

## MAURITANIA: I

## Mauritania Before 'Miferma'

THE Islamic Republic of Mauritania is the poorest member of the French Community in West Africa. Although substantially larger than Nigeria, Mauritania's population is equal only to 2 per cent of Nigeria's.

Almost all Mauritania's population is found south of 18 deg. N., in the southern third of the country. Here alone are fairly regular seasonal rains of up to 26 in. per annum—and these are confined to the extreme south of the country. More commonly the rains average only 10 in. Moreover, wide fluctuations occur from year to year, and such unreliability is a serious inconvenience. It is, however, here that most true farming is found; it is practised by Negroes, most of whose ancestors were until very recently the slaves of the Moors. The cultivation, mainly of millet but also of sorghum, beans, water melons, sweet potatoes and vegetables, is especially important on seasonally flooded lands, such as those of the Chemama, adjacent to the Senegal river. Crops may also be grown wherever there is a rainy season, or by irrigation from wells or small barrages which have been built mainly in Brakna and Trarza. Otherwise, agricultural produce comes either from the oases of the centre and north and consists of dates with a little wheat, barley, tobacco, henna and vegetables, or from livestock. Date groves are important (especially in the Atar area) and are being extended. Date production is reckoned to be worth 4600,000 annually.

Apart from the uncertainty of the small rains in the south, and their usual absence north of 20 deg. N., there are the problems of the depth of ground water, locusts which cause havoc to crop farmers and pastoralists alike, and the quelea bird which devours cereal crops. Over a third of the annual expenditure of the Ministry of Agriculture is devoted to pest control, the highest percentage of any country in Africa.

To nourish the yearly increase in population agricultural production must increase by 2 per cent per annum. Output must also be extended now, to offset the effects of the prospective loss of agricultural producers to the Fort Gouraud mine, railway, and the new harbour at Port Etienne, although imported food will be much cheaper when the port is built and communications improved. Oasis cultivators will need to modernise date production, and to turn from cultivation of wheat and barley to market gardening; indeed, Atar oasis has already begun the production of vegetables and their despatch by air. The output of millet must be increased in the south, and this can best be achieved in the rapidly developing Hodh region of south-eastern Mauritania. Almost all of this modest production is for local subsistence, although some millet is sold over the land boundaries.

Overseas exports for cash are likewise very modest. They consist primarily of dried, salted and smoked sea fish, mainly from Port Etienne's three factories which sell to many countries along the Guinea coast, as well as a little freshwater fish from the Senegal river sold in Senegal. Salt from Trarza and the Sebka d'Idjil west of Fort Gouraud is sold mostly in Mali, while gum goes to Europe, but is a declining trade. Sheep, goats and cattle are driven to Senegal and the Gambia, Mauritanian merchants often exercising a hold over butchers in towns of those countries. Camels are normally sold in Morocco but political estrangement has almost stopped the trade.

In this large but thinly peopled semi-desert country there is only one dirt though fairly good road, that from Rosso via Nouakchott, Akjoujt, Atar, Fort Gouraud and Fort Trinquet to Algeria and Morocco. This, and the lesser roads, found mainly in the southern third of the country, are the main means of distributing supplies; elsewhere these are carried by cattle. But in under ten years, air services have revolutionised the movement of administrators, politicians and mineral prospectors. Nouakchott has eight services a week, Akjoujt four, Port Etienne and Atar three, Fort Gouraud, Kaédi, Kiffa and Aioun el Atrouss two, and Boutlimit one a week. Services are, moreover, mostly by Skymasters.



The low, straight surf and sand-dune coast is dangerous to approach, except at the northern extremity where the Cape Blanco peninsula is shared, Spanish Sahara occupying the western of Atlantic side, Mauritania having the sheltered eastern side on which lies Port Etienne. The town originated with a fort protecting a fishing haven of the Baie du Lévrier. Nearby are the airport and some pleasant government villas. Farther south is another group of buildings including the school, post office, fish research station and district offices. Beyond more open sandy waste are a naval air station, an army rest centre and the distillery upon which Port Etienne depends for its fresh water obtained from sea water at 1s. 3d. a gallon. On again is the largest fish factory, a huge building originally fortified against attack from Spanish Sahara. A wide variety of fish is sun dried on tables, and on the inlet are two other smaller fish factories. Fishing boats from Southern Europe and the Canary Islands are often at anchor, or working the rich grounds on the seaward side of the peninsula. Skilled labourers in the fish factories or on building work in the town are usually Canary Islanders. They and the Moors live in simple houses, shacks or tents on the west side of the town, almost on the international border. This small town is amazingly dispersed over miles of loose sand and rubbly limestone.

At the end of the peninsula are depths of 40 ft.; here is an excellent site for the forthcoming terminal of the 397-mile mineral railway which will bring out Fort Gouraud's rich haematite iron ore. It is this ore which, when exported by the Miferma Company some four years from now, will transform Mauritania from poverty to self sufficiency. Hitherto, revenue has varied from one-eighth to one-quarter of expenditure, but the sale of ore will allow Mauritania to balance its budget and justify its independence. In the past, the economy of Mauritania was almost entirely based in the south and its capital even lay outside the country at St. Louis in Senegal. In the future, wealth will come from the north-west, from Fort Gouraud and Akjoujt, while foreign trade will pass through Port Etienne rather than Dakar. Such changes may bring political problems.

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MAURITANIA: 2

## The Miferma Project

**G**OLDEN key to the forthcoming economic transformation and political viability of Mauritania is the iron ore of the isolated range of the Kédia d'Idjil. These mountains extend east and south-east of Fort Gouraud for 20 miles, and they rise abruptly from the surrounding sands and stones to a maximum height of 2,975 ft., although most of them reach no more than some 2,000 ft. Dark mauve in colour and, in parts, black, they are a vivid sight when viewed from either extremity. They bear ample evidence in the form of relic valleys, gorges and deltaic cones of past eras of regular rainfall.

The Kédia d'Idjil is composed of pre-Cambrian breccias and of ferruginous quartzites with local enrichments. The breccias occur in the centre and south and are unfavourable to mineralisation. The ore is found in the quartzites, which are akin to those of Mesabi (U.S.A.), Brazil and India, and the ore is an almost pure haematite called martite. It averages 63 per cent iron but contents of up to 70 per cent have been found. The ores are very dry, and also very pure chemically, having no more than 0.033 per cent phosphorus.

El Bekri, the Arab geographer, described the Kédia d'Idjil and the working of the ore in his chronicle of 1067. The next reference to it was not, it is believed, until nearly 900 years later, more precisely in 1934, when E. Segaud discussed the possibilities of exploitation. Further studies were made by P. Legoux in 1939, and by A. Blanchot and A. Pourquie in 1946, and these were the bases of economic studies by representatives of the Bethlehem Steel Corporation in 1948.<sup>1</sup> However, Bethlehem withdrew, preferring to concentrate its efforts in Venezuela.

In 1951 a Franco-British-Canadian mission which re-examined the deposits and possible means of export, recommended more detailed studies. The Société Anonyme des Mines de Fer de Mauritanie (MIFERMA) was founded in February, 1952, and prospecting has gone on since April of that year. The first base camp was at Fort Gouraud, stores and workshops still being there. From that base, prospecting was carried on at F'Derik in the mountains just east of the camp. Somewhat later investigations were carried out at Rouessa, some 12 miles east of Fort Gouraud along the northern edge of the range.

In more recent years work has been practically concentrated at Tazadit, about 20 miles east of Fort Gouraud, between the northern edge of the range and the northern side of a great embayment reached through a dry gorge. It is here that the richest ore is to be found. A labour camp of prefabricated aluminium circular huts already exists, while access roads to take the largest trucks are under construction.

Prospecting has everywhere been thorough and varied in method. Thus trenches and pits have been dug, galleries cut, borings made at angle, and seismic investigations undertaken. A geological map has been made of the whole mineralised area on the scale of 1:5,000 or some 12 in. to a mile.

A hard ore, with a high density predominates at F'Derik, but at Rouessa and Tazadit the ore is usually softer, has a more open structure, and a lighter density. It is also likely to have more 'fines' (or small pieces) but these can be bulked satisfactorily. The technical and financial aspects of the project have been based on a consideration of the F'Derik and Tazadit ores, and on open-cast operation at these sites.

The F'Derik deposit occurs as a vertical band of ore, varying from 65 ft. to 325 ft. in thickness, but averaging

130 ft. Tazadit has three ore masses forming summits and sides of spurs overlooking the inner embayment. At least 87m. tons of rich ore can be worked open-cast at Tazadit and 23m. at F'Derik. Not counted in planning the project are at least 14½m. tons, also capable of being won open-cast, at Rouessa, and 20m. tons which could be obtained underground at F'Derik. Another 70m. tons exist in these areas but are more difficult to exploit, and there are vast amounts of poorer ore, above and below ground, surrounding the richer ore.

Now that the International Bank has granted a loan of \$66m. it is proposed to work up to an annual output of 4½m. tons at Tazadit and 1½m. at F'Derik. Commercial mining will start at the former in late 1961 and, by the time the railway is completed in late 1963, with an initial capacity of 4m. tons per year, there should be a stock awaiting clearance of over 2m. tons. F'Derik will start production two years after the railway arrives, the latter bringing in the equipment.

Meanwhile, a new main base has been established 15 miles east of Fort Gouraud, in the plain on the northern edge of the Kédia, a little to the north-west of the gorge which trenches the northern escarpment of the Kédia near its eastern extremity. This move was made to be near the main centre of future ore production, to have greater supplies of water, to escape from the noise of high winds so frequent at night at Fort Gouraud, from flies and from the bleak dreariness of the old camp site. By contrast, that of the new 'cité', at it is called, is remarkably pleasant because of the numerous thorn trees and grass which will increase with moisture from septic tanks of the camp. A row of air-conditioned rooms has been built for the European workers. Each room has running water and toilet, and offers the occupant the possibility of living in whatever temperature he likes—at latitude 22½ deg. N. There is also a labourers' camp with round and unduly hot aluminium huts. At this site there will ultimately be a town of 6,250 people with 30 miles of roads.

These great developments are possible because water in abundance has been found at a depth of 130 ft. at the northern end of the gorge. From there it is pumped four miles north-west to the 'cité' and three miles south-west through the gorge and 950 ft. up to Tazadit.

The nearest port is Villa Cisneros, in Spanish Sahara, but this was found to require a formidable amount of dredging. Instead, a site eight miles south of Port Etienne in Mauritania was chosen, a well-nigh perfect site, since there are natural depths of 44 ft. almost to quayside, it is sufficiently within the Baie du Lévrier to be fully sheltered and, unlike Villa Cisneros, there is no bar at the entrance. Ore boats of up to 65,000 tons will be accommodated. Although the very narrow Cape Blanco peninsula is divided between Spanish Sahara and Mauritania it will be possible to align the railway within Mauritania. A new township for 4,500 people in a breezy situation but free from sand storms will be built two miles north of the quay, and so between the latter and present-day Port Etienne, six miles north of the township site.

Once again all this can readily be achieved because water in vast quantities has been found at Boulanaour, some 75 miles north-east of Port Etienne, from where it can be conveyed in railway tankers.

It is the route of the railway that has given rise to the greatest difficulties, although these are political rather than physical. The most direct route is plainly south-westward across Spanish Sahara, but the Spanish have made exorbitant demands for permission to cross their territory. In consequence, a much longer all-Mauritanian route, 397 miles in length, has been staked out, but this runs into one formidable and two very considerable hazards. The first is that to keep within Mauritania, at the south-eastern corner of Spanish Sahara, a 1½ mile tunnel through granite

<sup>1</sup> R. Furon, *Le Sahara, Géologie-Ressources Minérales-Mise en Valeur*, Paris, 1957, pp. 236-8, gives details on historical matters.

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will be necessary at Choum at a cost of £3m. Less than eight miles of railway across the extreme south-eastern corner of Spanish Sahara would suffice to avoid this fantastic tunnel but these few miles the Spanish are also unwilling to allow, except again at unduly high cost. On the other hand, the tunnel will enable the company to be free of Spanish interference and dues, and to confine all its activities to one country.

The first considerable hazard consists of the need to cross some 20 miles of active isolated dunes at the exit of the Baie du Lévrier. If these 'barkhanes' of the Rabat Timazine cannot be stabilised it may be necessary to re-align the railway from time to time.

About mid-way along the southern boundary of Spanish Sahara are the Azefal and Achar, belts of south-west—north-east trending stabilised dunes. However, cuttings of up to seven feet can be made through these areas, which total some 30 miles in width. The sand may be held in place by spraying with heavy oil.

Loaded mineral trains will have four locomotives and 135 wagons, each carrying 75 tons, a train thus transporting over 10,000 tons and being, perhaps, the most heavily laden train in the world.

To equip the workings east of Fort Gouraud, and to build the railway and port, Miferma will invest £4½m. in three years. The Mauritanian Government should get £3m. per annum by 1967, thereby balancing its budget for the first time.

New townships east of Fort Gouraud and south of Port Etienne, employment there and on the railway for thousands of labourers from a poor and thinly populated country, and the transformation of government revenue, are no small matters, but they are by no means the only good consequences to be expected.

At Akjoujt, north-east of Nouakchott, there are 27m.

tons of copper ores of 1.5 to 2.5 per cent copper, with some associated gold. Iron, though not of such good quality as in the Kédia d'Idjil, has also been found between Akjoujt and Atar. Small pilot concentration plants were put up to treat the copper ores at Akjoujt in 1954 and 1958. Water presents no problem but transport does. When, however, the Port Etienne-Fort Gouraud mineral line exists a branch of some 125 miles may be built to it from Akjoujt, providing copper market conditions are then favourable, so permitting the annual production of some 20,000 tons of copper, 45,000 oz. of gold, and 1½m. tons of iron ore.

Port Etienne should also become a general port, with direct services by passenger and cargo ships, and with calls by inter-continental aircraft at its airport. These would free central and northern Mauritania from dependence on the long haul via Dakar. A larger port would help a cold store which has been proposed for the improved treatment of local fish, and also encourage the export of meat to other African countries. Port Etienne is already a leave centre for army personnel in Mauritania, since maximum daily temperatures from November to May and in July do not exceed 84 deg. and minimum ones descend to 54 deg.; with better transport the town could become a minor resort. There are excellent beaches, safe from danger, on the sheltered bay.

The existing trunk road would link the railway with Atar, Akjoujt and Nouakchott in the south-west, and with Fort Triquet in the far north, while a new but difficult road is envisaged from Atar to Tidjikdja to link the railway with the great cattle region of the south-east—the Hodh and Assaba in particular. It is from here that cattle might be sent to Port Etienne for the export of meat.

There is, therefore, good reason to suppose that the Miferma project will not only itself cause an economic revolution in Mauritania but will spark off many other developments.

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## MAURITANIA: 3

## Mauritania and her Neighbours

THE decision, taken on July 24, 1957, to build a new capital at Nouakchott was made because it was imperative to have a capital within the country, St. Louis in Senegal no longer being capable of serving this purpose. The decision would, in any case, have had to be taken after the referendum of September, 1958, or, at the latest, after the break-up of French West Africa in March, 1959.

There were many claimants for the honour of capital. Access by road and air was essential. Rosso, on the Mauritanian bank of the Senegal river and a transit centre, had been favoured in the past on economic grounds but it is subject to flooding, lies on the southern border and therefore in 'Negro' Mauritania, and it has never appealed to the majority of the country's peoples—certainly not to its rulers. Atoum el Atrous has developed rapidly since 1945, but before that was part of Mali; in any case, it too is peripheral. Aleg, in Brakna, suffers from being in a marshy site during the rainy season and, if chosen, might have caused resentment in the neighbouring ex-emirate of Trarza. Tidjikdja is, possibly, the most central point, and has fine palm groves but, although there are road connections with southern Mauritania, there are no direct ones with the north. Moreover, as French money was to build the new capital it might have been difficult for French pride to see it used where Coppolani was assassinated in 1905. Atar has the advantages of being centrally placed on the main trunk road through the country but many of its inhabitants are pro-Moroccan and so it was ruled out. Port Etienne has no road, is a European creation, and within half a mile of Spanish Sahara.

After much thought Nouakchott was chosen. Although in Trarza, the fact that it was a European creation meant that its choice was unlikely to cause internal dissension. It lies on the main trunk road, has an aerodrome capable of taking Skymasters, is easy of access especially from St. Louis and, as its name implies (noak—place and chott—wind) it is, for Mauritania, remarkably temperate. The sea is only four miles away.

So far, Nouakchott has no more than some 50 buildings. These have the air of pre-fabricated houses but are remarkably cool single storied buildings, each set round an interior courtyard. The National Assembly meets in a small school. The site is flat and sandy, with great accumulations of shells just below the surface, and with only the poorest Sahel bush. Water has had to be brought from 40 miles away. No site could be more resistant to the charms of the town planner and landscaper; nevertheless, every effort is being made to design permanent buildings incorporating traditional Mauritanian designs and patterns, yet with all modern conveniences. With so many traditional styles and a polygamous society difficult problems have to be resolved.

Moktar Ould Daddah, the Prime Minister, who is in his early thirties, looks upon Mauritania as 'an independent hyphen between white and black Africa'. Iron and copper ores, and the development of Port Etienne may make this possible, but it implies French support, with all the dangers of Mauritania becoming a second Jordan.

Without doubt it is with Morocco that Mauritania has her most difficult relations, for Morocco claims Mauritania. The claim is made not on historical grounds, for that might suggest turning the tables as the Almoravids come from Mauritania, but on the basis of tribal allegiance to the King of Morocco, kinship with his subjects, and affinities of language and culture. Several former political leaders of Mauritania are now in Morocco, notably Horma Ould Babana, who campaigns there for the union of the two countries. The dormant opposition in Mauritania, especially in Atar, undoubtedly seeks union with Morocco, yet even those who favour ties with Morocco may wonder if that country could effectively rule all Mauritania from across the desert. History, both somewhat ancient and very modern, does not provide good omen. After a Moroccan

army overwhelmed Timbuktu and the Songhai capital of Gao in 1591 they lapsed into insignificance at the best and chaos at the worst. And in 1958 the Moroccan Army of Liberation gave Mauritania much trouble, which ceased because of eventual defeat by the French and Spanish and because of internal dissension in the Istiglal. Morocco might do better to befriend Mauritania which will offer in Fort Gouraud and Port Etienne considerable markets for Moroccan fruit and vegetables.

Spain has done little or nothing to develop her Saharan lands. Minerals have not been systematically sought, nor rich off-shore fisheries investigated. Spain has always felt a grievance towards France because of her inferior position in Morocco from 1912 to 1956; she expressed this in irritating the French by harbouring criminals from Mauritania in Spanish Sahara, and by letting that land be a base for raiders into Mauritania.

In both general and particular ways, the Spanish sense of grievance can be seen again in the negotiations for a railway to evacuate the Fort Gouraud iron ore. In general, because the Spanish now realise that, had it not been for the drawing in 1900 of a westerly embayment to the Franco-Spanish boundary on the south-eastern side of Spanish Sahara, they would now possess the iron ore. More particularly and immediately, they felt certain that the nearest port, their Villa Cisneros, would be chosen for export of the ore. Its physical shortcomings were, however, soon evident and were finally and dramatically demonstrated in October, 1959, when a visiting official French and Mauritanian party was taken for a fishing trip by the Spanish Governor in his very shallow draught launch and ran aground on a sandbank in the harbour.

If Miferma will not use Villa Cisneros the Spanish feel that the company should pay dearly for transit rights across their territory to end up nevertheless at Port Etienne, or by building a tunnel to keep within Mauritania.

Spanish Sahara has been the poorest territory in Africa for all its 60 years and, if Miferma will not come, Spanish pride may not mind continued poverty. Possibly, however, they place hopes in oil, now the subject of preliminary investigation by six American companies. Yet these concessions are in north-western Spanish Sahara, while it is the south-east which might have benefited from a railway. This could have provided work for construction and maintenance, and taught skills that would have been useful to workers who might later have been employed in the search for and possible exploitation of oil. To the Spanish Government it would have given a lifeline from which to search for minerals, to build roads and to distribute water, while the line could have served Tichla, a settlement in the south of Spanish Sahara.

It may be that the Spanish have political fears of the railway, that it would be the thin end of the wedge by which Mauritania might claim Spanish Sahara for defence against Morocco. Meanwhile, the Spanish hope that economically their territory will yield oil, and that politically they can use it to play off both Morocco and Mauritania.

Relations with Senegal are concerned with two matters. In the first place, people partly or wholly of Negro origin live on or near the southern borders of Mauritania, and they feel kinship with their brethren across the river in Senegal. The Senegal valley forms a natural and human unit, despite division by the political boundary. These people, numbering some 130,000, are sedentary and form 20 per cent of the Mauritanian population. They produce the bulk of Mauritania's food, and their birth rate is 24 per 1,000, while for the nomadic Moors it is seven, and for their former (or even present) slaves it is 15. The Mauritanian Premier has complained of 'active support given to the anti-nationalist activities of irresponsible elements'. Here is a situation reminiscent of many in the inter-war period in Central Europe.

Secondly, the boundary itself is highly unsatisfactory in that it lies along the Mauritanian bank, so that the river is in Senegal. This means that Senegal could control Mauritanian use of the river and extract tolls for navigation and fishing.

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