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# MAP RESEARCH BULLETIN

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CENTRAL INTELLIGENCE AGENCY

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TABLE OF CONTENTS

	<u>Page</u>
I. A Cartographic Party Line for Red China.....	1
II. Surveying and Mapping in the Belgian Congo.....	9
III. Brief Notices.....	22
A. A New Map Series on Railroads of Africa.....	22
B. Reproductions of Yugoslav and Bulgarian Maps.....	23
C. Population Maps of Finland.....	25
D. A New Economic Map of Sweden.....	27
E. Nordrhein-Westfalen Maps.....	28
F. Al Jazīra Desert Administration Directorate, Iraq.....	30
G. African Administrative Divisions.....	31

MAPS

Following page

Railroads of North Africa, 1950: French and Spanish Zones (CIA 11746).....	22
Finland: Population (CIA 11792).....	26
Africa Administrative Divisions -- 1950 (CIA 11743).....	31

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I. A CARTOGRAPHIC PARTY LINE FOR RED CHINA

The Chinese, in common with some other nations, do not hesitate to present an overoptimistic map picture of their country's territorial limits. Chinese maps of China show large areas as lying within that country which are indicated as part of bordering countries on most maps published elsewhere.<sup>1</sup> Judging from maps published by old-line commercial establishments in China, since the establishment of the Communist regime, the Communists have taken over this practice from the previous Nationalist regime. Although the rise to power of the Communist government appears to have caused a certain amount of soul-searching and indecision on the part of the map publishers, the development of a cartographic policy by or for Red China is noticeable in the maps published in 1949 and 1950.

The Nationalist regime of the postwar period encouraged the most optimistic map representation of Chinese claims by official and unofficial map publishers. For the most part, however, the Nationalists allowed the claims to remain on paper only. Along the China-USSR border, Chinese Nationalist maps represented the following areas as belonging to China: the islands at the juncture of the Amur and Sungari rivers in the northeastern corner of Manchuria; the so-called 64 villages northeast of the Amur near the point where that river is

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1. For a more detailed discussion of Chinese claims, see Map Research Bulletin No. 2 (October 1948), pp. 7-9, and No. 16 (June 1950), pp. 1-6.

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joined by the Zeya; and a large, rather indefinite area west of Sinkiang in the Pamir Plateau, which is actually part of the Tadzhik Republic of the USSR. In the Pamir, apparently no Chinese government from the days of the Manchu Empire down to the present has ever agreed to a definite boundary. The narrow finger of the Wakhan, which Afghanistan points eastward toward China, could scarcely be distinguished on Chinese maps; most of it was lumped together with the portion of the Tadzhik Republic that Chinese map makers allotted to their country. Chinese maps published between 1945 and early 1949 recognized the separation of Mongolia (the Mongolian People's Republic) from China, but the coloring employed on many of the maps seemed to imply that Mongolia was still dependent on China in some vague fashion. The boundary between China and Mongolia was shown as indefinite and differed considerably in certain areas from the same boundary as represented on Soviet and Western maps. Tannu Tuva was represented as a separate entity and was allotted a larger area than on Soviet maps.

The broadest Chinese claims were shown along the India-China and Burma-China frontiers, where only small portions of the boundaries have ever been defined. In the high, sparsely-inhabited mountains of northern Kashmir, Chinese territory was shown as extending southward to the Karakoram Pass and the crest of the Karakoram Range. All of the hill tracts north and east of the Brahmaputra Valley were represented as lying either within one of the Chinese provinces or in Tibet, thus making Assam only a narrow salient of valley land surrounded on all

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sides except the southwest by Chinese territory. All of Burma north of a line roughly along the parallel 26°N was represented as belonging to China.

Between the headwaters of the Yalu and Tumen rivers the China-Korea boundary was shown as running south of the mountain Paektu-san, whereas Korea claims that the boundary lies farther north, including within Korea the south slope of the mountain. British Hong Kong and Portuguese Macao were not identified by separate color or boundary outline. Likewise, the Port Arthur Naval Base Area (the former Kwantung Leased Territory of the Japanese), in which the Soviets enjoyed various rights under the treaty of 1945, was not indicated. It scarcely need be said that Taiwan (Formosa) was represented as a province of China. The Paracel Islands, Spratly Island, and other islands and reefs in the South China Sea between Indochina, the Philippines, and British Borneo were also indicated as Chinese.

With the consolidation of Communist control over the entire country, the organization of new regional governments, and the realignment of many province boundaries, it became necessary for Chinese map publishing firms to revise their maps. The early maps published under the Communist regime quite naturally copied international boundaries from existing maps. By the latter part of 1949 and the early part of 1950, however, more attention was paid to the current appropriateness of the international boundary representation. Perhaps the Peiping government or some authority even higher suggested that it would be well for maps

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of the new China to reflect an attitude of friendliness toward the great ally on the north, or perhaps the map publishers themselves felt that such a gesture on their part would be becoming. Whatever the motivating force, changes in the representation of the USSR boundary appeared on the new map editions, along with the new internal administrative units established by the Chinese Communists.

The Soviet boundary was shown on the late 1949 and early 1950 maps almost exactly as it appears on Soviet maps. The Pamir Plateau, Tannu Tuva, and the 64 villages northeast of the Amur were represented as parts of the USSR. On some of the maps an exception was made in the case of the islands at the Amur-Sungari junction, which continued to be shown as Chinese, but this may have been merely an oversight on the part of the cartographers. The Port Arthur Naval Base Area was shown as Chinese, but it was given the status of an administrative unit separate from the adjoining Liaotung Province. This was one of the more significant changes on the map.

The new friendly attitude was also extended to the family of smaller peoples' democracies along the borders of China. On some of the new maps, the shape of Mongolia was shown more in accordance with Soviet (and presumably Mongolian) views. Visual emphasis was given to the



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fact that Mongolia was no longer a part of China. As a cartographic present, North Korea was assigned the south slope of Paektu-san.<sup>1</sup>

In contrast, no changes were made in the previous Chinese representation of boundaries with the non-Communist countries of India and Burma and with the coastal colonies of Hong Kong and Macao. Taiwan and the islands of the South China Sea continued to be shown as Chinese.

The maps of the early Communist regime seem to have come as somewhat of a shock to map-conscious segments of the Chinese public. In fringe areas such as Hong Kong, where it was safe to do so, the public began to ask questions. What had become of the 64 villages? Why was the Pamir area next to Afghanistan shown as part of the USSR? The creation of an Inner Mongolia Autonomous Region, one of the new administrative units of Communist China, raised doubts in the minds of some Chinese, possibly because they feared that this might be the first step toward separating Inner Mongolia from China and annexing it either to Mongolia or the USSR.

One editor of a Communist Chinese-language newspaper undertook to reply to such inquiries. He stated that the Pamir area had been awarded to the Soviet Union because the population was composed mainly of Kazakhs, Kirghiz, and Russians, and because two of the highest mountains

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1. Maps presenting one or more of the above points are: [New Map of the Peoples Republic of China], 1:8,000,000, China Historical Geography Society, November 1949 (CIA Call No. 65617); [Map of New China], 1:6,000,000, Kuang-hua Geographic Society, first edition, February 1950 (CIA Call No. 67198); [Map of China Peoples United Republic], 1:6,000,000, Ya-kuang Geographic Society, fourth edition, May 1950 (CIA Call No. 70544).

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of the area were named Mt. Stalin and Mt. Lenin. According to the editor, the 64 villages, formerly Russian, were now being returned to the "suzerainty" of the USSR, and the Inner Mongolia Autonomous Region was established in accordance with the new Chinese program for recognizing the rights of minority races.

Whether or not the unfavorable public reactions had anything to do with the next shift in the cartographic Party line is not clear, but the fact remains that a shift occurred. Peiping may have decided upon a change in policy. On the other hand, it may be that individual map publishers and even newspaper editors had been misinformed in the first place regarding the political-geographical dialectic of the new regime and that they had fallen into error through an excess of zeal. On maps published after May 1950, there was a partial return to the earlier method of representing the USSR boundaries. The Pamir area was once again shown as Chinese.<sup>1</sup> The newer maps, however, still distinguished the Port Arthur Area as a separate administrative unit and recognized Tannu Tuva and the 64 villages as part of the Soviet Union. For the first time, Soviet jurisdiction over the islands at the Amur-Sungari junction was admitted. The full claims against India, Burma, and the European coastal colonies were still shown. Matters stood thus in

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1. For instance, the fourth edition of the Map of China Peoples United Republic, 1:6,000,000, of the Ya-kuang Geographic Society, dated May 1950, shows the Soviet version of the China-USSR boundary, whereas the fifth edition of the same map (CIA Call No. 70653), dated one month later, shows the Chinese version in the Pamir area, indicating the area as Chinese.

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August 1950, the approximate date of the most recent Chinese maps available.

It appeared from map evidence that the Communist regime hoped to make good the historical claims of China to territory along the frontiers of the non-Communist countries to the south. For this reason, some Indian officials and newspapers became concerned. As long as the Nationalist government was in power in mainland China, representation of the claims against India on Chinese maps was viewed with comparative equanimity, but when the same claims were shown on maps of a revolutionary and "expansionist" regime, Indian officials started to pay more attention to Chinese cartographic products. Certain Indian newspapers assumed that the Chinese Communists had originated the claims against India. In the American press also, the false impression that Red China invented rather than inherited claims against India was given currency.

By February 1951, the Peiping government felt it advisable to allay the fears of China's southern neighbors. It gave assurances to the Indian Government that Chinese maps which indicated the China-India boundary as lying within the territory of Assam were old and had not been officially adopted by the Communist government. About the same time the Burmese ambassador in Peiping was told that China disavowed any territorial ambitions against Burma. It was declared that a map in the official Chinese People's Weekly showing a part of Burma included within China was merely a copy of an old map. It remains to be

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seen whether the Communist government will implement these assurances by requiring that future maps of China show only the Indian and Burmese versions of the southern boundary.

The Chinese Communist regime is understandably circumspect about presenting its historical claims against the USSR. Even for that area, however, the Chinese do not seem anxious to go all-out in recognizing the Soviet position. Perhaps even Moscow does not frown upon the Chinese cartographic claim to the Pamir area. Continued representation of this claim on maps is a salve to Chinese national pride and presumably costs the Soviets nothing. No information received has indicated that Chinese administrators are actually setting up shop in the eastern Tadzhik SSR, nor is there any indication that Mt. Stalin has been renamed Mt. Mao or that Mt. Lenin has become Mt. Chou.

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## II. SURVEYING AND MAPPING IN THE BELGIAN CONGO

### A. Introduction

Systematic modern surveying and mapping in the Belgian Congo began in 1931 with the establishment of the Service Cartographique et Géodésique du Gouvernement Général de la Colonie. Before this, most of the surveys were for the purpose of boundary demarcation or mineral exploitation. By the outbreak of World War II, an official mapping program was well under way. After an interruption during the war years, the program was resumed. It was further intensified in December 1949, when all mapping and surveying was transferred to the Institut Géographique du Congo Belge, a new agency with wider powers and fewer budgetary restrictions than its predecessor. Plans have now been formulated for mapping the entire colony in varying degrees of detail, depending on the economic importance of the individual areas. Official mapping has been supplemented by the work of the two large mining companies -- Comité Spécial du Katanga (CSK) and Comité National du Kivu (CNK) -- both of which maintain cartographic services that have produced maps of their respective concessions.

Surveying and mapping in the Belgian Congo present a number of problems. Heavy rainfall and high temperatures are hard on men and instruments, dense vegetation restricts visibility and ground movement, and cloudy weather makes it difficult to take satisfactory aerial photographs. A shortage of skilled personnel has delayed the entire program.

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According to Belgian authorities, natives are useful only for the simpler types of work but are not capable of doing skilled work, even under European supervision. To date, the European personnel, chiefly Belgian, has been small in number.

B. Map Agencies

1. Governmental

a. The Service Cartographique et Géodésique, established at Léopoldville in 1931, was a unit of the colonial government and was staffed by both military and civilian personnel. Although guidance was local, this office was similar to other parts of the Gouvernement Général in that its key personnel was appointed by the Belgian government at Brussels. Professional ties with the Belgian Service Cartographique were close.

The Service Cartographique et Géodésique was responsible for all surveying and mapping activities of the Gouvernement Général. It produced the topographic and planimetric maps of the colony and supervised the mapping activities of other governmental offices. In 1946, the staff consisted of four or five Belgians and a number of native draftsmen. There was considerable interchange of the European personnel between office and field. Maps were compiled by members of the field staff while serving their turns at the office, not by native draftsmen. The staff had high standards of service and its work showed both accuracy and originality.

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b. The Institut Géographique took over the functions of the Service Cartographique et Géodésique after 7 December 1949 pursuant to a decree issued by Prince Charles, Regent of Belgium, at the proposal of the Ministère des Colonies. The new organization, unlike its predecessor, is outside the general administrative structure of the colony and is responsible directly to the Governor General. Although the annual budget must be approved by the Governor General, the Institut Géographique is financed by the Ministère des Colonies on an allotment separate from that of the colony as a whole. This arrangement permits expansion of the mapping agency and its program without budgetary conflict with other departments of the Belgian Congo Government. Professional supervision is provided by the Service Cartographique et Géodésique of the Ministère des Colonies in Brussels.

The new organization was probably planned for a twofold purpose. First, the Belgian Government wishes to develop in the Belgian Congo a high-class mapping organization capable of performing on the spot all phases of topographic surveying, cartography, and map reproduction. No Belgian Congo maps could be printed during the German occupation of Belgium in World War II until printing arrangements could be made in Pretoria, Union of South Africa, and the Government desires to avoid a similar occurrence in event of another invasion. Second, the new organization makes it possible to increase the facilities and personnel of the mapping agency without limitation by the colonial budget. Since the reorganization, equipment for aerial photography and photogrammetry

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has been ordered, a Bausch and Lomb Multiplex unit for photogrammetric compilation was installed in August 1950, and three "Narita" type rectifiers for use with vertical photographs have been delivered to the Belgian Air Force for use in mapping the Belgian Congo.

The Institut Géographique is the official mapping agency of the Belgian Congo and, as such, is responsible not only for topographic mapping but also for all special-subject maps of other departments of the government, none of which has mapping facilities. The organization of the Institut has not been completed, but details of the plan are to be published in the first annual report of the Institut Géographique, scheduled for early 1951.

When the Institut Géographique replaced the Service Cartographique et Géodésique a change was made in key personnel, but the director of the old organization remained as the chief of the Topography Division. The European staff numbered 50 as of September 1950 and may have reached 75 before the close of the year. It is expected that a maximum of approximately 200 will be reached by 1954. The Institut Géographique is a civilian organization, with members of its staff holding reserve rather than active commissions in the Belgian Army.

## 2. Non-Governmental

The Comité Spécial du Katanga (CSK) and the Comité National du Kivu (CNK), the two largest mining and commercial concessionaires in the Belgian Congo, have their own cartographic staffs and have made excellent maps of their concessions.



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The CSK, in order to base its work on a thorough knowledge of its territory, created a Service Géographique et Géologique in 1919. The Service was commissioned to establish a triangulation survey sufficiently precise and compact to serve as a base for a general topographic map of Katanga at the scale of 1:200,000. It was also to make a study of the geology, relief, hydrography, soils, and vegetation. Up to the present, 13 topographic sheets of this area have been published and a number of special-subject overprints have been prepared. Seven of these sheets, with accompanying texts, have been combined into the Atlas du Katanga.

The CNK has published several maps at various scales of the territory over which it exercises control, which includes parts of the provinces of Orientale and Kivu.

### C. Surveys

#### 1. River Surveys

Among the early surveys of the Belgian Congo was one of the Congo River from Léopoldville to Stanleyville prepared by George Grenfell, a Baptist missionary. Ten maps at 1:250,000, prepared from this survey, cover the river. Other river surveys were made by explorers and government officials. Before 1900, numerous points were established astronomically, the chronometer longitudes being checked by observations of the moon. Elevations were determined barometrically. Errors in this type of surveying amount to two or three seconds of latitude, one

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minute of longitude, and 100 feet in elevation. Such errors are characteristic of astronomic control points within the forest area.

## 2. Triangulation

Most of the Belgian Congo has not been accurately surveyed. Geodetic surveys have been carried out in scattered parts of the country, and accurate surveys have been made along some of the frontiers to establish boundaries, especially where they are not determined by natural features. Before 1910, such a survey had been made cooperatively by Angola and the Belgian Congo along their common boundary. The boundary between the Belgian Congo and Northern Rhodesia has also been determined by joint British-Belgian triangulation extending from the Luapula River to the Congo-Zambezi divide, and along the divide as far as  $24^{\circ}\text{E}$ . The eastern frontier between Tanganyika and Lake Albert has been accurately surveyed by boundary commissions. These surveys are connected to the arc of triangulation along the meridian of  $30^{\circ}$ , which extends north from Cape Town and will eventually be connected with Cairo. In the trust territory of Ruanda-Urundi a complete secondary triangulation has been carried out by the Service Cartographique et Géodésique.

Not until the early 1920's, after many of the boundaries had been demarcated, were efforts made to survey accurately any large areas within the Belgian Congo itself. These surveys were made chiefly in areas of important economic development. Approximately four-fifths of the area of Katanga in the southeastern part of the Belgian Congo has

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now been basically surveyed. Most of the surveying, which began in the 1920's, has been done by the Service Géographique et Géologique of the CSK, the organization possessing the mineral and commercial concessions in this area. This triangulation on Katanga is connected with that in Ruanda-Urundi by a chain observed along the western wall of the Rift Valley. Other sections in which triangulation surveys have been made are the Bas-Congo, the Kilo Moto mining region, and the mineral zone of the Province of Kivu.

Second-order triangulation is to be extended along the frontiers, and along selected meridians and parallels within the Belgian Congo, especially in the east and west. In 1948, two triangulation missions were at work. One was charged with establishing a triangulation chain along the parallel of 6°S, which would connect the various triangulation networks of eastern Belgian Congo with those of Bas-Congo. Northwestern Belgian Congo is largely tropical rain forest, which is considered too difficult for work with theodolite and chain. Instead, a series of points are to be determined astronomically and information from aerial photos will be referred to these points.

### 3. Aerial Surveys

To date, only small parts of the country have been surveyed by aerial photography. The Northern Rhodesia-Katanga boundary survey of 1930 was based to a slight extent on aerial photographs. Air surveys combined with thorough ground work have proved useful in the Bas-Congo. In Katanga, aerial surveys have been used to a limited extent in the

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preparation of a detailed series of maps of a part of the province. According to present plans, aerial photography will be used extensively in mapping unsurveyed areas.

D. Map Coverage

Cartographic agencies of the Belgian Congo and of Belgium have produced a number of maps of the Congo ranging in scale from 1:5,000,000 to 1:100,000. In general, these maps are of high cartographic quality.

1. Maps at 1:5,000,000

Coverage at this scale includes all of the Belgian Congo and the trust territory of Ruanda-Urundi on a single sheet. Relief is shown by approximate contours at altitudes of 200, 500, 1,000, 1,500, 2,000, 2,500, 3,000, and 4,000 meters. The map is published in color and in the following different editions, which range in date from the 1920's to the 1930's:

- a. La Carte: Politique et Administrative.
- b. La Carte: Hypsométrique.
- c. La Carte: Hydrographique.
- d. La Carte: Géologique.
- e. La Carte: Voies de Communication.

2. Maps at 1:3,000,000

This series consists of special subject maps on a standard base reduced from the Carte Internationale du Congo Belge at 1:1,000,000. The smaller scale permits inclusion of the entire Belgian Congo on a

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single sheet. The series was first published in 1945, and revisions are made either annually or as the need arises.

The following maps have been published as ozalid prints unless otherwise noted:

- a. Carte Administrative et Politique.
- b. Carte des Stations de Météorologie Agricole.
- c. Carte de Renseignements Aeronautiques.
- d. Carte des Missions Catholiques.
- e. Carte des Missions Protestantes.
- f. Carte des Réserves Forestières.
- g. Carte Didactique.
- h. Carte des Télécommunications.
- i. Carte des Voies Navigables.
- j. Congo Belge (Multicolored, lithographed).

3. Maps at 1:1,000,000

a. Carte Internationale du Congo Belge is regarded as the basic map of the Belgian Congo. The early or provisional editions of 1935 (in black and white) and of 1942 (in color) were acknowledged to be inadequate. A new edition, however, has been completed and will be issued soon by the Service Cartographique, Ministère des Colonies, Brussels.

b. Carte Routière Officielle de la Province is a set of road maps covering each province on a single sheet. All are ozalid prints

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and are revised annually, providing there is enough new material to justify revision.

c. Carte Individuelle du Territoire is a set of planimetric maps of the individual territories, which were published at different dates. A few are at scales other than 1:1,000,000.

4. Maps at 1:500,000

a. Carte Géologique au 1:500,000, a set published by the Commission de Géologie, Ministère des Colonies, is planned to cover the entire Belgian Congo in 68 sheets. To date only 13 sheets are known to have been published, chiefly during the 1930's.

b. Province de Léopoldville is a topographic set of 10 black and white sheets that covers the province of Léopoldville. It was published in 1939 by the Service Cartographique, Ministère des Colonies.

c. [Part of the West Belgian Congo] is a set of 15 topographic sheets in black and white, with dates ranging from 1934 to 1939. It covers a portion of the Belgian Congo between latitudes 5°S and 5°N and longitudes 16° and 22°E.

d. Carte Routière Officielle des Territoires du Ruanda-Urundi is a road map of the trust territory of Ruanda-Urundi published at the scale of 1:500,000 in order to secure greater clarity than is possible at 1:1,000,000.

5. Maps at 1:200,000

a. Katanga -- Three multicolored map sets covering topography, geology, and soils have been published for a portion of the Province of

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Katanga in the southeastern part of the Belgian Congo. These maps were produced by the Service Géographique et Géologique du Comité Spécial du Katanga, except for two of the topographic sheets, which were prepared by the Service Cartographique du Ministère des Colonies. The 15 topographic sheets, which serve as bases for the other two sets, show first-, second-, and third-order triangulation as well as other topographic information. The maps were issued between 1926 and 1940.

b. Ruanda-Urundi -- This topographic set of six sheets in black and white covers the entire trust territory. It was published by the Service Cartographique du Ministère des Colonies during 1937. Unfortunately the maps do not carry a legend, but the main features are identified by conventional symbols.

c. Kilo Moto -- A black and white map of the Kilo Moto mining region in the northeastern part of the Belgian Congo was prepared in 1938.

#### 6. Maps at the Scale of 1:100,000

The Bas-Congo (7 sheets) and the trust territory of Ruanda-Urundi (31 sheets) are shown on topographic maps at 1:100,000 produced between 1925 and 1938. The maps, in black and white, were published by the Service Cartographique du Ministère des Colonies. Relief is indicated by approximate contours with intervals of 50 meters. Triangulation points are shown on all the sheets for Ruanda-Urundi and

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on the sheets covering the Angola-Belgian Congo border near the mouth of the Congo, but on none of the others.

E. Future Mapping

The only parts of the Belgian Congo mapped at large scale to date are the more easily surveyed areas, which are also the most important areas economically. Thus most of the country, especially in the central and northern parts, remains to be surveyed and mapped. A comprehensive plan for surveying and mapping most of this area has been formulated. Insofar as possible aerial photography will be used, although it will be necessary despite the difficult terrain to use ground crews to obtain geodetic control points. The first surveys will be made in areas considered economically important, and maps will be issued in regular editions. Areas that are not known to contain important resources will be photographed, and mosaics will be issued as provisional map editions. Maps of these less important areas will be prepared after the higher priority areas have been mapped. Even though plans have been made for this survey, the rate of progress will be slow because of the difficulties and expense involved.

The government of the Belgian Congo appears to be proceeding wisely in its surveying and mapping program. The extensive area remaining to be surveyed calls for a comprehensive plan. To carry this plan to completion requires a long period of time and large expenditures. Such a plan has been included in the Plan Décennal pour le Développement Économique et Social du Congo Belge. Under this plan, the surveying

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and mapping program will be spread over a period of years. It is expected that a definite portion of the unmapped area will be surveyed each year.

Even with the most careful planning and the best use of facilities and men, it will be many years before the Belgian Congo is accurately and completely mapped at a large scale.

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III. BRIEF NOTICES

A. A New Map Series on Railroads of Africa

The accompanying map, Railroads of North Africa, 1950: French and Spanish Zones, (CIA 11746), is the first of a series of four maps being prepared by the Geographic Division of CIA to provide current railroad coverage for all of Africa.

The other three maps, now in various stages of research, compilation, or reproduction, are as follows:

CIA 11747 Railroads of Egypt and Libya, 1950.

CIA 11798 Railroads of Tropical Africa, 1950.

CIA 11799 Railroads of South Africa, 1950.

These maps will be included in subsequent issues of the Map Research Bulletin.

The series is designed to fill the need for accurate and up-to-date maps supplying data on gauge, trackage, electrification, approximate alignments, and ownership of all known operating railroads on the continent, except street railways and suburban lines in metropolitan areas. Terminals, gauge interchange points, and junctions are named, insofar as possible. In order to emphasize the railroad information, all other detail is held to a minimum.

Differences in the extent of areas covered by the individual maps and in the density of the rail nets necessitate the use of different scales for the four maps and the use of insets on some.



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Copies of the attached map are now available for distribution and may be obtained from the CIA Map Library. It should be emphasized that the other three maps in the series will not be available for distribution until after they have appeared in subsequent issues of this publication.

B. Reproductions of Yugoslav and Bulgarian Maps

Retention copies of the following maps are now available from the CIA Map Library. Both were reproduced by half-tone color separation, with the addition of a black line plate. For the convenience of users, the legends were translated into English, but information on the face of the maps is the same as on the originals. The two are well suited by size and colorful presentation for use as wall maps and also carry a wealth of reliable detail.

1. Federativna Ljudska Republika Jugoslavija, 1:1,500,000, Državna Založba Slovenije, Ljubljana, January 1950, CIA 9088.

The original map from which this color separation was made was reviewed in Map Research Bulletin No. 16, with particular attention to transportation. In addition to transportation data, the map shows mines, spas, monasteries, and ruins, almost all of which are named. A serious effort was made to locate obscure places currently receiving much notice in the Yugoslav press -- for example, Mojkovac, the site of the projected wood and wood products combine in Montenegro, and Mavrovo, the ambitious Macedonian power project. The map is also an excellent source for the names of regional and physical features.

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The only internal political divisions shown are the six republics, the Vojvodina, and Kosovo Metohija. The boundary between Slovenija and Hrvatska in Istria differs slightly from that given on other maps.

2. Map of Bulgaria (original Karta na Bŭlgariya), 1:1,000,000, D'rzhavnya Geografski Institut, [Sofiya], 1946, CIA 9083.

In spite of the 1946 publication date, this is the best general map of Bulgaria available. Its most striking feature is the vivid presentation of relief achieved by hill shading combined with hypsographic tints. A less obvious advantage is the use of the new Bulgarian orthography adopted in February 1945. Because very few maps of Bulgaria available in this country carry the new place-name forms, the map is a valuable source even though many names have been changed in recent months. Some seven hundred populated places are shown according to seven categories of size and administration. Monasteries, monuments, mines or quarries, spas, and ruins are also located, but not named in most cases. Transportation data include standard and narrow-gauge railroads (completed and under construction), roads, passes, and harbors. Except for the inclusion of a railroad crossing the Greek border near Petrich, the railroads are reliably shown as of the date of publication; they are not complete as of 1951.

Two symbols on the map are not identified in the legend. The first is a narrow double row of hachures extending from Simeonovgrad to Burgas. It appears in similar form and location on the Bulgarian 1:100,000 and 1:500,000 map series. On the latter (dated 1943), it

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is identified as a trench or old fortification. The second symbol is a dotted boundary line that outlines the three northern areas ceded to Yugoslavia by Bulgaria in 1919 but not the Strumica sector ceded by the same treaty. This curious boundary treatment is probably a result of the unusual political situation in 1946. The year was a period of official Yugoslav-Bulgar accord during which Yugoslav influence was in the ascendancy in Macedonia, including Perin Macedonia. Possibly the boundaries represented hope for a grant of comparable privileges to Bulgaria in the northern areas, or even an exchange of territory; possibly they were simply an expression of irredentism which it was not politic to promote for Macedonia at the time.

C. Population Maps of Finland

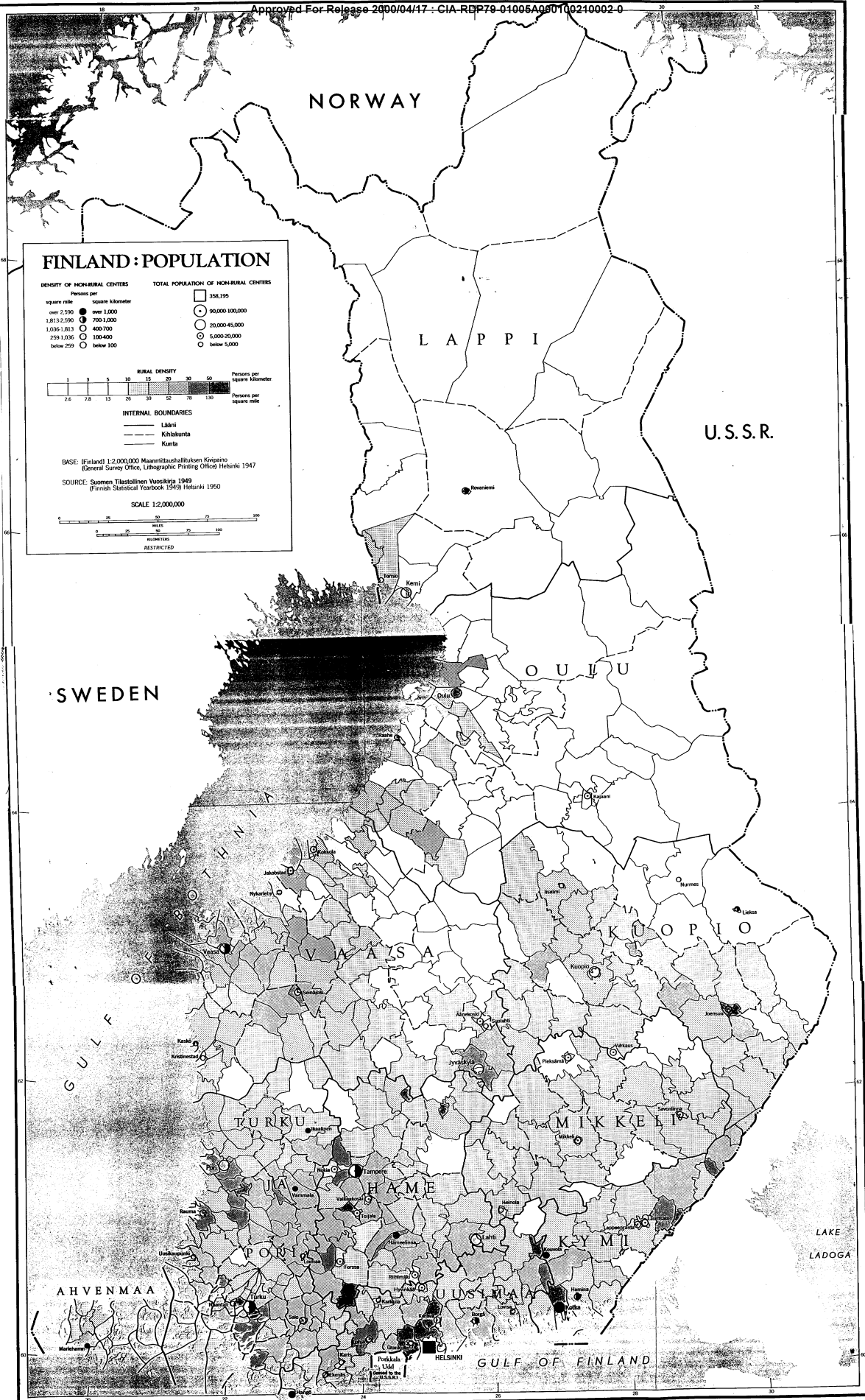
The exodus of Finns from territory ceded to the USSR, followed by the adoption of a government resettlement program in 1945, has changed the population pattern of Finland. Until recently no maps that show the population shifts have been available. A 1951 map, Finland: Population at 1:2,000,000 (CIA 11792), indicates some of the changes and supersedes Plate 22, of the Atlas of Finland, 1925, as the most detailed population density map of the country. The population data for the new map are taken from 1 January 1947 tax lists, which may be considered reliable since universal registration for taxation purposes is compulsory. The information on the base was taken from a Maanmittaushallitus (General Survey Office) map, with administrative boundaries corrected to 1947.

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For ease of comparison, rural density categories used on CIA 11792 are the same as those used on the 1925 Finnish map. The new map, however, is at a larger scale and includes one item not on the earlier map -- density of population in non-rural places.

Several recent Finnish maps deal specifically with the effects of the resettlement program. These maps, photostatic proofs of which are available at the CIA Map Library, will be included in a forthcoming new edition of Suomen Maantieteen Käsikirva (Finnish Geographical Handbook). Unfortunately, the maps are all at small scale (from 1:5,250,000 to 1:3,200,000), and two of them do not show internal administrative divisions. Statistical data available in Washington show population changes according to lääni (first-order administrative units) only; from the Finnish maps, it is possible to identify the areas within the lääni where changes have occurred. For this reason, the maps are of special value.

The new Finnish maps in the CIA Map Library supply the following demographic information: (1) distribution of rural displaced population at the conclusion of the evacuation phase, 1 January 1945 (Call No. 71079); (2) compulsory resettlement areas and the most important adjustment transfers (Call No. 71076); (3) distribution of rural displaced population on 31 December 1947 (Call No. 71078); (4) number of farms and lots given to the displaced population in rural districts and cities on 31 December 1947 (Call No. 71080); (5) number of displaced people in rural districts and cities as a percentage





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of the local population on 31 December 1947 (Call No. 71081); and (6) building activity of the displaced population according to agricultural and economic societies, 31 August 1948 (Call No. 71077).

Other population maps of use for background information but based on prewar data include:

Suomen Historian Kartasto (Atlas of Finnish History), 1949, CIA Call No. Atlas F141 (History).

Plate 12, Distribution of Population in 1939 -- the most recent dot map available.

Plate 57, Internal Migration in the Years 1878-1939.

Atlas of Finland, 1925, CIA Call No. Atlas F141 (1920 data).

Plate 1, Map No. 1, Population and Boundaries -- and isopleth map showing population density.

Plates 13-16, Vegetation and Distribution of Population -- a dot map.

D. A New Economic Map of Sweden

A new but undated map entitled Ekonomisk-Geografisk Karta över Sverige, at the scale of 1:1,000,000, has recently been received by the CIA Map Library (Call No. 70708). The map, which is one of a series on economic and social aspects of the geography of Europe edited by Professor W. William-Olsson of the Handels Högskolan, Stockholm, is the best and most comprehensive recent economic map of Sweden. Although much of the information given had already been

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mapped, William-Olsson presents on a single, easily readable sheet data that would otherwise require the use of several maps at different scales.

Data on population and economic activities are taken from the 1940 census, and industrial locations agree with those of the smaller-scale maps of individual industries in Sveriges Industri (CIA Library Call No. 41/M6 740.S9). Agricultural information is limited to the distribution of cultivated land and the boundaries of agricultural districts. Although this information is based on a 1921 map, Karta över Sveriges Åkerareal, by Dr. C.J. Anrick, topographic maps and 1940 statistics were used for revision and placement of symbols. Revisions have not been field checked.

On the new map towns are classified according to their chief economic activities, using the following categories: diversified, mixed industrial, mining and metal, timber, timber and metal, textile, partially industrialized, administrative, communications, agricultural, and fishing. No criteria are given for the differentiation. The population of towns is indicated by spherical symbols, keyed to a scale that shows the population figures represented by spheres of any size.

#### E. Nordrhein-Westfalen Maps

Four industrial maps of Nordrhein-Westfalen have recently been published by the Ministerpräsident des Landes Nordrhein-Westfalen, Landesplanungsbehörde, Düsseldorf. The maps are in the same set as the Ruhr coal production map (CIA Call No. 65111) described in Map Research Bulletin No. 18 of August 1950 and, like it, will appear as plates in

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the forthcoming Nordrhein-Westfalen Atlas. The new maps, all of which are in the CIA Map Library are: (1) Veredlung der Ruhrkohle (Refining of Ruhr Coal), 1:100,000, January 1950 (Call No. 70610); (2) Braunkohle und Steinkohle im Raum Köln-Aachen (Brown Coal and Bituminous Coal in the Köln-Aachen Area), 1:100,000, February 1950 (Call No. 70037); (3) Die öffentliche Gasversorgung (The Public Gas Supply), 1:500,000, September 1950 (Call No. 70953); and (4) Das Handwerk im Land Nordrhein-Westfalen (Handicraft in Land Nordrhein-Westfalen), 1:1,000,000, April 1950 (Call No. 70161).

The maps provide the best recent coverage of the industrial core of western Europe. They are far superior in quality to the French maps published in the study, L'Économie de la Ruhr, Études et Documents Series D-1 Allemagne -- 1, Institut National de la Statistique et des Études Économiques, 1947. The group of German maps is particularly significant because of the recency of the data, the large amount of detail shown, and the changes that are evident from comparison with prewar maps. Data on the gas supply map are for 1949 and on the other three for 1948. Among the details included are location of individual mines, coking and gas plants; production and number of workers in each; and handicraft areas, with the number of workers employed. The maps show that mine locations have changed little since the beginning of World War II, but fewer are now operating. A comparison with older maps indicates an increase in the extent of gas pipelines.

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The scales used are well chosen, and the maps are all legible. The heavy concentration of economic activities in the Ruhr, however, results in overcrowding of symbols in some areas. Statistical data are well presented except on the handicraft map, where different quantitative scales are used to show total population and the number of workers in handicrafts.

The projected publication date for the entire Nordrhein-Westfalen Atlas is not known. If other subjects are treated in as much detail as industry, however, it seems probable that there will be a considerable time span between publication dates of the various atlas plates, and that maps of different subjects may therefore not be comparable.

F. Al Jazīra Desert Administration Directorate, Iraq

A new administrative unit, Al Bādiya al Jazīra (Jazīra Desert Administration Directorate), has been established in northwestern Iraq, between the Tigris and Euphrates rivers. The new unit comprises portions of the liwā's of Mosul, Baghdad, and Dulaim. Its boundaries were announced in an instruction issued by the Iraqi Ministry of Interior on 26 June 1950.

The new unit, like the older Desert Administrations, Al Bādiya al Junūbiya and Al Bādiya ash Shimāliya, has virtually no settled population, and the nomadic inhabitants are administered by the central government through a system of police posts responsible to the Ministry of the Interior, rather than by the usual administrative organization of the liwā's. The administrative center of the new directorate is at

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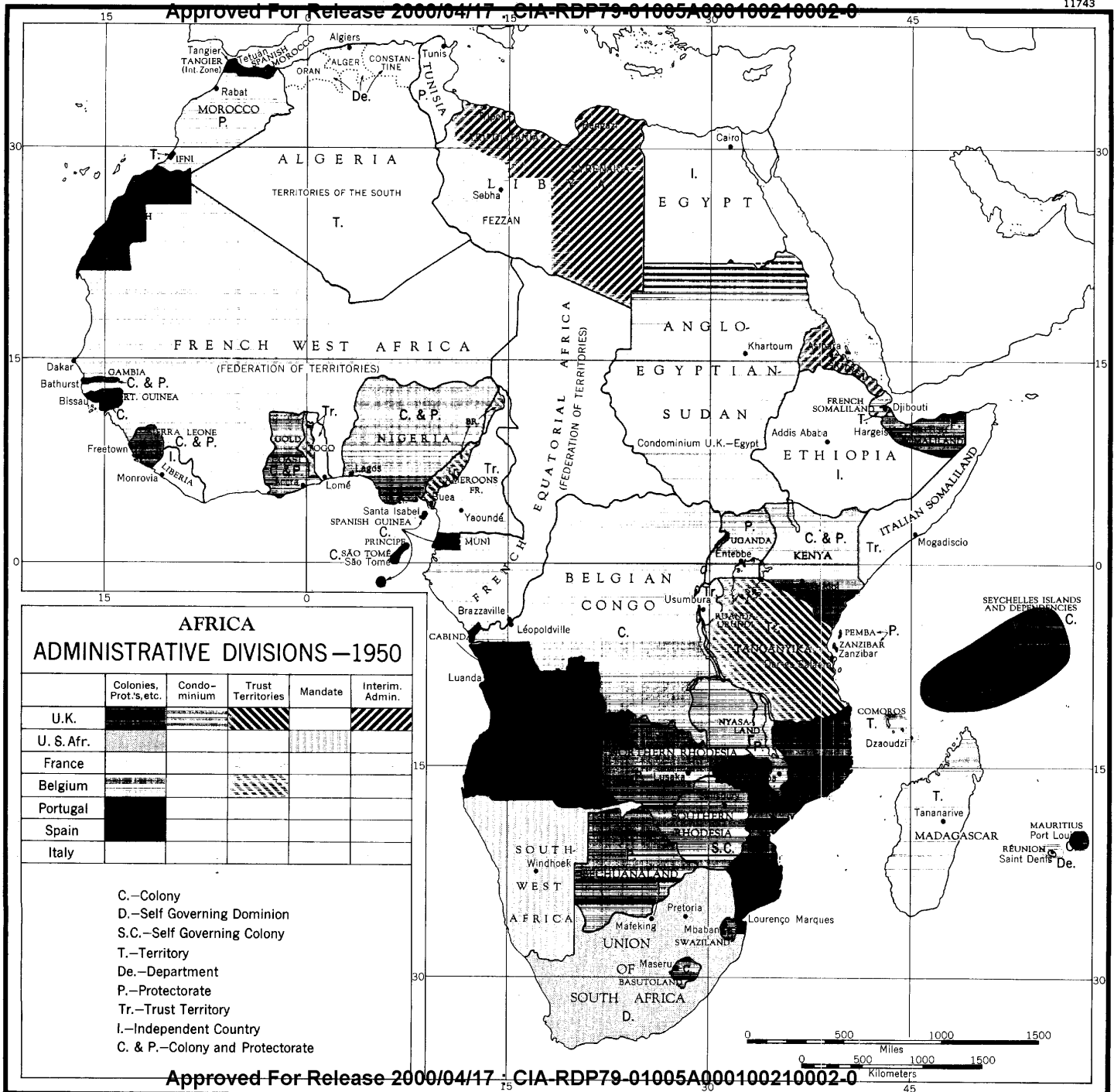
Al Hadhr police post. It is believed that the development of a significantly large settled population, possibly through irrigation projects, would result in the return of the settled area to the normal administrative control of the liwā that governed it prior to establishment of the new administrative unit and of which it is still legally a part. For the present, cartographic representation of internal boundaries in this area should indicate the concurrent existence of the de jure liwā boundaries and the de facto Desert Administration boundary.

The instruction of 26 June describes in great detail the boundaries of the new unit, but several of the points mentioned cannot be located on the most detailed maps available in Washington. Thus far it has been possible to draw only an approximate outline of the area, but an effort is being made to obtain additional information.

G. African Administrative Divisions

The accompanying map of African administrative divisions is now available in the CIA Map Library. Its value lies in the presentation of basic political information in concise, handy form. Through error the appropriate color has been omitted from the Bissagos Islands in Portuguese Guinea and from Moheli Island in the Comoros.

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