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PROPOSED ORGANIZATIONAL PATTERN OF THE MALARIA
ERADICATION PROGRAMME IN THE
EGYPTIAN PROVINCE OF THE U.A.R.

by

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MALARIA CONTROL WORK

INTRODUCTION

It is known that malaria was found in the Egyptian territory of the U.A.R. since ancient times, even in the time of the Pharaohs. Hieroglyphic writings on Dandara temple describe a disease exactly similar to malaria. But the disease received appropriate or rather specific care from the Government only at the beginning of this century, because of an epidemic of malaria in the Canal Zone. This care afterwards increased gradually until a special anti-malaria section was created in the Ministry of Public Health in 1936 on the occasion of another epidemic of the disease which occurred that year.

The anti-malaria section began its life with five units, the aim of which was to control malaria in the cities where they were situated. Since then the extension of the activities to rural areas has led to the establishment of forty-six malaria units with seventy-three sub-units.

The target of the malaria unit is to control the disease by the following measures:

- 1 - Larviciding by spraying with oil all collections of water situated within two kilometers outside the town where the malaria units are placed. This distance is only one kilometer in the case of the sub-units.

- 2 - Residual spraying of walls with D.D.T. wettable powder in the houses surrounding the city where the malaria unit is situated, and in neighbouring villages with high incidence of malaria.
- 3 - Treating the patients who either visit the malaria units or any other medical unit as outpatients, or who are seen by the anti-malaria field staff during their frequent visits to the villages.

These measures have given satisfactory results. However in spite of these measures, malaria incidence has increased lately and in 1958 there were 32617 positive malaria cases among 118,279 out-patients who attended malaria units, sub-units and other curative centres.

The steady increase in the malaria incidence in the country and the heavy and recurrent annual expenditures on its control (amounting to 1.2 million dollars a year) have prompted the Government to launch a malaria eradication programme.

THE PLAN FOR THE MALARIA ERADICATION PROGRAMME

The planning of the malaria eradication programme comprises the following steps :

1. Pre-eradication survey during 1959 to develop a comprehensive plan of operation for the whole country.
2. Preparation phase (1960) to complete the training of the required staff and to develop operational manuals, and to negotiate with the Government, regarding financial and administrative commitments.
3. Attack phase: during 1961 by DDT residual spraying of all the premises in areas under malaria risk. For three successive years, the operation will be done by steps to protect the 15-16 million inhabitants living under risk. Surveillance activities will be developed during the attack phase to reach maximum efficiency by the third year of spraying.
4. Consolidation phase: by continuation of active and passive detection of malaria cases and their radical treatment as well as by eliminating any residual foci of transmission. This phase will continue for three years after discontinuation of spraying.
5. Maintenance phase: when the malaria eradication service will be integrated in the public health structure of the Government. This phase will continue so long as malaria infections exist in the world.

The Administrative Pattern

To facilitate the work, and in particular, to have time to prepare the appropriate number of trained personnel, the country was divided into 3 main zones: "A" to the East of the Delta, "B" the rest of the Delta, and "C" Cairo and the Southern part of the country, known as Upper Egypt. (See enclosed Map).

The zones are divided into inspectorates, each covering a province in general. The inspectorates, in turn, are divided into malaria units, each covering an administrative district, the population of which is about 100,000 and sometimes up to 150,000. Each malaria unit is sub-divided into sub-units, each of which will be in charge of 10,000 population.

Personnel & Responsibilities

The department of malaria eradication comprises the following main branches::

- I. Headquarters in the capital of the Republic.
- II. Inspectorates in every province.
- III. Malaria units in every district.

I) The Headquarters includes the following personnel as is shown in chart No. I:-

1- Director General responsible for the technical and administrative direction and co-ordination of anti-malaria work throughout the country. He will be granted full authority by the government for the planning and execution of the programme. For consultation he will have a board of eminent persons concerned with malaria eradication work, as well as representatives of WHO and UNICEF.

2- Statistician: For statistical information.

3- Secretary for the D.G.

4- Deputy Director-General: will help the Director-General and replace him during his absence.

5- Director of the Preventive Section: responsible for the spraying work, guided by the D.G.
He will have with him the following staff (6-12):

6- Chief of field operations: To help N°5 in the organization and supervision of the spraying work, and supplies statistics.

7- Five draughtsmen, to prepare maps, charts and tables.

- 8- Inspector, for inspecting the spraying work in the whole country.
- 9- Chemist for insecticides, to check the effectiveness of D.D.T.
- 10- Technician to assist No.9.
- 11- Clerk: for the clerical work of the Preventive Section.
- 12- Typist.
- 13- Director of the Evaluation Section: responsible for the treatment surveillance and survey for mosquitoes, guided by the D.G. He will have with him the following persons (14-25).
- 14- Chief of field operations: to help No. 13 and supply statistics.
- 15- Inspector: to inspect the work of the personnel in the country.
- 16- Two draughtsmen to prepare charts, tables, etc...
- 17- Chief of laboratory: to supervise the work of No. 18.
- 18- Five microscopists: to examine blood-films brought to the headquarters for checking the work of the microscopists in the inspectorates.
- 19- Entomologist, for the entomological work of the section. He will have for his assistance the following persons (20-23).
- 20- Assistant entomologist.
- 21- Two surveyers: to collect mosquitoes for entomological work.
- 22- Two laboratory assistants, to examine mosquitoes collected.
- 23- One draughtsman for charts and tables etc...
- 24- Clerk for the clerical work of the Evaluation Section.
- 25- Typist.
- 26- Chief Administrator : Responsible for all the administrative work in the headquarters including transport and stores. He will have with him the following persons: (27-44).
- 27- Chief of stores: concerned with all supplies and spare parts related to transport and spraying.

He will have with him the following persons (28-34).
- 28- Mechanical engineer for the vehicles, concerned with all the work related to cars, motorcycles and bicycles.

- 29- Chief of transport concerned with the preparation of means of transport used.
- 30- Three mechanics to assist No. 29.
- 31- Nine drivers for the headquarters.
- 32- Clerk.
- 33- Mechanical engineer for sprayers, concerned with everything related to the sprayers.
- 34- Three assistant mechanics, to help No.33.
- 35- Chief of stores concerned with the supply of D.D.T.
- 36- Two clerks to assist No.35.
- 37- Chief clerk for personnel.
- 38- Two clerks to assist No.37.
- 39- Chief clerk for accounts.
- 40- Two clerks to assist No.39.
- 41- Chief clerk for archives and secretary.
- 42- Two clerks to assist No.41.
- 43- Two typists.
- 44- 15 janitors or messengers.

II. Inspectorates: each inspectorate includes the following personnel as is shown in chart No.2.

- 1- Provincial chief: responsible for all eradication work in the province according to rules from headquarters.
He will have with him the following personnel:
- 2- Assistant chief for spraying operations.
- 3- One Mechanic to look after the means of transport and sprayers in the province.
- 4- Three drivers for the three cars of the inspectorate.
- 5- Another assistant-chief for evaluation work.
- 6- One junior entomologist for entomological study in the province.

- 7- One assistant entomologist to assist No. 6.
- 8- One entomological technician". " " "
- 9- Ten microscopists for parasitological and entomological examinations.
- 10- One chief clerk.
- 11- One clerk for personnel
- 12- " " " finance.
- 13- Four messengers.

III. Malaria Units: each malaria unit includes the following personnel as is shown in chart No 3.

- 1- Chief to direct the work of the unit.
- 2- Chief supervisor to assist the chief of unit.
- 3- Supervisors - each to supervise the work of **three** foremen.
- 4- Foremen - one for every 10,000 population both for spraying & surveillance.
- 5- Spraymen - seven for every foreman (five for spraying and two for mixing, etc...).
- 6- One assistant mechanic to look after the vehicles, motorcycles, bicycles and sprayers.
- 7- One clerk for clerical work of the unit.
- 8- Two drivers for the two cars of the unit.
- 9- Two messengers.

Scheme of work

This could be mentioned mainly under **three** headings :

- a) Residual spraying with D.D.T.
- b) Larviciding.
- c) Surveillance.

a) Residual spraying :

Houses in malarious areas will be sprayed with D.D.T. - 50% w.p. for three successive years. In these areas, all houses

in villages with a population to 15,000 will be sprayed; in others of 15,000 to 50,000 only 50% of houses within the periphery will be sprayed; in those of 50,000 - 100,000 population, only 25% of houses will be sprayed. In towns of larger numbers of population, a varying percentage of houses lying in the periphery will be sprayed depending on the density of breeding of Anopheline vector in the neighbourhood.

The country is divided into several divisions, the smallest of which is the sub-unit which comprises the dwellings of about 10,000 population. For each sub-unit there will be a squad comprising one foreman and seven labourers; five of them are for spraying and the other two for helping in mixing etc... Two of the spraymen will use bicycles to go to neighbouring farms.

It was calculated that all spraying operations should finish in a two months' period on the basis that there are 50 Sq.meters of wall area per capita, and that the sprayman covers 2,000 Sq.m. of wall area per day.

Every three squads are looked after by one supervisor who visits them daily using a ~~motor~~cycle. The chief of the unit and the chief supervisor will supervise the work of the spraying squads, by visiting them frequently during the spraying period.

There are two cars (pickups) in every unit for the transport, supplies, etc..

In the inspectorate there will be the chief inspector and his two assistants who will look after the eradication activities in the whole province.

b) Larviciding:

In big cities of which the periphery only will be under residual spraying, there will be a larviciding team to control the breeding places for anophelines inside the town, weekly for a period of eight months starting from April. Oiling of the breeding places will be the method used.

c) Surveillance:

This will cover all the rural population of the country under malaria risk.

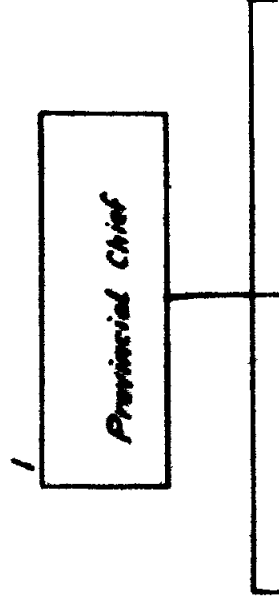
Active surveillance will be started during the attack phase to help in assessing the results of the spraying operations as to whether malaria transmission has been stopped and also to contribute to the reduction of parasite carriers through the treatment of patients. The surveillance agent will be responsible for approximately 10,000 inhabitants to be visited regularly at monthly intervals.

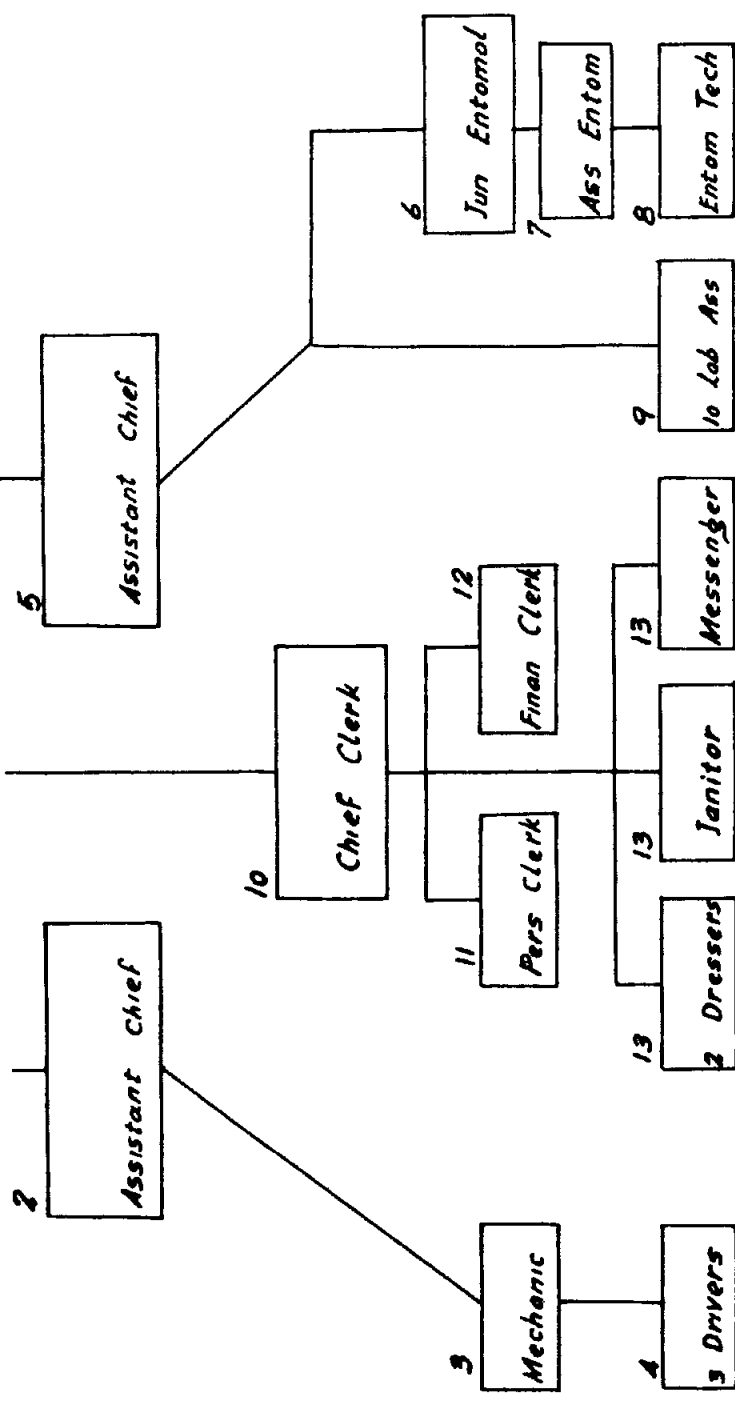
Passive surveillance and compulsory notification of malaria cases by all medical units and rural health centres will contribute also to the detection of malaria cases. During the third year of the attack phase, the surveillance system will reach its maximum efficiency and will continue through the consolidation phase after discontinuation of the residual spraying.

The programme with all its phases (attack, consolidation and maintenance) will be done by stages. The country will be divided into three main sectors as shown in the following table : (see Map)

	<u>Attack phase</u> (sectors)			<u>Consolidation phase</u> (sectors)		
<u>1st</u> year	A					
<u>2nd</u> "	A	B				
<u>3rd</u> "	A	B	C			
<u>4th</u> "		B	C	A		
<u>5th</u> "			C	A B		
<u>6th</u> "				A B C		
<u>7th</u> "				B C		
<u>8th</u> "				C		

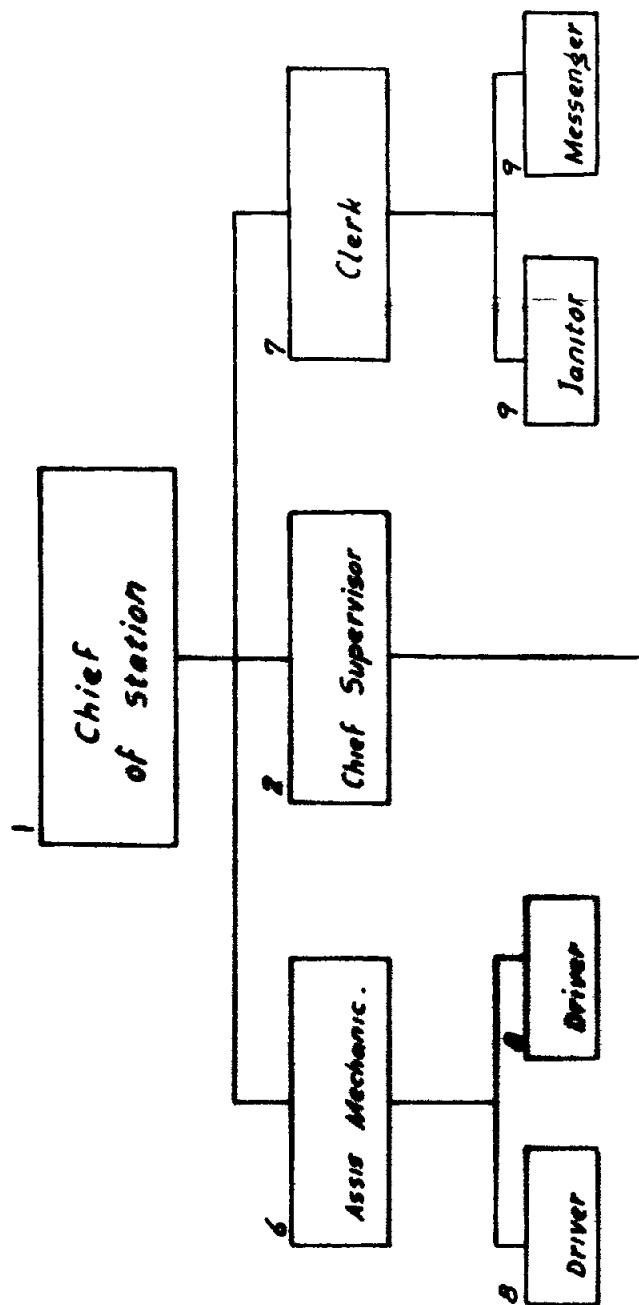
MALARIA ERADICATION INSPECTORATE

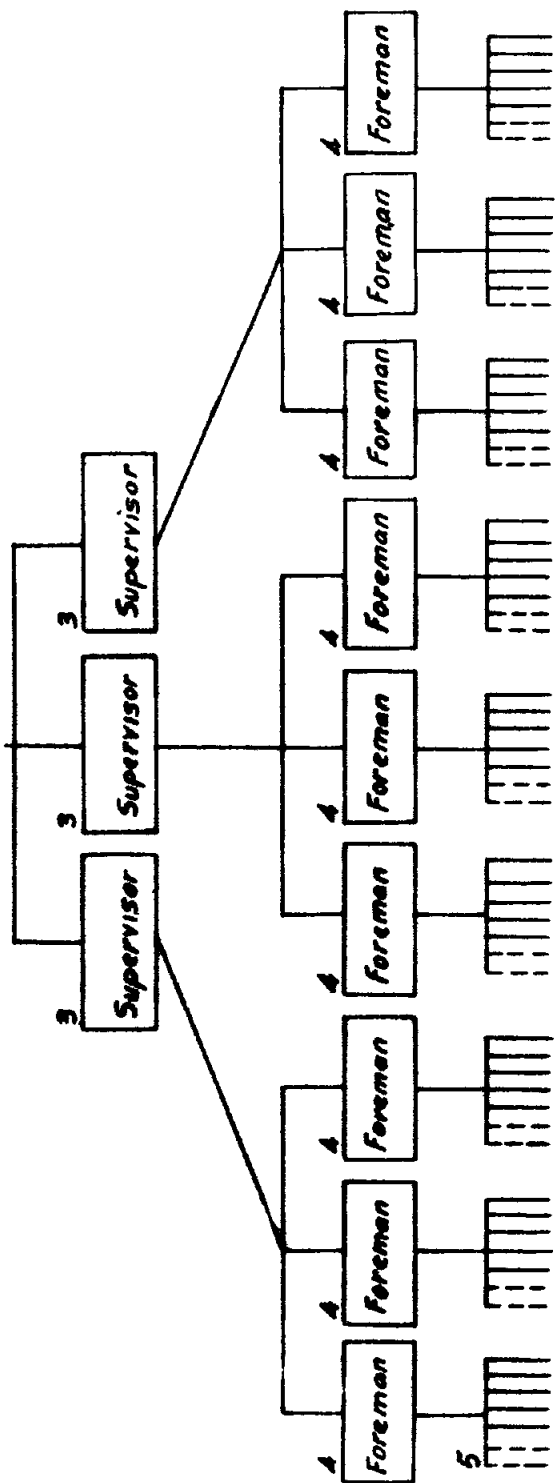




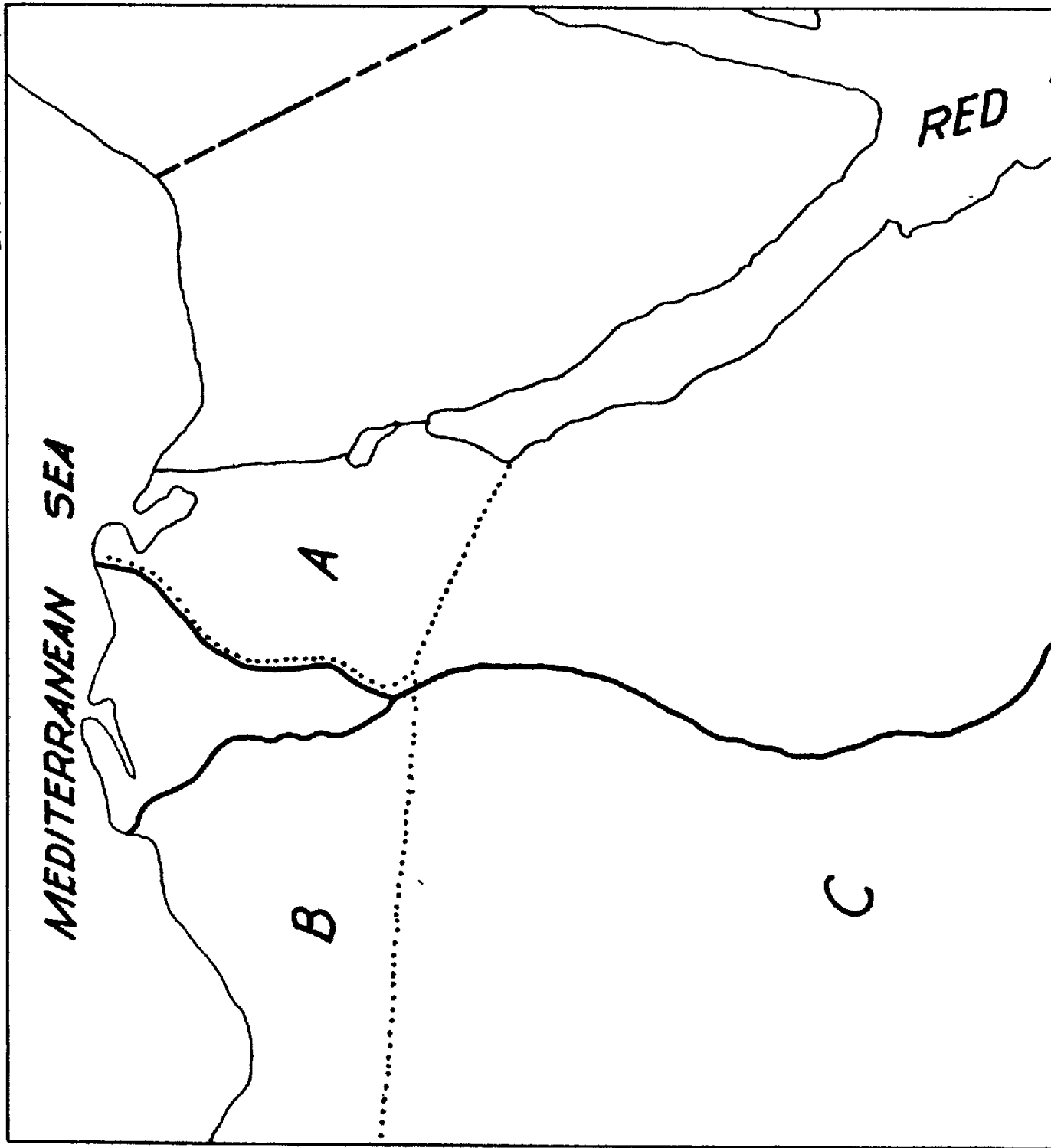
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MALARIA STATION





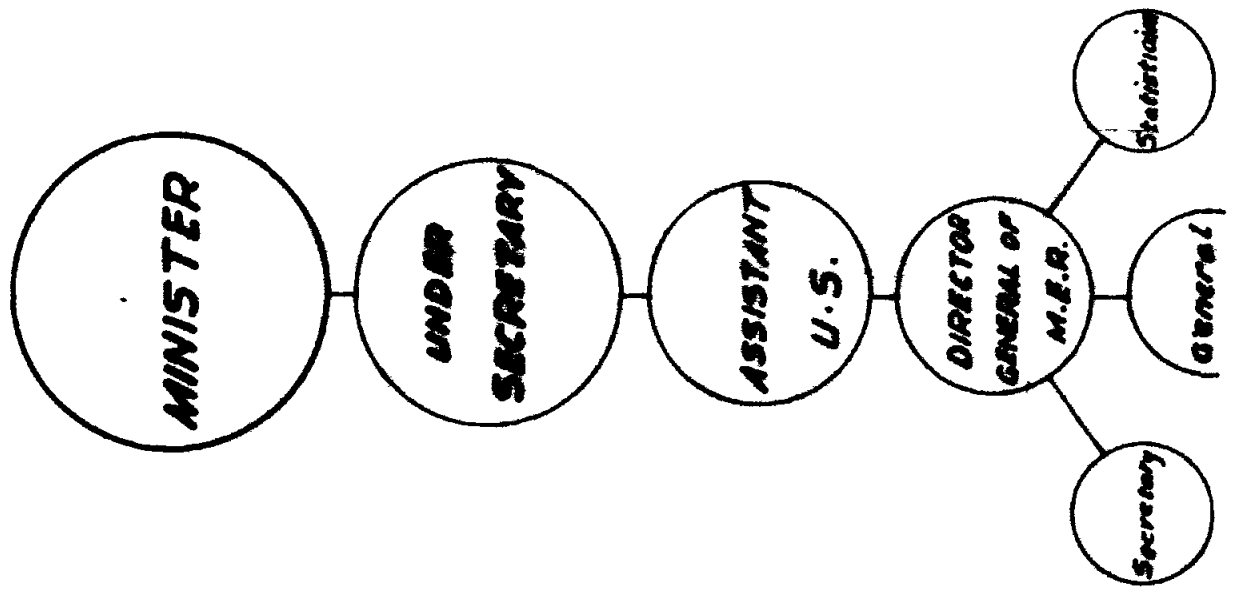
Labourers

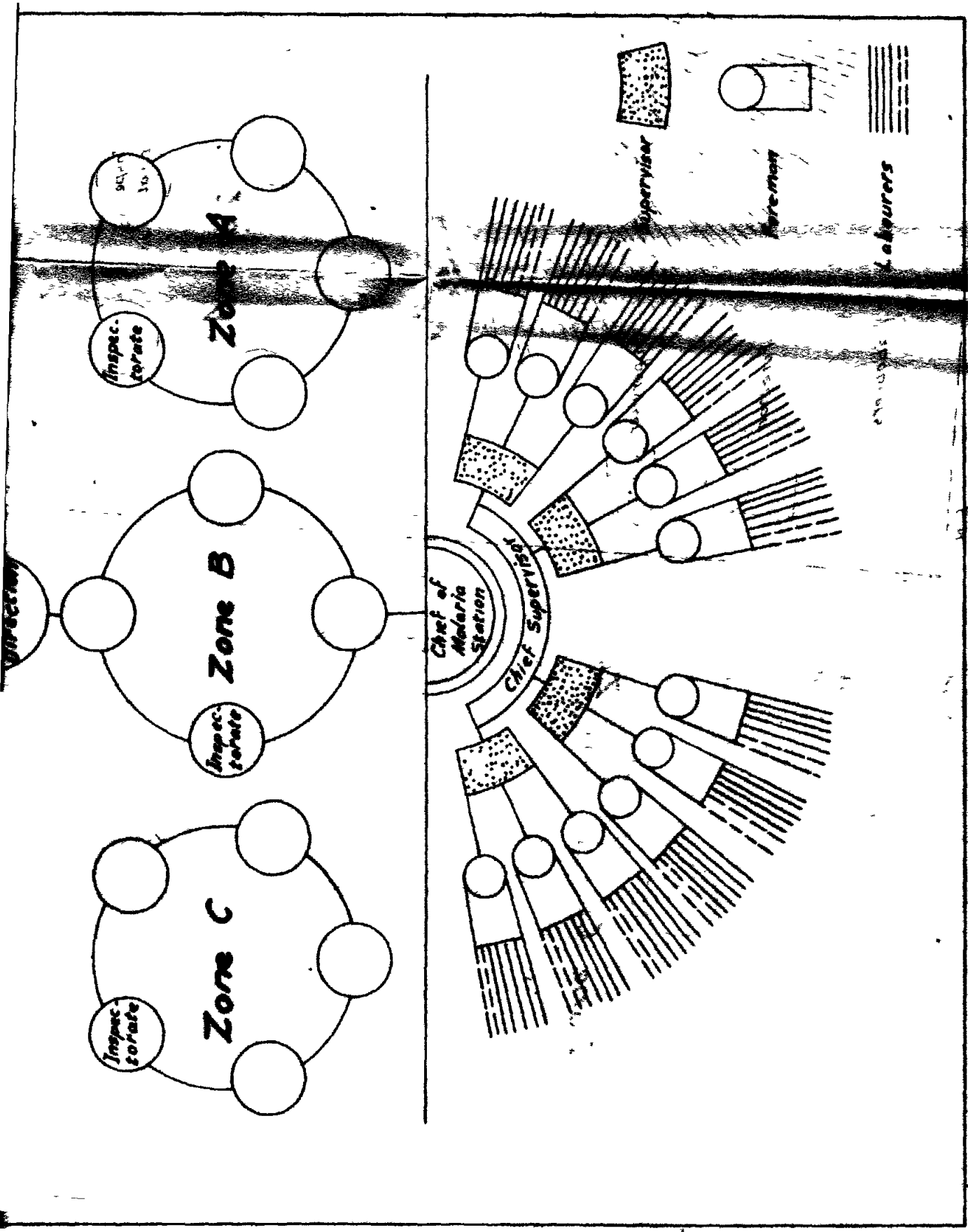


SEA

U.A.R.
EGYPTIAN TERRITORY
ZONES OF MALARIA
ERADICATION PROGRAMME

**GENERAL
ORGANIZATION OF
MALARIA ERADICATION
PROGRAMME**





MALARIA ERADICATION HEADQUARTERS

