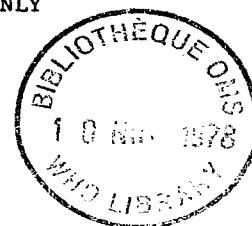




REPORT ON SMALLPOX SITUATION IN MADAGASCAR

By
Z. Islam ^a



1. Introduction

Madagascar is one of the five biggest islands in the world with an area of about 587 041 Km² and an estimated population of eight million. The population density is about 14 persons per km² and is highest in Atananarivo region and lowest in Majunga. The capital, Atananarivo, has about 100 inhabitants per km². About 86 per cent of the population lives in rural areas and 60 per cent of the inhabitants live in one-fifth of the area. Available data on vital statistics are as follows:

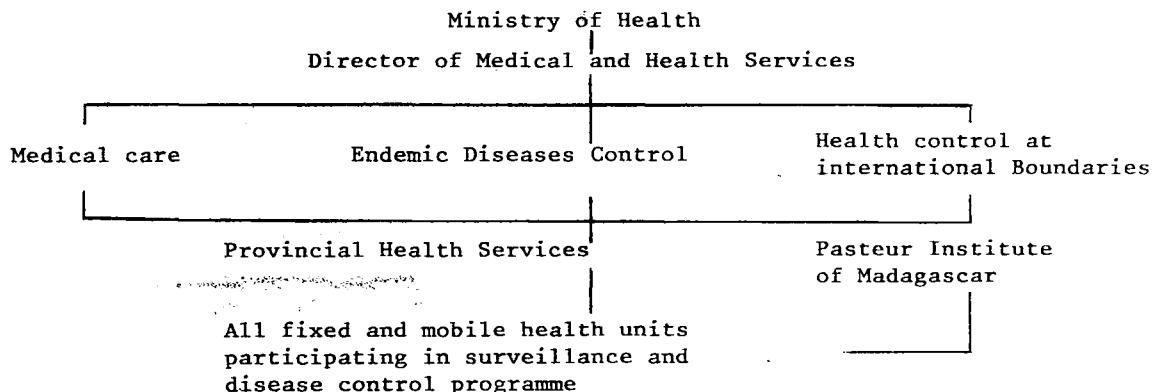
Crude birth rate:	46.0 per 1 000
Crude death rate:	18.3 per 1 000
Infantile mortality rate:	53.2 per 1 000
Growth rate:	2.3 per cent

The country is divided into six regions: Tananarive, Tamatave, Majunga, Tulear, Fianarantsoa and Diego-Suarez.

2. Health Services

All curative and preventive health services are under the responsibility of the Director of Medical and Health Services. Smallpox surveillance is combined with surveillance and control of other communicable diseases. The organigram below further explains the organizational structure presently employed in the country.

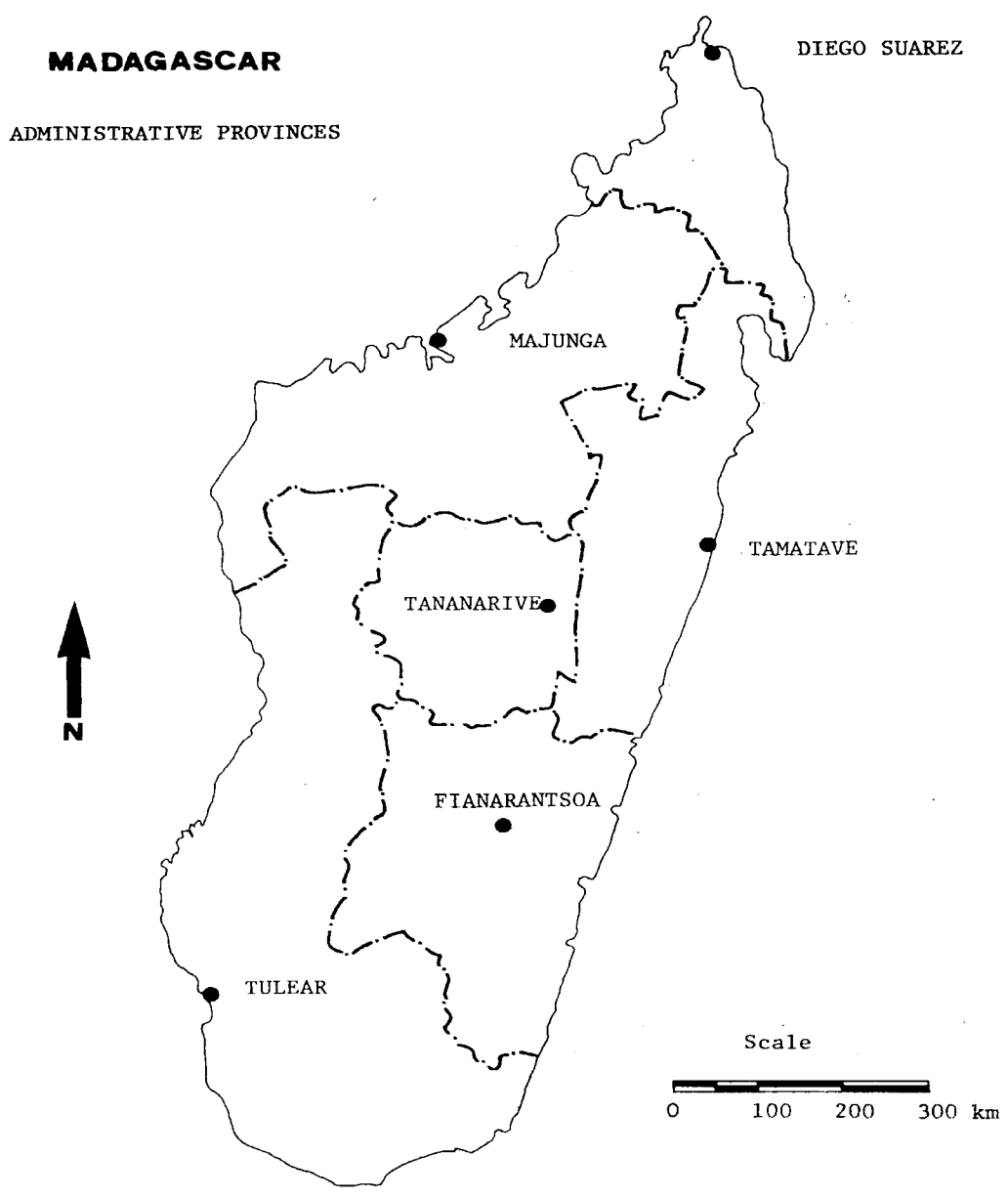
ORGANIZATIONAL STRUCTURE EMPLOYED



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During 1971, 749 health units existed in the country in addition to eleven mobile teams; their distribution is shown in Table 1.

TABLE 1: NUMBER OF FIXED AND MOBILE HEALTH UNITS BY REGION 1971

Region	Hospitals	Health Centres	Dispensaries	Health Post	Others	Total	Mobile team
Tananarive	16	20	12	86	56	190	3
Tamatave	14	10	-	67	21	112	2
Majunga	8	18	-	45	49	120	1
Tulear	7	15	4	42	50	118	2
Fianarantsoa	15	16	3	61	52	147	2
Diego-Suarez	6	7	1	6	42	62	1
Total	66	86	20	307	270	749	11

3. Brief description of the programme

Smallpox is only of historical importance. Epidemics have been recorded in 1906 and cases continued to occur till 1914. In 1922, few isolated cases had been recorded in the reports but since then, smallpox completely disappeared from the island.¹ Through a Government ordinance 62-072, article 3 dated 1962, vaccination against smallpox was made compulsory. Vaccination sessions are organized at all levels of health services to ensure a constant coverage of 60 per cent for five year periods. Special emphasis was placed on pre-school age, school children, students and recruits.

4. Vaccination activities

These are integrated in the routine of existing health services and smallpox vaccinations are conducted within the MCH services when other antigens are also administered. Mobile teams are also employed for vaccination activities whenever a mobile approach is needed. Smallpox vaccinations are also given by the school health services and for international travellers. Number of smallpox vaccinations for the last 12 years are given below:

1967	442 527	1973	404 502
1968	453 031	1974	284 250
1969	389 836	1975	414 844
1970	783 660	1976	263 340
1971	431 272	1977	
1972	360 964	1978	

Data on smallpox vaccination scar prevalence rate are not available but a study during 1977 revealed a coverage of 60 per cent for the pre-school age group, 85 per cent for 5-14 years and 40 per cent in persons of 15 years and over. Vaccine produced by the Pasteur Institute of Madagascar was used throughout and was given with vaccinostyle.

¹ Archives of the Pasteur Institute of Madagascar, (Volume XLX, Fascicule I, 1977).

5. Surveillance of Communicable Diseases

During 1971, there were 749 reporting units in the country. Diseases subjected to International Health Regulations are notified by telephone, telegram or messenger and forms used for recording and reporting purposes are attached. Epidemiological reports are consolidated for each region on a monthly basis.

Although information on morbidity and mortality is not complete, some conclusions can be drawn from available data. During 1972, in about 5.6 million consultations in health units, nearly 80% were due to communicable and parasitic diseases. In addition, leprosy, malaria, pulmonary tuberculosis, whooping cough and sexually transmitted diseases continue to be public health problems. Plague is restricted to the regions of Majunga and Fianarantsoa.

Information on mortality data which must be interpreted with caution is available from the health units and is tabulated below.

NUMBER OF DEATHS PER 1 000 DURING THE PERIOD 1965 - 1970

Cause	1965	1966	1967	1968	1970
Pulmonary tuberculosis	45.8	38.7	34.1	23.0	33.9
Syphilis	3.9	2.1	1.9	2.6	2.9
Typhoid and paratyphoid fevers	2.4	1.2	5.4	3.9	5.7
Dysenteries	5.5	5.4	9.4	15.1	35.9
Diphtheria	6.3	7.9	10.2	3.2	5.4
Pertusis	19.0	7.7	19.8	20.4	30.0
Meningo-coccal infections	2.0	0.9	2.8	2.3	4.0
Leprosy	2.4	1.6	2.6	0.9	1.4
Measles	63.4	136.6	127.2	107.7	102.1
Malaria	20.8	151.1	21.5	25.8	23.9

During 1976, the number of reporting units increased to 340 and are given in Table 2.

TABLE 2: NUMBER OF REPORTING UNITS 1976*

Region	Hospitals	Health Centres	Dispensaries	Health Post	Others	Total	Mobile team
Tananarive	18	23	13	89	70	213	3
Tamatave	15	11	-	69	25	120	2
Majunga	9	20	-	47	55	131	1
Tulear	10	18	7	47	52	134	2
Fianarantsoa	16	17	3	69	55	160	2
Diego-Suarez	8	8	2	9	44	71	1
Total	76	97	25	330	301	829	11

* 829 fixed units, 11 mobile units; total reporting units - 840.

As far as regularity of monthly reports are concerned, during the months of April in 1975 and 1976, all the 840 monthly reports expected were in fact received.

6. Notification of chickenpox

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>
1972	11 069	7
1973	19 408	26
1974	27 322	187
1975	33 076	108
1976		
1977		
1978		

Other associated pathological conditions were responsible for deaths. Cases of deaths due to chickenpox recorded during 1976 - 1978 are indicated on the map Annex 4.

REFERENCES:

- CLARAC (L) 1904 - Epidemie de varirole a Madagascar; Ann. Hyg. Med. col. 7, 434-445.
- GIRARD (G) 1958 - Le succès le plus marquant de l'oeuvre sanitaire de la France à Madagascar, la disparition de la varirole depuis 45 ans. Rev. roum. Hyg. OM 102-140.
- GIRARD (G) 1967 - Madagascar indemne de varirole depuis 50 ans Rev. roum. Infra-microbiol. 4, 2-3, 135-140.
- ARCHIVES DE L'INSTITUT PASTEUR DE MADAGASCAR (Pascicules 1898 à 1976)

DECLARATION OF INFECTIOUS DISEASE

Quatrième pli

Troisième pli

URGENT

SERVICE DES EPIDEMIES

(Loi du 30 novembre 1892)

MONSIEUR LE MINISTRE DE LA SANTE PUBLIQUE

(SERVICE DE COORDINATION SANITAIRE)

T A N A N A R I V E

Ne pas affranchir

Deuxième pli

Premier pli

Mettre la colle ici

Loi du 30 novembre 1892

DECLARATION DE MALADIE TRANSMISSIBLE

No du carnet: _____ Le _____

Nom du malade: _____

Adresse: _____

Numéro de la maladie: _____

OBSERVATIONS (1)

(1) Consigner, les observations que le médecin jugerait utiles sur les mesures prophylactiques à prendre : désinfection, transport, etc.

DECLARATION DES MALADIES TRANSMISSIBLES

ème DECADE

Mois de _____

No et NOMENCLATURE DE LA MALADIE TRANSMISSIBLE	N O M B R E D E			
	C A S		D E C E S	
	Malagasy	autres nationalités	Malagasy	autres nationalités

Ale.....

Le.....
(cachet et signature)

No _____ -CF/CM/ _____

Destinataires:

Ministere Santé
B.M.H.

WEEKLY REPORTING BULLETIN FOR DISEASES REPORTABLE
ACCORDING TO INTERNATIONAL HEALTH REGULATIONS

(EXAMPLE)

REPOBLIKA DEMOKRATIKA MALAGASY
Tanindrazana-Tolom-piavotana-Fahafahana

MINISTERE DE LA SANTE

DIRECTION DES SERVICES
SANITAIRES ET MEDICAUX

Service de la Médecine
de Soins

BULLETIN HEBDOMADAIRE DES
MALADIES SOUMISES AU REGLEMENT

MADAGASCAR

SEMAINE DU 17 au 23 Avril 1978

PROVINCE	SOUS- PREFECTU.	ZONE INFECTÉE	M A L A D I E S			
			CHOLERA 000	FIEVRE JAUNE 060	PESTE 020	VARIOLE 050
			CAS DECES	CAS DECES	CAS DECES	CAS DECES
TANANARIVE			NEANT	NEANT	NEANT	NEANT
FIANARANTSOA			-"-	-"-	-"-	-"-
TAMATAVE			-"-	-"-	-"-	-"-
MAJUNGA			-"-	-"-	-"-	-"-
TULEAR			-"-	-"-	-"-	-"-
DIEGO-SÚAREZ			-"-	-"-	-"-	-"-
PORTS & AEROPORTS			-"-	-"-	-"-	-"-
T O T A U X			NEANT	NEANT	NEANT	NEANT

Remarques :- (a): Cas confirmé
 (b): Cas probable

Tananarive, le
Le DIRECTEUR DES SERVICES 1978
SANITAIRES ET MEDICAUX

No 8725 - SAN/DSSM/SMS.
DESTINATAIRES
(Voir au verso)

LETTER FROM THE MINISTER OF FOREIGN AFFAIRS, MADAGASCAR
TO WHO PROGRAMME COORDINATOR, ANTANANARIVO
CONCERNING SMALLPOX FREE STATUS OF MADAGASCAR

RM/55

REPOBLIKA DEMOKRATIKA MALAGASY
Direction des Relations Multilaterales

No. 13569 /AE/DRM/NU/OMS.a53

Antananarivo, le 31 AOUT 1978

LE MINISTRE DES AFFAIRES ETRANGERES

à

Monsieur LE COORDONATEUR DE L'ORGANISATION
MONDIALE DE LA SANTE

- ANTANANARIVO -

Monsieur LE COORDONNATEUR,

C'est avec beaucoup d'intérêt que les Autorités Malgaches ont pris note de la lettre de l'Organisation Mondiale de la Santé portant n° C.L.18.1978 en date du 13 juillet 1978 relative au programme d'éradication de la variole.

Cette maladie n'existe plus à Madagascar depuis plus de cinquante ans.

Néanmoins, des mesures prophylactiques ont toujours été prises et les Responsables Malgaches ne manqueront pas d'informer suffisamment le public afin que tout cas de réapparition éventuelle soit signalé dans les plus brefs délais.

Le Gouvernement Malgache espère cependant que la variole ne verra plus jamais le jour, tant à Madagascar que dans le monde.

Veillez agréer, Monsieur LE COORDONNATEUR, l'assurance de ma haute considération.

(Signée et timbrée)

LE DIRECTEUR DES RELATIONS
MULTILATERALES

H. RAZAFINDRATOVO

WHO/SE/78.124
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ANNEX 3

TRANSLATION OF LETTER FROM THE MINISTER OF FOREIGN AFFAIRS, MADAGASCAR

RM/55

DEMOCRATIC REPUBLIC OF MADAGASCAR
Directorate of Multilateral Relations

Antananarivo, 31 August 1978

No. 13569 /AE/DRM/NU/OMS.a53

THE MINISTER OF FOREIGN AFFAIRS

to

World Health Organization Programme Coordinator

- ANTANANARIVO -
=====

Dear Sir

It is with great interest that Malagache authorities have received the letter of 13 July 1978 (no.C.L.18.1978) from the World Health Organization concerning the smallpox eradication programme.

This disease has not existed in Madagascar for more than 50 years.

Nevertheless, preventive measures continue to be taken. Malagache authorities always spend sufficient time to inform the public about the disease so that any suspect case will be reported without delay.

The Malagache Government earnestly hopes that smallpox will never be seen again, neither in Madagascar or anywhere else in the world.

Yours faithfully,

(Signed and sealed)

THE DIRECTOR OF MULTILATERAL RELATIONS
H. RAZAFINDRATOVO

* * *



Addendum
Report on Smallpox Situation in Madagascar



The following information has been supplied by the Ministry of Health, Madagascar since the printing of the original report.

1. Vaccination activities

The following number of smallpox vaccinations were given in 1977/78:

	<u>Primary Vaccination</u>	<u>Re-vaccination</u>	<u>Total</u>
1977	197 884	141 582	339 465
1978 (up to 30 June)	92 197	66 659	158 856

2. Notification of chickenpox

The chickenpox cases and deaths reported during the period 1 January 1976 to 30 June 1978 are shown in the following table.

Region	1976		1977		1978 *	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Antananarivo	8 572	83	7 354	1	4 400	3
Fianarantsoa	4 559	5	3 875	3	1 471	-
Toamasina	4 096	3	2 420	2	1 342	-
Mahajanga	2 475	2	2 588	-	503	-
Toliary	1 085	2	1 222	-	236	-
Diego-Suarez	1 426	2	1 098	-	205	-
Total	22 213	97	18 557	6	8 157	3

* Provisional figures, up to 30 June.

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