

At the present time, the government's policy leans toward the establishment of hunting grounds reserved exclusively for the natives. This policy has already been put in operation by the creation of the hunting preserves of Bakumu, Mondo, and Azande, in the Northeast.

Even from a purely economic point of view, Congolese game is worth while : hunting licenses, taxes for killing certain animals, sale of zoological specimens, exportation of ivory — all these are sources of revenue not to be disregarded. But it is obvious that, together with the desire to protect wild animals, the conservation of the « fauna-capital » intended to serve as sustenance for future populations has guided the government's policy in this question.

On the one hand, with the aim of fostering continuous scientific research on the fauna and flora, and of conserving certain natural wealth, strictly controlled reservations have been established. They are managed by the Institut des Parcs Nationaux du Congo Belge (Institut of National Parks of the Belgian Congo). The Parc National Albert (King Albert National Park) in Kivu is the oldest ; only some parts of it are open to tourists. The other parks are located in the Northeast of the country and in Katanga ; these are the three amounts to some 6,250,000 acres. In addition to the strictly controlled game preserves, there are some adjacent grounds where rules are less strict.

At the same time, throughout the country, a body of legal measures protects the Congolese fauna and subjects it to control. Hunting is rather strictly regulated ; for this purpose, the government has at its disposal a special service working in collaboration with a body of game wardens. The hunting regulations serve to protect the fauna from unchecked destruction which would lead to its extinction, and also to organize hunting expeditions against certain dangerous wild animals such as elephants which attack plantations, or lions and leopards which often menace both human beings and cattle.

In order to combat the depletion of herds, certain zones are subject to special regulations. They may be classified as strictly or partially controlled « reservations » : in the former, all the animals are protected ; in the latter, only certain species. Furthermore, some zones can be converted into « hunting estates » where hunting is subject to the payment of special taxes and governed by certain conditions.

Alongside this native agriculture, cattle raising and also commercial and industrial plantations in the hands of European companies and colonists have been built up on a vast scale. All this progress has stimulated analogous activities in African circles.

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Today, European agriculture in the Congo, making use of a labor force of 300,000 natives, exploits directly over 1,500 square miles of plantations and some 450 square miles of forests and pasture lands; 400,000 head of cattle graze on the latter.

The large companies cultivate especially the Para rubber tree, the coffee shrub, the cacao tree, and the elaeis palm tree. In addition, there are some 1,800 colonists engaged in agriculture who have settled down principally in Kivu, Katanga, and Ituri; they go in chiefly for cattle-breeding and specialized cultures.

As for native agriculture, it is unquestionably undergoing a transformation. Doubtless the natives still grow a large part of their yearly crops according to their traditional methods; but these methods have been improved, and crop rotation is now being practiced in a rational way. Not only do the quantity and the variety of the products harvested now fill the needs of the population, but commercial crops, such as the palm tree products, cotton, rubber, and coffee, have added greatly to the income of the native farmers; the latter, encouraged by a government policy of price supports, have gone forward resolutely on the path of commercial activity and have now taken their place beside the European enterprises in the Congo.

Thus native agriculture, intended at first to provide more subsistence, is gradually entering the commercial sphere.

But another and equally important fact is the movement — initiated within the last few years — to stabilize the status of the native farmers through the creation of the rural farming developments. By keeping the rural populations on the land, these

### 3.

## Main Features of Congolese Agriculture.

In the Congo there are nearly 1,800,000 families of native farmers. More than 150,000 of them abandoned their ancestral tradition of agricultural nomadism some years ago, and settled down in native farming developments, where they cultivate the same land in a rational manner.

## CHAPTER IV BASIC INDUSTRIES

farming developments are bringing about another transformation in Congolese agriculture : the replacement of the old extensive methods of crop growing by intensive and modern ones, a change that results in greater productivity.

Moreover, the increase in the productivity of the rural areas is being integrated into a vast program which will be the object of the second Ten Year Plan, and which will contribute to the development of domestic trade. Indeed, a veritable revolution in Congolese agriculture is taking place right now : the transformation, under the influence of European techniques, of semi-nomad tribes into a peasant class whose social and economic rôle is proving to be important.

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Such are, considered separately, the various factors in Congolese agriculture. Can a general conclusion be drawn from them ?

It is certain that, thanks to thorough scientific research and persistent work, it has become one of the major elements in the country's prosperity : rich, diversified, filling a large part of the domestic needs and occupying a place in world markets, it seems to be in full swing. However, its main features as described here are far from being definitive : a general view presents the appearance of a geological cross section showing strata that are in the process of transformation, strata which, although once strictly parallel, now tend more and more to interpenetrate. The future aspect of Congolese agriculture will depend in large part on the modernization and stabilization, already begun, of its native element. If the effort undertaken succeeds, it will produce a vigorous peasant class organized in co-operatives. A perfectly natural result will be symbiosis with European agriculture in the Congo, which had begun by constituting the prop and stimulus of the native element.

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# 1. The Congo's Exceptional Mineral Wealth.

In the economic history of the Congo, the basic industries — mining and metallurgy — have held the first place.

They are responsible for the introduction of the industrial revolution and of commerce into the heart of Africa. They have furnished the government with a large part of the material means required for the organization of the country, the creation of its substructure, and the progress of the local populations.

They have given the Congo the prominent place it occupies in the world's economy. The Colony ranks first for its output of cobalt and industrial diamonds, fourth for copper and tin and sixth for zinc (1) ; the Congo is among the leading producers of uranium, and besides possesses large quantities of rare metals such as tantalum, wolfram, and manganese.

(1) Not including the U.S.S.R.

These basic industries, which constitute the most important and most dynamic element in Congolese economy, are far from having reached their final stage of development. Research and prospecting now going on make it possible to foresee new achievements and the utilization, in the not too distant future, of wealth that, for technical reasons, has remained unexploited until now.

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How can one explain the fact that within the lapse of half a century, a country with a poor and scattered population has built up so many prosperous industrial centers buzzing with extraordinary vitality? And how has this land — still unknown not very long ago — been transformed into one of the leading suppliers of non-ferrous metals in the world?

Such a transformation could have happened only with the help of exceptionally favorable circumstances.

The first of these circumstances was the amazing wealth and variety of exploitable deposits of ore. This wealth was so extraordinary that, in regard to Katanga, the term « geological scandal » was used. As long ago as 1892, the young Belgian geologist Jules Cornet, a member of the Bia-Francqui Expedition, was the first to point out the importance of these deposits and to map out the general geological pattern of the country. Twenty years later diamonds as well as gold and tin ores, were being mined in the various provinces of the Congo, and the first ingots of copper were cast at Elisabethville.

Where are these immense deposits to be found?

Almost all of them are concentrated in old rock formations, often metamorphic and generally characterized by folds, which surround the great Congolese basin. The ores they yield are usually complex, and only in the course of treatment is it possible to dissociate the various metals they contain.

The distribution of these deposits among six main regions can be outlined as follows:

\* The most important region is southern Katanga; here are found surface rock formations, characterized by folds, which are rich in copper, zinc, cobalt, lead, iron, silver, gold, cadmium, germanium, nickel, and uranium.

\* Farther away, toward the north, the « tin zone » stretches over an expanse of more than 600 miles as far as Maniema and Kivu; it produces tin, tantalum, niobium, tungsten, beryllium, bismuth, gold, and rare earths.

\* Beyond these regions, very ancient rock formations containing gold cover the northeastern part of the country.

\* At the other extremity of the Congo, there is a strip along the Atlantic coast where bituminous sand is exploited; besides, some traces of oil have been discovered there.

\* Past this strip lie the rock formations characterized by folds of the Lower Congo, which contain copper, zinc, lead, vanadium, and gold.

\* Finally, to the south of the central basin of the Congo, from the Kwango to the Lubilashi rivers, the diamond-producing region is found. At its extreme southeast corner, adjoining Katanga, there are deposits of manganese not far from Dilolo. (1)

In the large central basin which occupies a quarter of the Congo, prospecting has recently been done, but as of today, no positive results have been achieved in regard to the possible exploitation of minerals or liquid fuels.

However, located as it was in a sparsely populated country with an unhealthy climate, and furthermore, removed from the

(1) There are also coal deposits and salt mines in Katanga, lime and stone quarries in various regions, and bituminous shale — under study at the present time — in the Eastern Province.

great commercial highways, this exceptional mineral wealth required for its exploitation a human factor which also had to be exceptional. Not only were strong will and dogged tenacity needed to vanquish the initial difficulties, but also technical know-how that would assure efficient exploitation, as well as sufficient confidence to attract the necessary amount of capital to what, half a century ago, was still an adventure; and finally, arduous toil in which all, Europeans and Africans, would participate. Without these unrivaled qualities, the human factor would not have been able to raise the country to that high degree of prosperity and social progress it has reached today. In short, the mining adventure of the Belgian Congo has been above all a human adventure.

The mining adventure of the Congo was fostered and stimulated by still another favorable circumstance, this one external to the country: the increase in the world's consumption of metal. In fifty years, it doubled, and in some cases trebled and even quadrupled. At the same time, metals that not long before had been little known made their appearance on the markets. This greater need for metals was a strong incentive which spurred new enterprise.

The combination of these favorable circumstances — the existence of exceptional resources in the way of raw materials, the contribution of a human effort of great value, and the increased world consumption — has made possible the Congo's technical revolution, its social progress, and its complete transformation.

## 2.

### Leading Products.

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#### A.

#### Copper and Allied Metals.

Copper and allied metals rank first in Congolese industry. They hold this place because of the capital invested and the large labor force employed, and also because of the value and volume of the output.

There are copper deposits in the Lower Congo, but these are still in the prospecting and testing stage. The deposits exploited have been concentrated, until now, in Upper Katanga; their importance has brought about the creation of one of the greatest African industrial plants.

The « Union Minière du Haut-Katanga » (Mining Union of Upper Katanga), which ranks among the hundred most important industrial concerns in the world, assumes the entire

responsibility for the exploitation of all these deposits. It has received a concession of 7,700 square miles which will end in 1990.

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The ores extracted have a copper content appreciably higher than can be found in any other mine in the world.

These ores appear in two different forms: a sulphide form to be found in the subsoil, and an oxide form found on the surface. The latter can be exploited in open-pit mines.

In the oxide ores, cobalt occurs associated with copper, and in the sulphide ores, zinc, lead, cadmium, and germanium are found; during the refining process, small quantities of gold, silver, platinum, and palladium are recovered.

## Sulphide Ores.

Sulphide ores come from the Kipushi mine called « Mine Prince Léopold », located to the west of Elisabethville. The deposit consists of a rich vein that is almost vertical; it is exploited by means of a subterranean tunnel and three shafts that go down to a depth of some 1,600 feet. It is the only underground copper mine in Katanga.

On the spot, the ore extracted undergoes first a differential concentration by means of the classical process known as « flotation »; this process makes it possible to obtain, on the one hand, a copper concentrate poor in zinc, and on the other hand, a zinc concentrate poor in copper.

The copper concentrate is treated by a heating process in the Lubumbashi plant near Elisabethville. It is then smelted in waterjacket furnaces that produce mattes containing 62 to 64 % of copper; these mattes are then processed in converters from

which emerges blister copper, which has a 99 % copper content. This blister copper is sent to Belgium where it undergoes an electrolytic refining treatment that makes it possible to recover silver ore.

As for the zinc concentrate, part of it — after being roasted — is sent to Belgium where it is delivered to zinc factories; another part is treated on the spot by enterprises belonging to the same group as the Union Minière. The zinc treated on the spot gives electrolytic zinc that is more than 99.99 % pure. The sulphurous gases produced by the treatment of zinc are converted into sulphuric acid.

The cadmium and germanium ores are recovered in the dust found in the furnaces of Lubumbashi and in the refuse thrown off during the process of electrolyzing zinc. They are treated on the spot or in Belgium.

## Oxide Ores.

Oxide ores, notably malachite, are extracted chiefly in the regions of Kolwezi, Ruwe, Musonoi-Kamoto. Their exploitation takes place in open-pit mines; it is entirely mechanized, thanks to the use of electric shovels and draglines.

After having undergone washing at Ruwe and been treated at the Kolwezi works, which delivers copper and copper-cobalt concentrates, the ores are sent to the metallurgical plant of Jadotville. The latter, by the process of electrolysis, obtains cobalt which is 99 % pure, and copper which is 99.95 % pure. Certain ores and concentrates, rich in cobalt, are smelted in electric furnaces and yield an alloy containing, among other ores, 45 % of cobalt and 15 % of copper; this alloy is sent to Belgium and the United States where refining takes place.

At the present time, the Congo supplies two-thirds of the cobalt produced in the world. The slag gathered from the electric furnace used in treating cobalt serves as raw material for a metallurgical cement factory at Jadotville.

extending from Upper Katanga to the north of Kivu and passing through Maniema. As early as the beginning of the century, tin was being extracted in Katanga, but today Maniema has become the leading tin-producing area.

Tin is exploited by several colonists and by some twenty companies, of which the most important are the Géomines Company at Manono and the Symétain Company in Maniema. Since 1938 this exploitation has been gradually mechanized except in the case of insignificant deposits; this has brought about a considerably greater productivity and a very definite increase in the exploitable reserves. Concerns of moderate size have entrusted the exploitation of their concessions to a common contractor; this enables them to reduce the capital outlay required for mechanization.

How is exploitation carried out today by a concern using mechanized equipment?

First, worthless soil must be removed and the stanniferous gravel extracted; these operations are performed sometimes by means of gigantic mechanical shovels or by draglines, sometimes by powerful jets of water under pressure that wash away the soil.

The extracted ore is first sent to be washed, a treatment which releases the cassiterite; the latter is then subjected to a process of concentration that produces a kind of « marketable » cassiterite having a tin content that ranges from 72 to 76%.

At Manono the Géomines Company has begun the treatment of hard pegmatites; in order to do this, a plant has been set up equipped with grinders and very powerful mills, as well as special machinery for recovering by-products.

Before being marketed, the Congolese output of cassiterite is sent to Belgium, where it is processed in foundries or exported, especially to the United States. However, the cassiterite produced by the Géomines Company is treated in the Congo, since this Company has its own electric tin foundry, which makes it possible to put ingots on sale directly.

## Uranium.

At Shinkalobwe, some 15 miles west of Jadotville, there is an underground uranium and radium mine which has placed the Congo, since the war, in the first rank of uranium producers.

The uranium ore is treated on the spot by using a rather complex process, and it is delivered, in the form of concentrates containing radium, to the United States and Great Britain, according to the terms of an agreement concluded between Belgium and those countries; a part of the total output is reserved for the needs of Belgium.

A rather striking phenomenon has occurred in regard to uranium production. For a long time, radium played the principal part in this production; it was even the cause of the Congo's emergence as an important country. Today radium, whose use has been partly eclipsed by radioactive cobalt and isotopes, has become a mere by-product of uranium which now ranks first. Nevertheless, the Belgian Congo remains the only country in the world producing radium.

## Tin and Allied Metals.

### B.

The high quality of its tins has rapidly strengthened the Congo's position in the world markets, where it now occupies the fourth place.

Tin is extracted from a tin dioxide, cassiterite. The latter is found sometimes in primary mineralized formations, and sometimes in alluvial and eluvial sediments originating in the action of surface waters on primary deposits.

The Congolese cassiterite deposits are part of the stanniferous zone that traverses Uganda and Tanganyika; they cover an area over 600 miles in length and a few hundred in width.



des Mines d'Or de Kilo-Moto (Kilo-Moto Gold Mine Company) in Ituri, and the Compagnie Minière des Grands Lacs Africains (Great African Lakes Mining Company) in Kivu.

Gold is found in the Congo, sometimes in primary rocks where it exists in veins, and sometimes in alluvial and eluvial deposits where it occurs in powder, grains, or nuggets.

For a long time river beds and eluvial deposits were practically the only gold sources to be exploited. Gradually the different operations involved in the exploitation of these sources of gold have become mechanized: dredging, excavating, stopping, and even washing, which is often done in mobile units.

But recently extraction of primary deposits of gold has improved considerably, especially in Ituri. It is done in both open-pit and underground mines, and it already furnishes nearly half the Congolese output. The operations involved are complex: the ore in the vein is broken down, crushed, and then ground fine in order to release the gold scattered in the hard rock.

The gold obtained from various sources is smelted, sometimes on the spot and sometimes in Belgium where it is refined by electrolysis. Then, cast into ingots, it is bought in principle by the Banque Centrale du Congo Belge et du Ruanda-Urundi (Central Bank of the Belgian Congo and of Ruanda-Urundi); however, the producers are authorized to sell freely a part of their gold for industrial, medical, or artistic purposes.

It should be noted that the Bretton Woods Agreements, which were signed by the Congo, constitute a handicap for gold-exploiting enterprises, and render valueless many deposits which have a low gold content. Indeed, as a result of these agreements, the selling price of gold has not varied since 1944, in spite of the constant increase in exploitation expenses.

The world tin market is controlled by an international agreement to which the Belgian Congo has adhered. The object of this agreement is to regularize the market and to maintain a balance between production and consumption.

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Certain minerals are often found associated with cassiterite: columbite, which is the source of tungsten, and tantalocolumbite, which yields tantalum and niobium. These rare metals are being used more and more in the manufacture of special varieties of steel, high precision instruments, electric and electronic matériel.

In the Congo, wolframite and tantalocolumbite are separated from cassiterite after concentration, by means of electro-magnetic apparatus, and are exported in the form of concentrates.

Recently the Géomines Company has been studying the extraction and treatment of spodumene, a lithium ore; the company's deposits of pegmatite have a spodumene content of 13%.

## C. Gold.

The auriferous ores of the Congo are found chiefly in the Eastern Province and in Kivu. In Kivu the gold mineralization area partly covers that of tin; consequently, the two minerals are exploited by the same companies. Elsewhere the output is very slight. Gold is also produced in Kasai as well as in Upper Katanga, where copper metallurgy makes it possible to recover several dozen pounds of gold as a by-product.

Two companies head the Congolese gold market and aggregate four-fifths of the total output. They are the Société

Today, almost the entire uncut diamond trade of the world is handled by the Diamond Trading Company and the Industrial Distributors Ltd. of London; the rôle of these organizations, in which Congolese producers have shares, is to regulate prices and establish an equilibrium between the supply and the market's capacity for absorption.

## E. Manganese.

Important manganese deposits are found in the southwest of Katanga, notably at Kisenge and Kasekelesa, not far from the Tenke-Dilolo railroad.

The ore is in the form of manganese oxide and after extraction, washing, and sluicing, it yields a marketable product containing 50 to 52% of manganese.

The Congolese output of manganese amounts to about 500,000 tons and all of it is exported, notably to the great ironworks of Europe and America.

The manufacture of ferro-manganese compounds is now under study.

## F.

### Other Products.

The range of ores that exist in the Congolese subsoil is practically unlimited.

In addition to copper, tin and their allied metals, to gold, diamonds and manganese, the Congo's subsoil also yields coal, lead, vanadium, bituminous limestone, beryl, salt, iron, etc.

With 13 million carats a year, the Congo supplies 90% of the industrial diamonds sold all over the world.

## D. Diamonds.

The production of diamonds is concentrated almost exclusively in the province of Kasai. Five companies have concessions there, but exploitation is assured by the Société Internationale Forestière et Minière du Congo (International Forest and Mining Company of the Congo), which acts both on its own account and as a contractor for other concessionaires.

The deposits of Kasai are localized in two clearly delimited zones: that of Tshikapa, on the Kasai River, and that of Bakwanga, on the Bushimale.

In the region of Tshikapa, gravel from valleys and terraces is treated; only 25 to 35% of the diamonds found there can be used in jewelry. The region of Bakwanga furnishes industrial diamonds almost exclusively, the proportion of precious stones not exceeding 2 or 3%; its output is twenty times as great as that of Tshikapa.

All phases of extraction and processing connected with diamonds are highly mechanized. On the very spot where the extraction takes place, stopping and sluicing operations are completed, followed by washing in stationary or mobile units, after which a first concentrate is obtained and sent to Tshikapa and Bakwanga to be sorted. There the product is concentrated anew and freed from its magnetic elements. Finally, this second concentrate undergoes a last treatment. At Tshikapa, it is carried along by a stream of water on vibrating tables coated with a special kind of grease which has the property of retaining diamonds. At Bakwanga, it is placed in a separator containing a dense liquid; the diamonds fall to the bottom, while less heavy elements float on the surface. In both cases the diamonds are removed by hand.

Congolese coal is exploited near Bukama and Albertville, but it is mediocre in quality and can be used only by some local industries which often combine it with imported coal or coke.

In the region of Thysville, deposits of copper, lead, and vanadium are found; the last two are already being treated on a small scale, while prospecting continues in the region.

In Kivu, the gold and tin-producing region also yields beryl, amblygonite, monazite, and bismuth; there, too, exploitation is in its infancy.

Near Boma, there are deposits of bituminous sands and limestone — with a bitumen content of 15% — which furnishes products used for asphaltting roads.

Finally, in Katanga, salt mines are found, but their exploitation has remained rather rudimentary.

One of the great potential sources of wealth in the Congo is iron ore, which the country possesses in abundance. Up to the present time it has been of small proportions and has consisted mainly in the manufacturing of cast iron in limited quantities; iron ore has also been utilized as a flux in the manufacture of copper and tin. But it seems that, if the exploitation of the iron deposits could be made a paying proposition, it might some day give rise to a great metallurgical industry which, by using rare metals as alloys, would produce on the spot special varieties of highly valuable steel.

### 3. What Belgium's Economic Policy in the Congo has achieved.

The progress of the Congo's basic industries can be accounted for by a carefully considered economic policy. This policy has succeeded in bringing about an equilibrium between the general welfare and private enterprise, in stimulating a close collaboration between the latter and the government, and in making the entire community share in the profits of industrialization.

in which fluctuations of world markets have brought about only a minimum of disturbances on the economic, as well as on the social level.

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This policy acquires its full meaning when one considers the first-rate importance that the basic industries have taken on in the life of the country.

The mining output — both in volume and in value — represents today about half of the Congo's exports. The rhythm of its expansion has been particularly rapid: indeed, between 1920 and 1950, its volume increased tenfold, and it has doubled since 1950. Copper and allied metals, coal, and manganese represent more than nine-tenths of this volume which considerably exceeds one million tons. Copper alone accounts for half the value of the output, which fluctuates between 15 and 20 billion francs.

Today, three hundred mines and almost as many quarries are under exploitation. Nearly one hundred factories treat minerals. This entire industrial structure is in the hands of about sixty strongly capitalized enterprises which have invested some 15 billion francs. Their very size calls for great concentrations of capital. They have retained more or less close ties with the financial and industrial groups that set them up. Thanks to mechanization and rationalization, these industries employ a relatively small labor force — barely one-twelfth of the total labor force of the Congo — a little over 120,000 natives and 3,500 Europeans.

The part played by the mining companies has been outstanding in the social evolution of the country. In their dealings with their personnel they have remained constantly in the foreground, paying salaries generally far higher than those prevailing in other branches of the economy, establishing their own systems of social benefits long before the law did so, and organizing — for the welfare of their workers — social assistance, schools of all

From the start the government reserved for itself rights of control and supervision in regard to basic industries; it has enacted legislative and fiscal measures assuring it of an important part of their profits. At the same time, through a system of direct or indirect participation, it has associated itself with their management and functioning. Thus the government became bound up with their future while at the same time insisting that priority be given to the general welfare. The prosperity attained has made it possible to raise continuously the entire country's standard of living.

This policy of equilibrium and of solicitude for the public welfare presents many complex and varied aspects.

Indeed, it was not enough merely to extract from the mines the products that would bring about an economic structure and a greater degree of comfort for everybody. These products, by their very nature, seemed destined to dwindle and disappear with the exhaustion of the deposits; the first task was therefore to make sure that the deposits would last as long as possible and that they would be exploited in the most rational way.

But beyond this economic objective, the government has envisaged a vast domain of social activities. As protector of the public welfare and guardian of the natives, it has not been satisfied with the exploitation of mining wealth, but has seen to it that the new industrial regions were developed with the greatest efficiency. Indeed, the government saw in the basic industries an important factor of social progress.

However, this social progress depended above all on economic stability. The young Congolese society had to be protected against disturbances — particularly serious for a still underdeveloped country that had not yet come of age — disturbances resulting from changes in world conditions. The government has given its most careful attention to this task of stabilization; it has applied an adequate policy of transportation rates, protection of salaries, fiscal measures and international agreements. Thus, by means of close collaboration between government and industry, an atmosphere of security has been created,

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kinds, hospitals, dispensaries, maternity hospitals, and sometimes even charitable institutions and day nurseries.

What is more, the large mining companies have completely transformed the aspect of the regions where they have established themselves. This transformation has not been limited to the establishment of huge industrial units, but has extended over the entire country, calling new cities into existence, creating international railroad lines and hydroelectric stations. These companies supplied the factors — transportation, and sources of energy — which were soon to make possible the setting up of manufacturing industries. In this manner, they have favored the development of a home market indispensable to the stability and the progress of the Congo

no longer be kept supplied by the native handicrafts, now doomed to disappear; furthermore, the general fitting out of a country where progress was in full swing acted as an important stimulus.

The war of 1940 was to give a new impetus to this expansion. At that time the Congo, suddenly cut off from many of its usual sources of supplies, had to set up new industries in order to fill some of its needs. Since then, manufacturing in the Congo has progressed continuously; it has been sustained as much by fortunate combinations of circumstances as by the constant rise in the population's standard of living, especially that of the native element.

This progress will doubtless go on in the years to come. It will go on not only because of the development of the home market — which is one of the objectives of the second Ten Year Plan — but mainly because of the setting up of the Inga dam which will make available enormous resources of hydroelectric energy and thus make possible, as King Baudouin emphasized, « the establishment of great manufacturing industries in central Africa ».

It is evident that the utilization of the Inga dam — expected to start in 1964 — will bring about profound changes in the present location of the manufacturing industries. At the present time they are concentrated especially in Upper Katanga and the vicinity of Leopoldville, except for the factories processing agricultural products, which are generally located in the agricultural areas. Besides, on the outskirts of some urban agglomerations, there are factories turning out commodities for mass consumption which would entail very heavy transportation expenses. The cheap and exceptionally abundant electric current to a vast industrial zone in the Lower Congo whose rôle might become as important as that of the industrial setup of Katanga during the last fifty years.

In short, industrialization is in full swing, and its possibilities may prove to be as gigantic as the new source that will supply them with electric power.

## 2.

### A Brief Outline.

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#### A.

#### Processing of Agricultural Products and Foodstuffs.

#### Oleaginous Products.

Industries processing oleaginous products occupy one of the most important places among the manufacturing industries of the Congo.

Gradually modern oil refineries have been replacing old rudimentary methods of fermentation, and today more than 500 refineries equipped with up-to-date machinery turn out over 200,000 tons of palm oil a year.

Peanuts, palm kernels, cotton-seed, and the beans of the castor oil plants are also processed in factories.

luxury items and articles that follow the swift changes in European fashions.

Besides, the textile industry furnishes the local market with most of the absorbent cotton, surgical dressings, knitting threads, and one-quarter of the blankets needed.

In addition to cotton, the Congo's textile industry treats sisal, urena, and punga; specialized factories supply the country every year with rope and also with two-thirds of the bags required and over 3 million yards of burlap.

### Other Agricultural Products.

Coffee, tea, cocoa, and rubber are sorted, processed, and conditioned in 600 specialized factories, chiefly for exportation.

There are also hundreds of rice and flour mills which provision the natives with rice, corn flour, and fresh cassava flour.

In the Lower Congo, a sugar refinery whose output was originally exported in total today supplies the home market exclusively; another sugar refinery has just been built in the valley of the Ruzizi where the cultivation of sugar cane has been introduced; this refinery will fill the needs of the eastern part of the Congo and also Ruanda-Urundi.

Three factories treat local and imported tobaccos. Taken together they come close to furnishing the local market with an adequate supply of cigarettes; the most important of them can produce 11 million cigarettes a day. On the other hand, the manufacture of cigars and cigarrillos, after having enjoyed a certain amount of success, is today faced with vigorous competition on the part of foreign producers.

Most of the output is exported; tankers and tank cars furnish transportation of palm oil in bulk from the factories to the ships, where it is loaded by the gravity process. A certain quantity of edible oil and margarine is reserved for local consumption, and palm oil remains one of the traditional ingredients of native cooking.

Furthermore, soap factories have been set up, and at the present time there are about sixty of them, mostly small-scale undertakings. Nevertheless, they turn out a complete range of products from soap in bars and soft soap to detergents and washing powder. In this field, there is room for considerable expansion in order to meet needs that are constantly growing.

### Textiles.

The textile industry is one of the most striking achievements of the Congolese economy; it is one of the first to represent a complete economic circuit. This is a closed circuit; it remains on the spot from start to finish, going from the planter to the consumer via the factory technician and the local dealer. The textile industry is at the same time a typical example of the Belgian policy in the Congo. The government began by introducing cotton growing, and then favored the construction of factories: first, factories for the processing of cotton, and later, textile factories that would transform the fiber into cloth and various other articles intended for home consumption.

Today four weaving factories supply raw cloth and dyed or printed drill; one of them even manufactures waterproof material. However, they are up against strong competition on the part of foreign concerns, especially in connection with fashionable and printed fabrics; with their annual output of some 65,000 yards, they can fill only a small part of the Congo's cotton cloth needs.

On the other hand, the nine underwear and knitted goods factories and the hundred workshops that turn out ready-made clothing can supply the home market fairly well, except for

growing in number, have appeared; they are in the hands of independent owners and are modern and well equipped. This activity will doubtless become thoroughly integrated into the Congolese life of tomorrow.

## B.

### The Construction Industry.

The construction industry is booming in the Congo. In practice, its possibilities are limited only by the extent of the capital invested in it, whether it is a question of providing durable and comfortable lodgings for Europeans and Africans, of setting up industrial or administrative units, of building or improving roads, harbor, and air fields, of creating urban centers, etc.

At the present time, there are more than 600 construction companies, ranging from the large concern that puts up ultra-modern buildings to the small firm that attends to mere routine work. Every year some 2,000 building permits are issued, representing a value of about two billion francs. Merely in the matter of providing lodgings for the natives, the Office des Cites Africaines (Office for African Cities) has set down on its program 40,000 houses to be finished before 1960.

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Most of the materials used for construction are manufactured on the spot.

Hundreds of brickyards and tile factories produce from 300 to 400 million bricks and from 3 to 5 million tiles a year; to this should be added the hollow bricks used in the construction of larger buildings.

More than 200 dairy farms, generally located near urban agglomerations, provide milk, butter, and cheese for the European population, and lately also for the natives who, under the influence of an educational campaign carried on in the social centers, are beginning to introduce milk into their diet.

Slaughter houses, butcher and pork butcher shops sell the products of the local stock farms. More than 300 establishments prepare smoked meat, and over a thousand supply dried, salted, or smoked fish; these products are intended especially for the natives.

Leather is used extensively; tanneries, some 200 workshops, and small local factories, together with two large factories, now deliver 2 million pairs of shoes a year and fill the greater part of the local needs.

### Wood.

The existence of over a thousand enterprises concerning themselves with forest exploitation, and of no fewer than 1,200 sawmills gives an idea of the importance of the wood industry in the Congo. The operations involved range all the way from the felling of trees to the work of the local cabinetmaker, and include the seasoning of wood in large factories, and the manufacturing of plywood in some newly created establishments which soon found outlets in foreign markets.

More than 300,000 cubic meters of logs were sold in 1956 in local markets: wood for construction purposes and wood for making furniture. To this impressive figure must be added the wood cut for industrial and domestic heating.

Cabinet-making is still in its infancy; industrial plants have been created, but at the same time native workshops, constantly