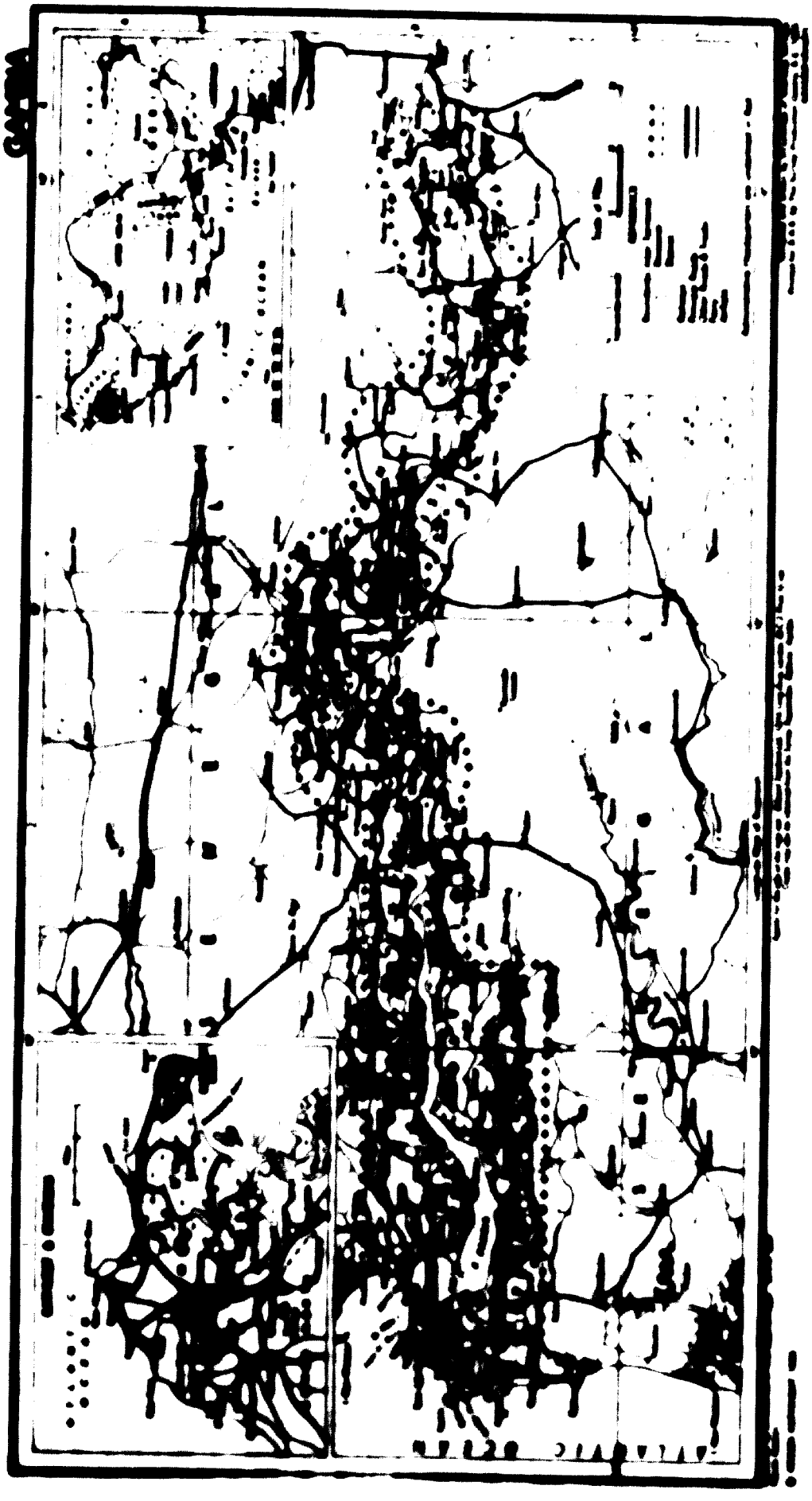
UNITED NATIONS Technical Assistance Operations.

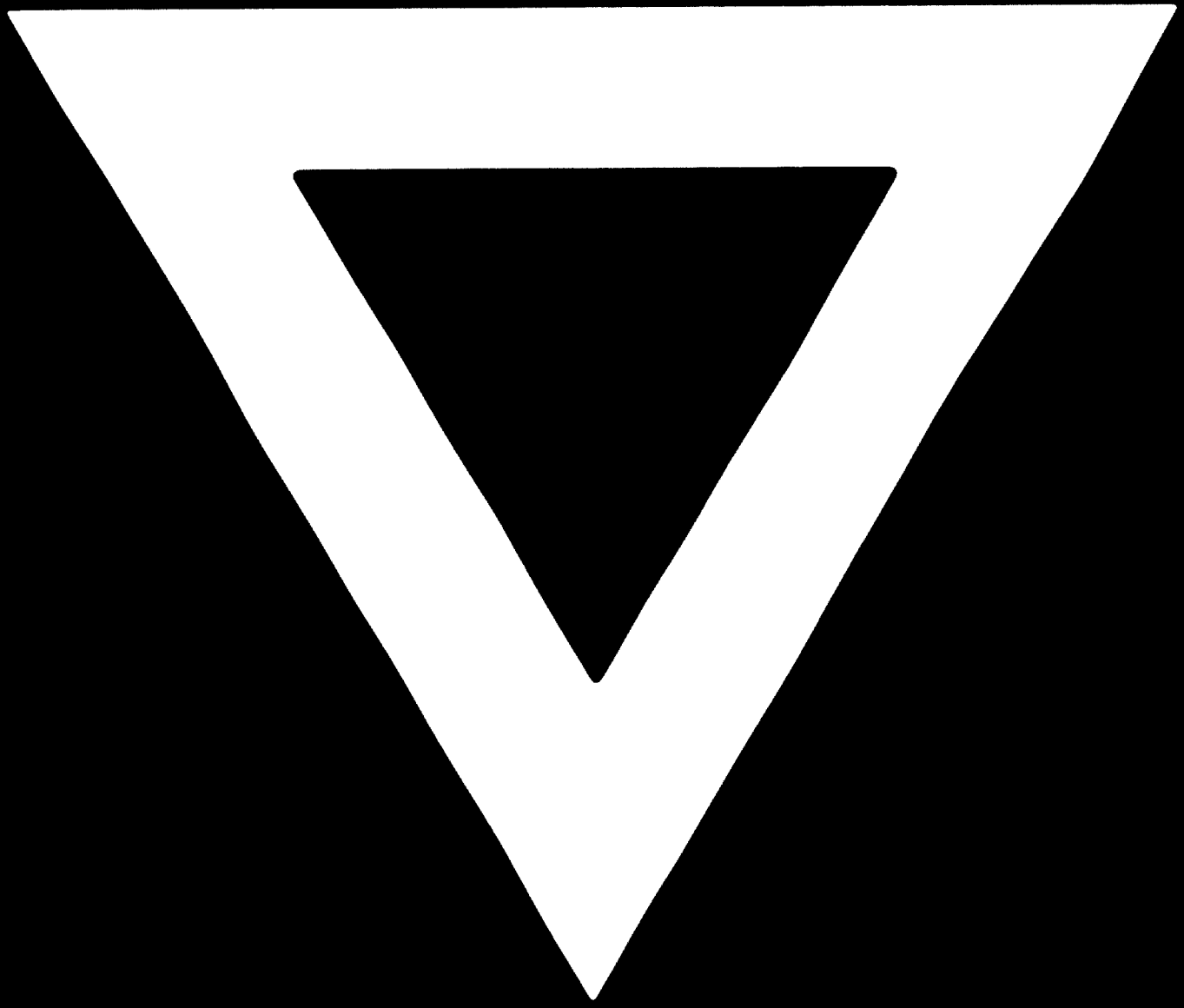
UNTAO Adviser of Regional Development Administration.
Periodic report No. 12. UNTAO ASSA, Bathurst, 1969.
34 pp. stencilled.

VELTHEIM, Valte

Letter to The Leads' Officer, Bathurst, Gambia. 24 November 1969.
3 pp.

Report on the Results of the United Nations Geological Mission to the Gambia over the Period July-September 1969.





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