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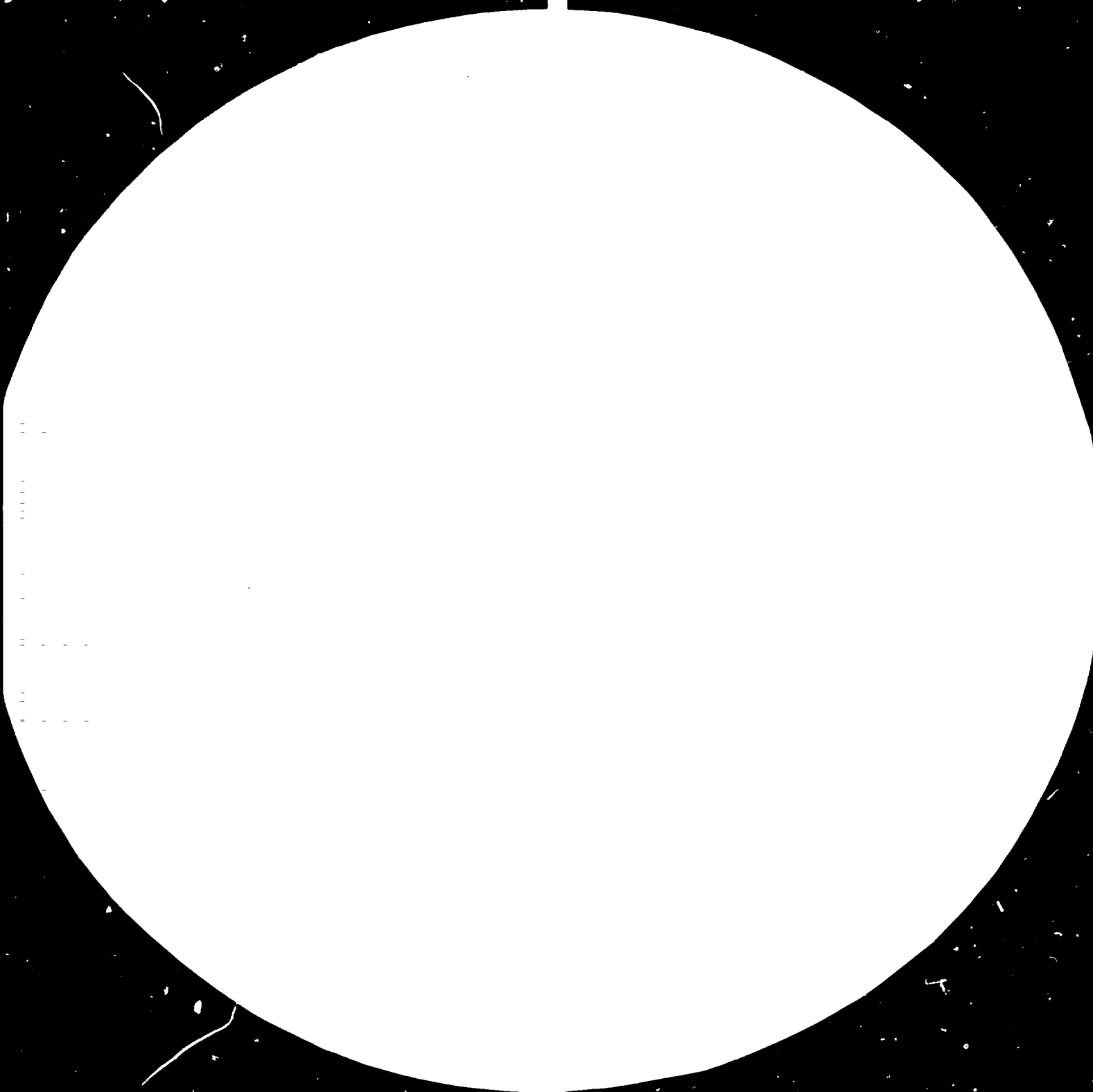
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INDUSTRIAL DEVELOPMENT IN RWANDA.
COUNTRY BRIEF^{*/}

Prepared by the
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EXPLANATORY NOTE

This brief, a desk study utilizing principally the data bank of the Regional and Country Studies Branch, is intended to provide a recent overview of the manufacturing sector in Rwanda. The brief lays stress on comparative data, thus enabling to measure the country's sectoral evolution relative to the African region as a whole. The brief should be regarded as a supplement to other sources of information such as mission reports, sector studies and research publications.

ABBREVIATIONS

EXP	Exports of goods and non-factor services
GCF	Gross capital formation
GDP	Gross domestic product
GVT	Government final consumption expenditure
IMP	Imports of goods and non-factor services
ISIC	International standard industrial classification
LAB	Labour force
MVA	Manufacturing value added
NFY	Net factor income from the world
PRI	Private final consumption expenditure

International Standard Industrial Classification (ISIC)

3110	Manufacture of food
3130	Beverages industries
3140	Tobacco manufactures
3210	Manufacture of textiles
3220	Manufacture of wearing apparel, except footwear
3230	Manufacture of leather and leather products, leather substitutes and fur, except footwear and wearing apparel
3240	Manufacture of footwear, except vulcanized or moulded rubber or plastic footwear
331A (3310 + 3320)	Manufacture of wood and wood and cork products, manufacture of furniture, except primarily of metal
3410	Manufacture of paper and paper products
3420	Printing, publishing and allied industries
351A (3510 + 3520)	Manufacture of industrial chemicals (e.g. fertilizers and pesticides) and of other chemical products (e.g. paints, medicines, soap)
3530	Petroleum refineries
3540	Manufacture of miscellaneous products of petroleum and coal
3550	Manufacture of rubber products
3610	Manufacture of pottery, china and earthenware
3620	Manufacture of glass and glass products
3690	Manufacture of other non-metallic products (e.g. cement, clay products, concrete)
3710	Iron and steel basic industries
3720	Non-ferrous metal basic industries
3810	Manufacture of fabricated metal products, except machinery and equipment
3820	Manufacture of machinery except electrical
3830	Manufacture of electrical machinery, apparatus, appliances and supplies
3840	Manufacture of transport equipment
3850	Manufacture of professional and scientific, and measuring controlling equipment not elsewhere classified, and of photographic and optical goods
3900A (3900 + 3560)	Other manufacturing industries (e.g. manufacture of jewellery, musical instruments, sporting articles) and manufacture of plastic products not elsewhere classified.

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ECONOMIC BACKGROUND

Despite an absolute increase of 100,000 yearly in the 1970's, Rwanda's population growth rate dropped from 2.7 per cent in 1971 to 2.3 per cent in 1977 (Table 1). Had it not been for the exceptional 5 per cent increase in 1975, the average annual growth rate would have accounted for less than the actual 2.4 per cent. This level compares with the corresponding figure of the African region, i.e. 2.3 per cent.

Employment was, by and large, stagnant. Two main reasons seem to have been at the origin of this situation: the lack of expansion in subsistence agriculture, a field in which the large majority of the country's labour force was and still is engaged, as well as the very limited new opportunities in the secondary sector. In average, however, the 1.7 per cent Rwandese annual growth rate lay only slightly lower than the African one (1.9 per cent).

GDP (US \$476 million in 1970 and US \$626 million in 1977) rose regularly, whereby the most remarkable increase took place in the early and mid-1970's. The latter period witnessed also the lowest and the highest annual growth rates, 0.7 per cent in 1974 and 11.3 per cent in 1975.

The evolution of gross capital formation (GCF) was characterized by five different phases: a substantial increase up to 1972, when GCF rose from US \$26 million to US \$49 million; a relatively high decrease in 1973 followed by a slight recovery the next year, then a very high increase in 1975, and a stagnation thereafter.

The country's exports^{1/} are mainly based on two primary commodities, namely coffee and tea, the prices of which fluctuate heavily on the world market. This was also the case in the 1970's when the value of the country's exports experienced remarkable ups and downs, whereby the annual growth rates varied from over 35 per cent in 1973 to -22.0 per cent in 1974. As is the case in most developing countries, imports rose much faster than exports, thus causing a constant deficit of the trade balance.

^{1/} Exports as well as imports in this paper relate to goods and non-factor services.

Table 1. Rwandese and African basic economic data and trends, at constant 1975 US dollars

	POP	LAB	GDP	CCF	EXP	IMP	$\frac{GDP}{POP}$	$\frac{GDP}{LAB}$	$\frac{GCF}{POP}$	$\frac{GCF}{LAB}$	$\frac{EXP}{POP}$	$\frac{EMP}{POP}$
	(Mill)		(Mill. US \$)						(US \$)			
<u>1. Rwanda</u>												
<u>Absolute figures</u>												
1970	3.6	2.0	476	26	40	67	129	230	7	13	11	18
1971	3.7	2.1	501	34	46	76	133	237	9	16	12	20
1972	3.8	2.1	508	49	37	78	131	235	13	22	10	20
1973	3.9	2.2	515	38	50	77	129	233	10	17	12	19
1974	4.0	2.2	519	43	39	73	127	230	10	19	10	18
1975	4.2	2.3	568	78	52	101	135	248	19	34	12	24
1976	4.3	2.3	604	78	60	115	140	258	18	33	14	27
1977	4.4	2.3	626	79	53	115	141	262	18	33	12	26
<u>Annual growth rate (%)</u>												
1970/71	2.7	5.0	5.2	30.7	15.0	13.4	3.1	3.0	28.5	23.0	9.0	11.1
1971/72	2.6	0.0	1.3	44.1	-19.6	2.6	-1.6	-0.9	44.4	37.5	-16.7	0.0
1972/73	2.5	4.7	1.3	-22.5	35.1	-1.3	-1.6	-0.9	-23.1	-22.8	20.0	-5.0
1973/74	2.5	0.0	0.7	13.1	-22.0	-5.2	-1.6	-1.3	0.0	11.7	-16.7	-5.3
1974/75	5.0	4.5	11.3	81.3	33.3	38.3	6.2	7.8	90.0	78.9	20.0	33.3
1975/76	2.3	0.0	6.3	0.0	15.3	13.8	3.7	4.0	-5.3	-3.0	16.6	12.5
1976/77	2.3	0.0	3.6	1.3	-11.7	0.0	1.1	1.5	0.0	0.0	-14.3	-3.8
<u>Trend average annual growth rate (%)</u>												
1970/77	2.8	1.7	3.7	18.4	5.6	7.7	1.1	1.6	16.8	15.6	2.2	5.3

.../...

Table 1. Rwandese and African basic economic data and trends, at constant 1975 US dollars

	POP	LAB	GDP	GCF	EXP	IMP	$\frac{GDP}{POP}$	$\frac{GDP}{LAB}$	$\frac{GCF}{POP}$	$\frac{GCF}{LAB}$	$\frac{EXP}{POP}$	$\frac{IMP}{LAB}$
	(Mill.)		(Mill. US dollar)				(US dollar)					
<u>2. Africa</u>												
<u>Absolute figures:</u>												
1970	329.1	128.3	127,658	22,116	45,901	31,627	370	948	67	172	139	96
1971	337.8	131.0	124,630	24,036	44,068	33,696	369	951	71	183	130	100
1972	346.7	133.8	127,087	24,589	45,534	34,774	367	949	71	184	131	100
1973	355.9	136.7	134,114	27,237	47,349	36,317	377	981	77	199	133	102
1974	365.5	139.7	138,576	33,536	44,612	44,591	379	992	92	240	122	122
1975	375.4	142.8	139,936	38,411	42,229	49,430	373	980	102	269	112	132
1976	385.7	145.9	151,695	42,337	48,836	53,171	393	1,039	110	290	127	138
1977	396.4	149.3	158,922	47,799	50,926	57,913	401	1,064	121	320	128	146
<u>Annual growth rate (%)</u>												
1970/71	2.6	2.3	2.4	8.6	-4.0	6.5	-0.3	0.0	5.9	6.3	-6.5	4.1
1971/72	2.6	2.1	1.9	8.6	3.3	3.1	-0.6	-0.3	0.0	0.5	6.7	0.0
1972/73	2.6	2.1	5.5	2.3	3.9	4.4	2.7	3.3	8.4	8.1	1.5	2.0
1973/74	2.6	2.1	3.3	10.7	-5.8	22.7	0.0	1.1	19.4	20.6	-8.3	19.6
1974/75	2.7	2.2	0.9	14.5	-5.4	10.0	-1.6	1.3	10.8	12.0	-8.2	8.1
1975/76	2.7	2.2	8.4	10.2	15.6	7.5	5.3	6.0	7.8	7.8	13.3	4.5
1976/77	2.7	2.3	4.7	12.9	4.0	8.9	2.0	2.4	10.0	10.3	0.7	5.7
<u>Trend average annual growth rate (%)</u>												
1970/77	2.3	1.9	3.3	8.4	1.4	7.9	0.9	1.4	7.7	8.2	-0.8	5.5

Source: UNIDO, Regional and Country Studies Branch, Industrial Statistics Unit.

After a negligible increase in 1971, GDP per capita, one of the lowest in Africa, decreased up to 1974 and then rose again thereafter. At the end of the period under review, i.e. in 1977 it accounted for US \$141, which represents an improvement of US \$12 only compared with 1970. The corresponding improvement for the African region was \$31.

The ratio of GDP to labour had an evolution nearly similar to the evolution of GDP capita. In both cases the annual growth rate rose in 1971, then dropped the following three years, and increased again from 1975 on.

Like GCF, GCF per capita was very modest. It accounted for only US \$7 in 1970, a value which, however, increased more than twofold five years later. Modest was also the ratio of GCF to labour. From US \$13 in 1970 it reached US \$22 in 1972, decreased the following two years and recovered considerably in 1975.

The substantial drop in exports revenue per capita in 1972, 1974 and 1977 seems to have been the consequence of unsatisfactory coffee and tea production in the mentioned years. Nevertheless the general picture in Rwanda with a 2.2 per cent trend average annual growth rate of per capita exports was by far better than in Africa (-0.8 per cent). Also imports per capita experienced decreases, but they were not as considerable as in the case of exports. All the same, the fact as such is remarkable since imports increases in developing countries are more common than decreases.

Labour accounts for more than half of the population (Table 2), but the proportion has decreased regularly. From 56.2 per cent in 1970 it dropped to 55.1 per cent in 1974, and it dropped further to 53.7 per cent three years later. This proportion is much lower for Africa as a whole, i.e. 40 per cent of the population, and it shows a declining trend.

In relation to GDP, both the gross capital formation (GCF) and the government final consumption expenditure (GVT) doubled during the period under review, GCF increasing from 7.0 per cent in 1970 to 15.0 per cent in 1977, and GVT from 8.6 per cent to 17.0 per cent. The ratio of private final consumption expenditure (PRI) to GDP was relatively high through 1974, and it amounted in average to some 95 per cent. It decreased thereafter and fell to less than 76 per cent in 1977, a proportion, however, which was never reached by the African region as a whole.

Table 2. Selected percentage ratios for Rwanda and Africa, at current US dollars

	$\frac{LAB}{POP}$	$\frac{GCF}{GDP}$	$\frac{GVT}{GDP}$	$\frac{PRI}{GDP}$	$\frac{EXP}{GDP}$	$\frac{IMP}{GDP}$	$\frac{EXP}{EXP+IMP}$	$\frac{EXP-IMP}{GDP}$	$\frac{NEY}{GDP}$
1. <u>Rwanda</u>									
1970	56.2	7.0	8.6	87.9	11.5	15.2	43.0	-3.7	0.1
1971	55.0	9.1	9.9	87.6	10.2	16.8	37.7	-6.6	0.6
1972	55.8	9.5	10.6	87.7	8.2	16.2	33.7	-7.9	0.3
1973	55.4	9.4	11.3	81.0	11.6	13.4	46.3	-1.8	0.3
1974	55.1	10.4	12.0	86.6	12.1	21.3	36.2	-9.1	-0.7
1975	54.6	13.7	16.6	78.1	9.1	17.7	34.1	-8.5	-0.5
1976	54.2	13.8	16.5	74.4	14.5	19.4	42.9	-4.8	-0.6
1977	53.7	15.0	17.0	75.7	15.2	22.9	39.8	-7.7	-0.5
2. <u>Africa</u>									
1970	38.9	18.5	16.1	64.5	25.6	24.9	50.6	0.6	-2.7
1971	38.7	19.4	16.0	65.5	24.3	25.3	48.9	-1.0	-2.7
1972	38.6	20.0	15.9	63.8	24.9	24.8	50.1	0.1	-2.7
1973	38.4	21.0	15.5	62.9	27.1	26.5	50.5	0.5	-2.9
1974	38.2	22.7	14.5	57.7	35.8	30.8	53.7	5.0	-2.5
1975	38.0	27.4	17.0	60.6	30.1	35.3	46.0	-5.1	-2.0
1976	37.8	26.9	16.7	58.7	30.5	33.0	48.1	-2.4	-2.0
1977	37.6	28.2	16.5	58.8	29.6	33.2	47.1	-3.5	-2.0

Source: UNIDO, Regional and Country Studies Branch, Industrial Statistics Unit.

Except for 1972 and 1975 where it dropped to less than 10 per cent, the ratio of exports to GDP amounted regularly to more than 10 per cent. It increased even to more than 14 per cent from 1976 on. The same ratio for Africa was nearly twice the Rwandese average. As for the country's imports they did better than the exports, and represented on average about 17 per cent of GDP, against some 28 per cent in Africa.

The net income factor from the world (NFY) compared to Rwanda's GDP remained positive through 1973. In that year like in the year before, it accounted for 0.3 per cent. But from 1974 onwards the trend became negative and varied between -0.7 per cent and -0.5 per cent. In total however, the Rwandese performance was better than the one realized in as a whole.

The annual growth rate of GDP in Rwanda (Table 3) amounted to 5.2 per cent at the beginning of the 1970's, that is to say twice the African average. However, in the following three years Rwanda's growth rate of GDP witnessed a downwards trend which reached the lowest level in 1973/74 with 0.7 per cent. Thereafter the growth rate accounted for 9.5 per cent and dropped successively to 6.3 per cent and 3.7 per cent.

Agriculture is by far the sector contributing most to Rwanda's GDP. From nearly 46 per cent in 1970, its contribution rose to more than 49 per cent in 1977, against 28.9 per cent and 24.8 per cent in Africa. The second largest contributor to GDP were the services with 29.6 per cent and 31.7 per cent (33.9 per cent and 37.6 per cent for Africa) in the mentioned years. Manufacturing came next with more than 12 per cent contribution to Rwanda's GDP in 1970 and 1977. At the same time manufacturing contributed only 9.4 per cent and 10.2 per cent respectively in Africa. The contributions of the remaining sectors in the country's GDP remained negligible: some 4 per cent from construction, 2 per cent from mining and 0.3 per cent from utilities. These shares corresponded by and large to the regional standard with the difference that in Africa mining contributed about 20 per cent to GDP.

Table 3: Evolution of economic sectors and GDP in Rwanda and Africa

	Agriculture		Mining		Manufacturing		Utilities		Construction		Services		GDP	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
<u>Annual growth rate (per cent)</u>														
1970/71	0.0	3.0	8.0	-4.2	5.5	3.4	-4.5	8.8	6.4	11.7	11.6	4.7	5.2	2.4
1971/72	-6.8	-0.4	-5.0	1.0	14.9	4.0	2.8	5.8	26.3	11.9	3.1	2.5	1.4	2.0
1972/73	13.5	-1.6	12.1	7.0	18.7	11.5	15.0	7.3	-33.7	15.7	-9.3	7.2	1.4	5.5
1973/74	5.8	5.8	-4.4	-7.0	-2.2	4.2	-5.2	1.4	-16.9	10.5	-1.7	6.1	0.7	3.3
1974/75	17.7	-0.4	5.8	-8.0	5.9	3.3	5.7	12.4	10.5	8.0	-0.6	4.5	9.5	1.0
1975/76	5.0	3.7	-0.9	15.6	1.2	7.6	3.3	7.9	14.4	13.3	10.0	7.8	6.3	8.4
1976/77	1.6	1.9	-0.8	5.8	4.3	1.8	6.0	9.2	2.4	11.8	7.4	5.6	3.7	4.8
<u>Trend average annual growth rate (per cent)</u>														
1970/77	5.2	1.7	2.1	1.4	6.9	5.1	3.3	7.5	1.3	11.8	2.8	5.4	4.0	3.9
<u>Share in total GDP (per cent)</u>														
1970	45.9	28.8	2.0	22.2	12.6	9.4	0.3	0.9	4.5	4.5	29.6	33.9	-	-
1977	49.1	24.8	1.8	18.4	12.1	10.2	0.3	1.1	4.8	7.6	31.7	37.6	-	-

Source: UNIDO, Regional and Country Studies Branch, Industrial Statistics Unit.

(1) Rwanda; (2) Africa

THE INDUSTRIAL SECTOR

Endowments for industrialization

The predominantly food-based industrial sector gets impetus from agriculture mainly, but also from mining which contributes no less than one third to the country's export earnings. Available raw materials include tin concentrates, the yielding of which reached 2,229 tons in 1976, wolfram (808 tons), beryl (46 tons) and colombo-tantalite (45 tons). Natural gas was discovered in the Lake Kivu. The estimated 57,000 million cubic metres reserves are partly located in Zairian territory. Prospections have also revealed promising gold reserves, and a public enterprise, SOMIRWA, has been established to ensure the exploitation.

Some 36 million kW power energy were produced in 1977, of which 34 million kW, or more than 94 per cent was provided by both the Mururu and the Ntoruka dams. It is intended to construct a third hydroelectric dam at Mukungwa with the assistance of the European Development Fund and the Arab Bank for Economic Development. Noteworthy is also the organization which Rwanda, Burundi and Tanzania set up in 1977 with the aim to developing the huge water, power and mineral resources of the Kagera River Bassin, a project financially supported by UNDP.

Despite its 2,000 km of main roads and about 3,000 km mainly unpaved secondary roads, Rwanda continues to experience as in the past serious transport problems, especially because it has no railway system and because it lacks direct opening to the sea. The country's merchandise from and to overseas has to be carried out through the ports of Matadi (Zaire), Mombasa (Kenya) and/or Dar es Salaam (Tanzania). The relatively good international roads which link Rwanda with its neighbouring countries have proved to be of little use in case of conflict with or in the latter. For example the troubles which took place in 1977 and in 1979 in Uganda stopped the outflow of goods in and out of Rwanda which had thus no choice but using the much more costly means of transportation, namely the air-freight. It seems that inspite of the heavy costs Rwanda will have to rely more and more on the airways in order to reduce reliance of its

trade on the neighbouring countries. In any case the international airport at Kigali is now being extended to handle jumbo jet aircraft.

Main constraints on industrial development

Downwards trend of agriculture over the last years, increasing population, limited financial resources, lack of technicians and qualified manpower, and last not least very high transportation costs of goods as well as small domestic market: these are the main factors which, according to a recent World Bank report, hamper Rwanda's economy in general and its industrial development in particular.^{1/}

By virtue of soil erosion, the production of the most important agricultural product, coffee, dropped from 32,100 tons in 1976 to 25,800 tons three years later. The agricultural falling off seems also to have been caused by the low quality of land made available for cultivation, the inappropriate cultivation techniques, the lack of modern inputs such as fertilizers and the lack of qualified manpower.

The mentioned increasing population of the country (some 2.4 per cent per annum between 1970 and 1977) has a negative effect on agricultural production, a problem which the decision makers tried to solve by fragmenting the land into small holdings of only one hectare per farm family. One consequence of this land reform was the tendency to neglect cash crop farming for the benefit of foodstuff production. The latter which consists mainly of subsistence farming (plantain, maize, sweet potatoes, cassava, bean, sorghum and groundnuts), is obtained without modern inputs and through traditional techniques.

Like in most developing countries, Rwanda's economy suffers heavily from a lack of financial resources and a very limited number of local technicians and qualified manpower. The needs in respect of external

^{1/} See Rwanda: Staff Appraisal Report of a Second IDA Credit, Report No. 2142a - RW, March 30, 1979, p.1.

technical assistance are therefore very high, to the extent that about 50 per cent of the country's public expenditures is supported by foreign aid. The members of the European Economic Community, principally Belgium, France and the Federal Republic of Germany are the most important donors. Substantial assistance comes also from China, Libya, the Arab League and the UN family.

As already mentioned, specific difficulties with regard to inflow and outflow of goods arise from Rwanda's landlocked position. Border and transportation difficulties with the neighbouring countries often leads to shortages and price increases in Rwanda.

Location and structure of industry

Industrial concentration, as shown in Table 4 is very high. Apart from the dairy-work at Nyabisindu, the coffee processing factory and the BRALIRWA brewery at Gisenyi, practically all main enterprises are located in the capital Kigali where the environment (physical infrastructure, availability of water and electricity) is by far more favourable to industrial activities than in the other cities.

As a consequence of the industrial policy adopted by the different Governments since independence in the early 1960's, a policy which put particular stress on projects based especially on local resources, industries such as food, beverage, textile, leather and wood continue to predominate. There exist also noteworthy activities in the field of building materials, metal-working, chemical and petrochemical industries.

One of the plan objectives was to increase industrial employment from 16,000 in 1976 to 24,300 in 1981. Although it sounds realistic, there are good reasons to believe that it will not be easy to achieve the mentioned objective. Those reasons are too high expectations from foreign assistance (70 per cent of the total plan budget), the shortage of qualified manpower, persisting heavy transportation costs, the narrowness of the domestic market, the limited export opportunities to neighbouring countries and last not least the negligible volume of domestic private investment due to low

Table 4: Survey of main Rwandese industrial enterprises, 1980

Enterprise	Registered capital (Mio. RW francs)	Head Office	Location c unit	Date of creation	Number of employees	Production	Production Output capacit., 1978-1979
<u>1. Primary industries</u>							
<u>1.1. Food</u>							
Laiterie du Rwanda	75	Nyabisindu	...	...	...	Milk products	... ..
DHANCAF	...	Gisenyi	...	...	...	Coffee processing	... ..
RWANDEX	...	Kigali	Kigali	...	...	Coffee processing	... ..
<u>1.2. Beverage</u>							
BRALIRWA	...	Kigali	Gisenyi	...	...	Beer, soft drinks	... ..
<u>1.3. Textiles</u>							
RWANTEXCO	...	li	Kigali	...	...	Blankets	... ..
SIRWA	...	li	Kigali	...	...	Hosiery, Ready-made clothes	... ..
<u>1.4. Leather</u>							
BATA	...	Kigali	Kigali	...	...	Shoes	... ..
<u>1.5. Wood</u>							
AMGAR	...	Kigali	Kigali	...	...	Woodwork	... ..

Table 4: (continued)

Enterprise	Registered capital (Mio. RW francs)	Head Office	Location of unit	Date of creation	Number of employees	Production	Production capacity	Output 1978-1979
<u>2. Building materials</u>								
MATHEYS-KIGALI	...	Kigali	Kigali	...	...	Cement pipes Flagstones	...	...
SOGECO	5	Kigali	Kigali	...	...	Building materials	...	...
ENGECO	5	Kigali	Kigali	...	...	Building materials	...	...
<u>3. Chemical and petrochemical industries</u>								
Office du pyrethre	193.3	Ruhengeri	....	...	...	Pyrethrum	...	...
Rwanda paints	...	Kigali	Kigali	...	...	Paints	...	...
SULFO Rwanda	50.0	Kigali	Kigali	...	...	Soap, perfume	...	...
FINA Rwanda	...	Kigali	Kigali	...	...	Lubricant	...	...
<u>4. Metalworking industries</u>								
COMETAR	...	Kigali	Kigali	...	...	Metallic constructions	...	...
MANUMETAL	...	Kigali	Kigali	...	...	Metallic constructions	...	...
METALUSA	...	Kigali	Kigali	...	...	Metallic furniture	...	...
Entreprise PIRARD	6	Kigali	Kigali	...	...	Metallic construction	...	...

Source: René Moreux, *Annuaire des entreprises d'outre-mer*, Edition 1981, Paris 1981, pp.382-383.

domestic savings. However, fully aware of the critical situation, the planners foresaw different measures to help overcome the mentioned problems. These measures include the establishment of a guarantee fund for the small and medium-scale entrepreneurs who intend to obtain commercial bank credits; the revision of the investment code of 1964 in favour of local investors, thus enabling them to enjoy the same tax and duty concessions hitherto restricted to foreign investors; the creation of a technical school for the formation of local technicians and the reorganization of public enterprises to provide them with more efficient local management.

The impact of manufacturing

The main industrial goods produced in the country range from milk products, tea and coffee, beer and soft drinks, to blankets, ready-made clothes, shoes and woodwork, to cement pipes, building materials, pyrethrum, paints, lubricant and metallic constructions and furniture (Table 4). Most of the mentioned items are mostly dependent on local consumption. However, coffee and tea are exported, mainly to the country's most important trade partner, Belgium.

Apart from a slight falling-off in 1974, Rwanda's manufacturing value added (MVA) showed a steady upward trend in the 1970's. In 1970 it accounted for US \$48 million at constant 1975 prices, and it rose to US \$76 million in 1977, which represented an increase of more than 57 per cent (Table 5). A similar favourable evolution was experienced in the whole African region where MVA, in the mentioned years, increased from US \$11,491.5 million to US \$14,809.9 million and US \$16,213.5 million respectively (41.0 per cent).

MVA per capita experienced an increase in the years 1972 and 1973 when it rose by US \$2 to US \$15 and US \$17 respectively. Thereafter it stagnated at the 1973 level. There was similar stagnation in Africa. This held true also for the contribution of the African MVA to GDP, particularly from 1973 onwards. But in the mentioned year the share of the Rwandese MVA in GDP experienced the highest level by reaching 13.4 per cent. Even in the year when, thereafter, it was at the lowest level, namely 12 per cent (1976) this performance was still better than for Africa as a

Table 5: MVA and comparative indicators in Rwanda and Africa,
at constant 1975 US dollars

Year	MVA (US \$ million)		MVA Population (US \$)		MVA GDP (%)		Country's share in African MVA (%)
	Rwanda	Africa	Rwanda	Africa	Rwanda	Africa	
1970	48.3	11,491.5	13	35	10.1	9.4	0.4
1971	50.9	11,878.2	13	35	10.1	9.5	0.4
1972	58.5	12,348.9	15	36	11.5	9.6	0.4
1973	69.5	13,763.9	17	39	13.4	10.2	0.5
1974	68.0	14,340.5	17	39	13.1	10.3	0.4
1975	72.0	14,809.9	17	39	12.6	10.5	0.4
1976	72.8	15,933.8	17	41	12.0	10.5	0.4
1977	76.0	16,213.9	17	41	12.1	10.2	0.4

Source: UNIDO, Regional and Country Studies Branch, Industrial Statistics Unit.

whole during the period 1970 to 1977. This, however, does not mean that the country's share in the African MVA is significant. In fact it stands at 0.4 per cent.

The selected indicators contained in Table 6 give a detailed insight into the Rwandese industry during the 1970's. From the available information it appears that the number of industrial units according to international standard industrial classification (ISIC) rose from 58 in 1970 to 71 four years later. It is estimated that this number has grown to about 100 in the meantime. In terms of number of units food and beverage industries (3110 + 3130) come only second to manufacture of machinery, electrical machinery and transport equipment (3820, 3830 and 3840), whereas manufacture of wood and furniture (3310 and 3320) range third. However, in terms of number of employees, value of wages and salaries, gross output and value added, food and beverage industries are by far the most important. But far from increasing, the number of industrial employees as well as the volume of their wages and salaries shows a fall-off, at least up to the mid-1970's. Significant was the evolution in the chemical branch (3510 and 3520), especially in terms of gross output and value added. The sub-sectoral gross output jumped from less than 60 million Rwandese francs to 564 million Rwandese francs between 1970 and 1974 and the value added, from 21 million Rwandese francs to 243 million Rwandese francs.

Possible areas of UNIDO assistance

Agriculture will certainly continue, as in the past, to be given first priority in the future development plans of the country. None the less the decision makers have, on several occasions, put particular stress on the development of the industrial sector which was accorded second priority in the current five-year plan due for completion in 1981. Since by virtue of the problems and difficulties mentioned earlier, and despite bilateral and international assistance the current plan industrial objectives will most probably not be reached, one can expect the same or similar objectives in the next plan. The role of UNIDO, its present assistance consisting of four projects including industrial promotion, planning, Lake Kivu pilot plant and pyrethrum refinery, will therefore continue to be important.

Table 6. Selected indicators of Rwandese industry, by branch

ISIC	1970		1971		1972		1973		1974		1975		1976		1977	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
	<u>1. Industrial units</u>															
	<u>a) Number of units (1) and percentages (2)</u>															
3110 +																
3130	18	31.0	17	30.4	13	24.1	16	21.6	17	23.9	-	-	-	-	13	31.7
3320	11	19.0	11	19.6	11	20.4	17	23.0	17	23.9	-	-	-	-	8	19.5
3510 +																
3520	5	8.6	4	7.1	3	5.6	4	5.4	4	5.6	-	-	-	-	4	9.8
3820 +																
3830 +																
3840	19	32.8	20	35.7	23	42.6	30	40.5	26	36.6	-	-	-	-	-	-
3900 +																
3220 +																
3240 +																
3420	5	8.6	4	7.1	4	7.4	7	9.5	7	9.9	-	-	-	-	-	-
Total	<u>58</u>	<u>100.0</u>	<u>56</u>	<u>100.0</u>	<u>54</u>	<u>100.0</u>	<u>74</u>	<u>100.0</u>	<u>71</u>	<u>100.0</u>	-	-	-	-	-	-

Table 6 (continued)

ISCI	1970	1971	1972
			b)
3110			
+			
3130		-5.5	-23.4
3320		0.0	0.0
3510			
+			
3520		-19.9	-24.9
3820			
+			
3830			
+			
3840		5.3	15.0
3900			
+			
3220			
+			
3240			
+			
3420		-19.9	0.0
-----		-----	-----

1973

1974

1975

1976

1977

Annual growth rates (%)

23.1

6.2

54.5

0.0

33.3

0.0

30.4

-13.2

75.0

0.0

Table 6 (continued)

ISIC	1970		1971		1972		1973		1974		1975		1976		1977	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
	<u>2. Employees</u>															
	<u>a) Number (1) and percentages (2)</u>															
3110																
+																
3130	2722	52.5	2292	45.4	1636	46.6	2020	35.3	1798	33.5	-	-	-	-	-	-
3320	556	10.7	854	16.9	739	21.1	1121	17.8	1035	19.3	-	-	-	-	234	6.3
3510																
+																
3520	714	13.8	544	10.8	377	10.7	558	8.9	840	15.6	-	-	-	-	372	10.1
3820																
+																
3830																
+																
3840	798	15.4	936	18.6	445	12.7	1207	19.2	533	9.9	-	-	-	-	305	8.3
3900																
+																
3220																
+																
3240																
+																
3420	390	7.5	417	8.3	310	8.8	1175	18.7	1166	21.7	-	-	-	-		
Total	5180	100.0	5043	100.0	3507	100.0	6081	100.0	5372	100.0	-	-	-	-		

Table 6 (continued)

ISIC	1970	1971	1972
3110			
+			
3130		-15.7	-28.5
3320		53.6	-13.4
3510			
+			
3520		-23.7	-30.6
3320			
+			
3330			
+			
3840		17.3	-52.4
3900			
+			
3220			
+			
3240			
+			
3420		6.9	-25.6

1973	1974	1975	1976	1977
------	------	------	------	------

b) Annual growth rate (%)

35.7	-18.9			
------	-------	--	--	--

51.7	- 7.6			
------	-------	--	--	--

48.0	50.5			
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171.2	-55.7			
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279.0	- 0.7			
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Table 6 (continued)

ISIC	1970		1971		1972		1973		1974		1975		1976		1977	
	3) <u>Wages and salaries of employees, in 1000 Rwandese francs</u>															
	a) <u>Value (1) and percentages (2)</u>															
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
3110																
+																
3130	124,100	53.9	83,700	38.3	65,700	44.5	96,400	30.4	81,400	25.8	-	-	-	-	-	-
3320	15,600	6.8	18,200	8.3	20,600	13.9	18,200	5.7	19,100	6.1	-	-	-	-	16,300	4.5
3510																
+																
3520	4,000	1.7	6,200	2.8	6,700	4.5	20,600	6.5	26,900	8.5	-	-	-	-	37,100	10.2
3820																
+																
3830																
+																
3840	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3900																
+																
3220																
+																
3240																
+																
3420	27,500	12.0	32,700	15.0	33,100	22.4	74,800	23.6	78,300	24.8	-	-	-	-	-	-

Table 6 (continued)

ISIC	1970	1971	1972	1973	1974	1975	1976	1977
<u>b) Annual growth rates (%)</u>								
3110								
+								
3130		-32.5	-21.4	46.7	-15.5			
3320		16.7	13.2	-11.6	4.9			
3510								
+								
3520		55.0	8.1	207.5	30.6			
3820								
+								
3830								
+								
3840		31.7	-71.9	391.7	2.6			
3900								
+								
3220								
+								
3240								
+								
3420		18.9	1.2	126.0	4.7			

Table 6 (continued)

ISCI	1970		1971		1972		1973		1974		1975		1976		1977	
	<u>4. Gross output, in Mill. Rwandese francs</u>															
	<u>a) Value (1) and percentages (2)</u>															
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
3110 +																
3130	1810	80.9	1465	72.1	1288	72.4	1713	66.4	2415	64.3	-	-	-	-	-	-
3320	49	2.2	71	3.5	74	4.2	77	3.0	104	2.8	-	-	-	-	72	0.9
3510 +																
3520	57	2.5	75	3.7	142	8.0	316	12.2	564	15.0	-	-	-	-	611	7.2
3820 +																
3830 +																
3840	154	6.9	215	10.6	64	3.6	110	4.3	-	-	-	-	-	-	-	-
3900 +																
3220 +																
3240 +																
3420	167	7.5	207	10.2	212	11.9	364	14.1	540	14.4	-	-	-	-	-	-

Table 6 (continued)

ISIC	1970	1971	1972	1973	1974	1975	1976	1977
b) <u>Annual growth rates (%)</u>								
3110 +								
3130		-19.0	-12.0	33.0	41.0			
3320		44.9	4.2	4.1	35.1			
3510 +								
3520		31.6	89.3	122.5	78.5			
3820 +								
3830 +								
3840		39.6	-70.1	71.9	20.9			
3900 +								
3220 +								
3240 +								
3420		24.0	2.4	71.7	48.4			

Table 6 (continued)

ISIC	1970	1971	1972	1973	1974	1975	1976	1977						
<u>5. Added value in Mill. Rwandese francs</u>														
<u>a) Value (1) and percentages (2)</u>														
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
3110 +														
3130	761	89.4	457	78.9	260	66.5	284	50.2	1425	73.8	-	-	-	-
3320	14	1.6	19	3.3	29	7.4	32	5.7	26	1.3	-	-	-	22
3510 +														
3520	21	2.5	-2	-0.2	6	1.5	99	17.5	243	12.6	-	-	-	120
3820 +														
3830 +														
3640	28	3.3	40	6.9	29	7.4	50	8.8	-	-	-	-	-	-
3900 +														
3220 +														
3240 +														
3420	27	3.2	65	11.2	67	17.1	101	17.8	191	9.9	-	-	-	-

Table 6 (continued)

ISIC	1970	1971	1972	1973	1974	1975	1976	1977
b) <u>Annual growth rates (%)</u>								
3110								
+ 3130		-39.8	-43.0	9.2	401.8			
3320		35.7	52.6	10.3	-18.7			
3510								
+ 3520			1550.0	145.0				
3820								
+ 3830								
+ 3840		42.9	-27.4	72.4	- 9.9			
3900								
+ 3220								
+ 3240								
+ 3420		140.7	3.1	50.7	89.1			

- : Missing data

Source: UNIDO, Regional and Country Studies Branch, Industrial Statistics Unit

In the light of field reports, and after a careful study of the last two development plans, it appears that UNIDO, in addition to its ongoing activities in the country could assist the authorities in their efforts to expand the existing industrial units, create new ones and strengthen economic co-operation with the neighbouring countries. Through expertise, investment funds, technician and management training especially in agro-industries (as well as fish processing industry based on catches from Lake Kivu) UNIDO will contribute to the country's objective of food self-sufficiency, which is expected to remain as the main blocks of the next development plan.

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