

WEST AFRICA
SMALLPOX ERADICATION/MEASLES CONTROL PROGRAM

SURVEILLANCE REPORT NO. 5
December 15, 1966

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 - A. Cases, Deaths, and Vaccinations, 1960-66
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- IV. DEMOGRAPHIC REPORT

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Public Health Service
Communicable Disease Center
Smallpox Eradication Program
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PREFACE

Summarized in this report is published information pertaining to the West Africa Smallpox Eradication/Measles Control Program and information received from health officials, university investigators and other pertinent sources. Much of the information is preliminary. It is intended primarily for the use of those with responsibility for disease control activities. Anyone desiring to quote this report should contact the original investigator for confirmation and interpretation.

Contributions to the surveillance report are most welcome.
Please address to: Communicable Disease Center
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Communicable Disease Center

Smallpox Eradication Program

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I. CURRENT SMALLPOX MORBIDITY

According to notifications received by the World Health Organization through November 17, 1966, 6,591 cases of smallpox have been reported from the 19 countries participating in the West Africa Smallpox Eradication/Measles Control Program. This compares with 5,604 cases reported during a comparable time period in 1965, an increase of 18 percent. The numbers of cases reported by country are shown in the table on page 2.

In Dahomey, 154 cases have been reported during September and October (week nos. 35-42). This increase in reported cases is depicted in figure 1 on page 3 which presents the cases by week of report for 1966. Of the 154 cases, 68 were reported from the circumscription of Allada and 58 from the circumscription of Ouidah, both in southern Dahomey. Six deaths were recorded in Ouidah. Three additional cases were reported from Cotonou during the week ending October 9.

In Mali, nine cases of smallpox were reported from the Cercle of Tenenhou in Mopti Region during the week ending November 4. This is the first report of smallpox from this cercle since March when 2 cases were reported.

In Niger, 37 cases, including 5 deaths, have been reported from the Cercle of Tera during the 4-week period ending November 7. Tera is in Western Niger, close to the Upper Volta border. Smallpox in Niger, by month of report, is shown in figure 2 (page 4) for the years 1960-1966. The incidence of smallpox steadily dropped through 1964 and then increased in 1965 with a further increase thus far in 1966. Reported smallpox in Niger has followed the same annual trend and seasonal pattern as seen in Nigeria (see Surveillance Report No. 2, September 1, 1966). The geographic distribution of cases in Niger and Northern Nigeria will be presented in a future surveillance report.

A sharp increase in cases has been reported from Togo. Of 128 cases reported since September 5, 108 were from the circumscription of Nouatja in the Region des Plateaus (see figure 3, page 5). Of the 108 cases, 48 were fatal, indicating either a high case-fatality ratio or additional cases with milder symptoms that have not yet been reported. An additional 15 cases have been reported from the circumscription of Atapame, also in the Region des Plateaux in south central Togo. Only 10 cases were reported to WHO by Togo in 1965.

Reported Smallpox Cases
in 19 West African Countries
1966*

Country	Most Recent Reporting Date in 1966	Cumulative No. of Cases		Comments - 1966 Incidence												
		1966	1965**													
Cameroon	April 30	3(r)	0(r)	2 cases reported from Division of Mayo-Danai and one case from Division of Margui-Wandala.												
C.A.R.	***	0	0													
Chad	***	0	74(i)													
Congo(B)	April 3	2	63													
Dahomey	Nov. 8	460	162	145 cases reported from Circumscription of Allada, 58 from Circumscription of Ouidah and 52 from Circumscription of Aplahoue.												
Gabon	***	0	1													
Gambia	March 15	3	1	3 cases from Upper River, Division.												
Ghana	June 10	12(i,r)	6													
Guinea	Aug. 13	5	51	Telimélé Region removed from the infected area list during week ending November 3.												
Ivory Coast	***	0	8													
Liberia	***	0	49													
Mali	Nov. 4	279	545	78 cases reported from Cercle of San, 72 from Cercle of Niouro, and 55 from Cercle of Dire.												
Mauritania	Aug. 11	****	0	Smallpox reported present in Cercle of Hodh Occidental as of August 11.												
Niger	Nov. 14	900	385	168 cases reported from Cercle of Niamey, 149 from Cercle of Tillabery and 132 from Cercle of Dosso.												
Nigeria	Oct. 8	4569	4180	<table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Provinces</th> <th>No. of Cases</th> </tr> </thead> <tbody> <tr> <td>Northern</td> <td>4052</td> </tr> <tr> <td>Western</td> <td>297</td> </tr> <tr> <td>Mid-Western</td> <td>115</td> </tr> <tr> <td>Lagos (City)</td> <td>91</td> </tr> <tr> <td>Eastern</td> <td>14</td> </tr> </tbody> </table>	Provinces	No. of Cases	Northern	4052	Western	297	Mid-Western	115	Lagos (City)	91	Eastern	14
Provinces	No. of Cases															
Northern	4052															
Western	297															
Mid-Western	115															
Lagos (City)	91															
Eastern	14															
Senegal	***	0	0													
Sierra Leone	Sept. 24	123(i)	56	86 cases reported from Eastern Province.												
Togo	Nov. 13	168	10	128 cases reported since Sept. 5, including 108 cases and 48 deaths from circumscription of Nouatja.												
Upper Volta	Aug. 17	67	13	Cercle of Dori removed from infected area list week ending November 17.												
Total		6591	5604													

* Reports received by WHO through Nov. 24, 1966

** Comparable time period in 1965

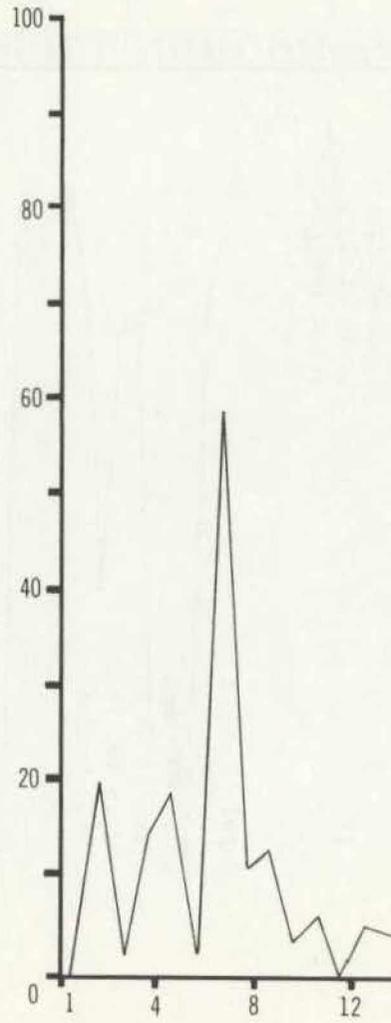
*** No cases reported to WHO though Nov. 24, 1966

**** See comments - 1965 incidence

(i) Includes imported cases

(r) Revised

Number of
Cases



Source: WHO Reports

Figure 1
Smallpox Cases by Week of Report
Dahomey, 1966

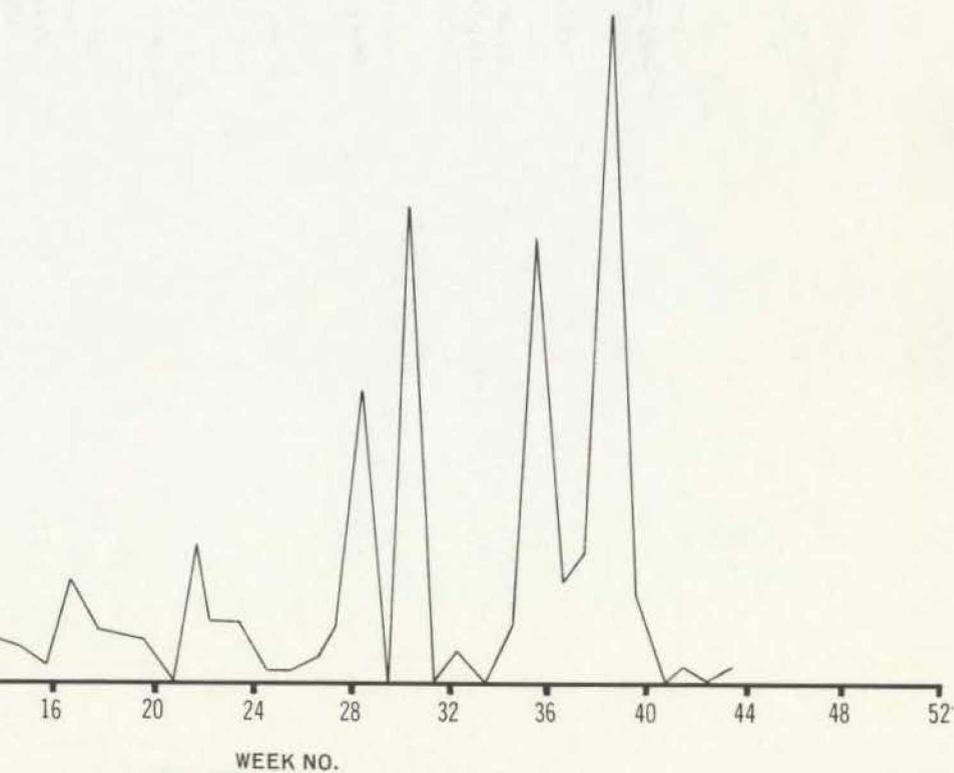
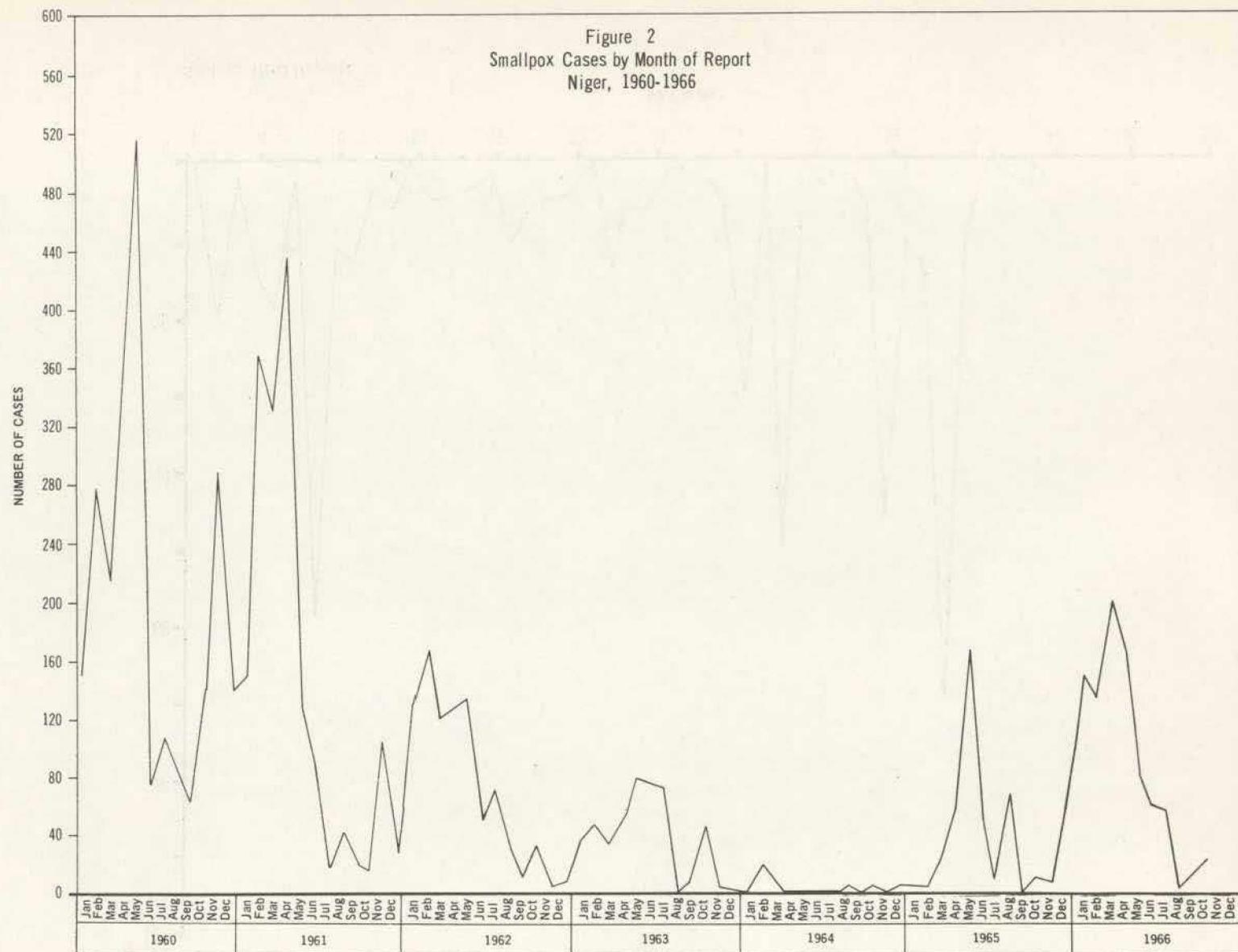
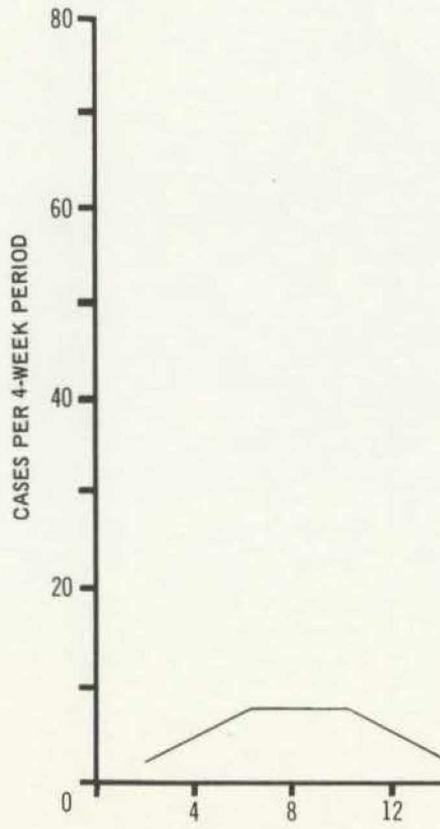


Figure 2
Smallpox Cases by Month of Report
Niger, 1960-1966

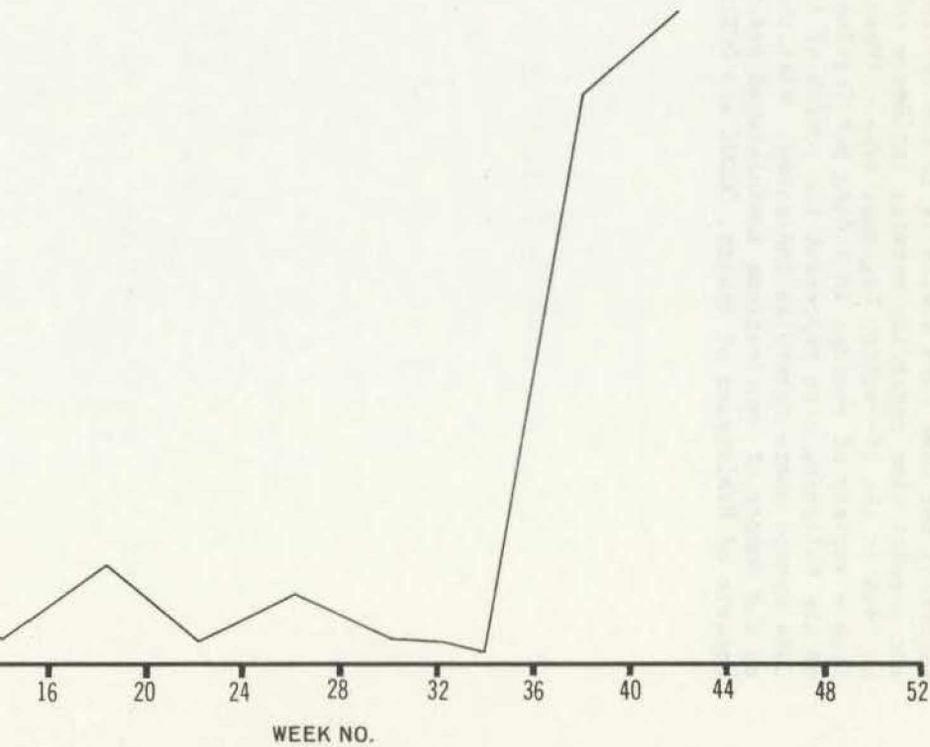


Source: Ministry of Health, Niger
and WHO Reports



Source: WHO Reports

Figure 3
Smallpox Cases by Date of Report
Togo, 1966



II. MEASLES IN WEST AFRICA

A. Cases, Deaths and Vaccinations, 1960-1966

Tables 1-19 presented in this section of the Surveillance Report represent the best data available to the Smallpox Eradication Program at the present time regarding measles incidence and vaccinations from 1960 to 1966 in the 19-country Regional area. These data have been gleaned from a variety of sources including publications. The WHO records listed on the following page represent the source of the morbidity and mortality data except where otherwise indicated. With the exception of 1963, data on the number of vaccinations administered has been abstracted from reports of Ministries of Health, OCCGE and OCEAC.

TABLES 1-19

MEASLES CASES, DEATHS, AND VACCINATIONS
WEST AND WEST-CENTRAL AFRICA, 1960-1966

SOURCES OF DATA (Unless otherwise footnoted)

Morbidity and Mortality Data

- 1960: WHO Annual Epidemiological and Vital Statistics, Vol. 13, Part II (1963).
1961: WHO Annual Epidemiological and Vital Statistics, Vol. 14, Part II (1964).
1962: WHO World Health Statistics Annual, 1962; Vol. II (1965).
1963: WHO Epidem. vital Statistics Rep., 1965; 18, No. 2, 57-96.
1964: WHO Epidem. vital Statistics Rep., 1966; 19, No. 2, 58-84.
1965-1966: WHO Wpidem. vital Statistics Rep., 1966; 19, No. 7-8, 335-432.

Vaccination Data

- 1963: WHO World Health Statistics Annual, 1962; Vol. II (1965).
1964-1966: Reports from Ministries of Health (SNGE), OCCGE, and OCEAC.

SYMBOLS USED

- * Preliminary, approximate or estimated data
... Data not available
+ Data not yet available
- Nil or magnitude negligible

Table 1 - Cameroon

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>	<u>Vaccinations</u>
1960	32,328	83	-
1961	33,132	27	-
1962	24,178	2,110	-
1963	64,467	743(1)	-
1964	30,452	425(1)	-
1965	21,957	+	225,381(2)
1966	4,072(3)	+	366,619(4)

(1) Reported by Dr. Garrigue, Chef, SNGE du Cameroun, at the 1st Annual Technical Conference of OCEAC, Yaounde, Cameroon, December, 1965.

(2) July-September, 1965.

(3) Through May, 1966.

(4) December, 1965-May, 1966.

Table 2 - Central African Republic

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>	<u>Vaccinations</u>
1960	1,889	4	-
1961	3,475	15	-
1962	4,565	62	-
1963	5,462(1)	82(2)	-
1964	...	+	-
1965	...	+	-
1966	...	+	-

(1) 11 months; no data for July.

(2) Reported by Dr. Garrigue; See footnote (1) for Cameroon.

Table 3 - Chad

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>	<u>Vaccinations</u>
1960	4,167	34	-
1961	5,483	114	-
1962	6,045	91	-
1963	5,784	55(1)	-
1964	6,085	84(1)	-
1965	9,715	+	54,657(2)
1966	7,692(3)	+	17,878(4)

(1) Reported by Dr. Garrigue; See footnote (1) for Cameroon.

(2) November, 1965 - January, 1966.

(3) Through June, 1966.

(4) February, 1966.

Table 4 - Congo (Brazzaville)

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>	<u>Vaccinations</u>
1960	7,053	52	-
1961	5,030	54	-
1962	7,413	148	-
1963	7,141	305(1)	-
1964	8,160	173(1)	-
1965	9,619	+	-
1966	7,655(2)	+	+

(1) Reported by Dr. Garrigue; See footnote (1) for Cameroon.

(2) Through June, 1966.

Table 5 - Dahomey

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>	<u>Vaccinations</u>
1960	14,590	61	-
1961	13,526	56	-
1962	11,622	224	-
1963	5,884	+	-
1964	11,932	+	6,242(1)
1965	23,914	+	79,656(2)
1966	3,023(3)	+	+

(1) 1963-1964 campaign.

(2) 1964-1965 campaign.

(3) Through February, 1966.

Table 6 - Gabon

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>	<u>Vaccinations</u>
1960	2,710	10	-
1961	5,029	13	-
1962	2,674	26	-
1963	4,619	+	-
1964	2,171	+	-
1965	4,525	+	-
1966	2,592(1)	+	+

(1) Through May, 1966.

Table 7 - Gambia

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>	<u>Vaccinations</u>
1960	690	49	-
1961	1,526	29	-
1962	2,044	55	-
1963	5,113(1)	146(1)	-
1964	803(1)	9(1)	-
1965	1,297(1)	16(1)	-
1966	1,493(2)	+	+

(1) Data for 1963 through 1965 kindly supplied by Dr. J. A. Mahoney, Permanent Secretary, Ministry of Health.

(2) Through week no. 28 (week ending July 16).

Table 8 - Ghana

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>	<u>Vaccinations</u>
1960	-
1961	-
1962	-
1963	-
1964	-
1965	-
1966	+	+	+

Table 9 - Guinea

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>	<u>Vaccinations</u>
1960	5,085	55	-
1961	...	...	-
1962	...	...	-
1963	...	+	-
1964	6,617	+	122,106(1)
1965	4,827	+	80,853(2)
1966	2,173(3)	+	+

(1) 1964-65 campaign.

(2) 1965-66 campaign.

(3) Through March, 1966.

Table 10 - Ivory Coast

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>	<u>Vaccinations</u>
1960	40,093(1)	203(1)	-
1961	29,074	126	-
1962	26,257	92	-
1963	47,142	+	-
1964	22,035(2)	+	-
1965	38,875	+	225,729(3)
1966	6,076(4)	+	+

(1) 11 months only; no data for September.

(2) 7 months only; no data for August through December.

(3) 1964-65 campaign.

(4) Through February, 1966.

Table 11 - Liberia

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>	<u>Vaccinations</u>
1960	...	...	-
1961	...	...	-
1962	...	...	-
1963	...	+	-
1964	...	+	-
1965	66	+	-
1966	245(1)	+	+

(1) Through April, 1966

Table 12 - Mali

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>	<u>Vaccinations</u>
1960	14,637	556	-
1961	21,361	589	-
1962	23,974	499	-
1963	...	+	28,190
1964	32,246	927(1)	...
1965	17,588	+	314,579
1966	16,946(2)	+	80,000(3)

- (1) Plan Décennal (1966-1976) de Développement des Services de Santé: République du Mali, Bamako (1966).
 (2) Through June, 1966
 (3) Through February, 1966; approximately 350,000 doses scheduled to be administered by the end of 1966.

Table 13 - Mauritania

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>	<u>Vaccinations</u>
1960	2,297	48	-
1961	2,578	44	-
1962	6,937	174	-
1963	2,693	+	5,309
1964	3,248	+	-
1965	883	+	37,962(1)
1966	929(2)	+	+

(1) 1964-65 Campaign through April, 1965.

(2) Through May, 1966

Table 14 - Niger

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>	<u>Vaccinations</u>
1960	8,903	375	-
1961	19,781	1,316	-
1962	15,058	1,447	-
1963	10,493	+	16,000
1964	14,502	+	+
1965	24,421	584(1)	277,344(1)
1966	5,384(2)	35(1,3)	111,047(1,3)

(1) SNGE du Niger: Fiche Statistique Mensuelle, Mars, 1966.

(2) Through June, 1966.

(3) Through March, 1966.

Table 15 - Nigeria

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>	<u>Vaccinations</u>
1960	20,326	125	-
1961	26,543(1)	408	-
1962	36,894	624	-
1963	56,322	896(2)	-
1964	82,300	1349(2)	-
1965	80,132	...	-
1966	62,646(3)	...	+

(1) Ministry of Health slightly different; See Table 15A

(2) Source: Federal Ministry of Health, Lagos, Nigeria

(3) Through Week No. 28 (Week ending July 16).

Table 15A

Notification of Measles Cases and Deaths by Region
Nigeria, 1961-1964

Year	North		East		West		Midwest		Lagos		All Nigeria	
	Cases	D	Cases	D	Cases	D	Cases	D	Cases	D	Cases	D
1961	10898	145	5102	76	8115	15	Part of		1978	165	26093	402
1962	19319	389	5376	84	9432	35	Western		2747	116	36894	624
1963	23667	377	16235	107	11923	88	<u>Region</u>		4697	324	56522	896
1964	49960	854	15991	115	8724	55	1600	0	5457	325	81732	1349

Source: Federal Ministry of Health, Lagos, Nigeria

Table 16 - Senegal

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>	<u>Vaccinations</u>
1960	11,527	214	-
1961	15,607	89	-
1962	18,647	210	-
1963	21,847	+	-
1964	22,263	+	-
1965	24,301	+	-
1966	12,960(1)	+	+

(1) Through March, 1966.

Table 17 - Sierra Leone

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>	<u>Vaccinations</u>
1960	-
1961(1)	2,160	...	-
1962	-
1963	-
1964	-
1965	-
1966	+

(1) "Epidemic of unprecedented violence recorded in 1961" from Sierra Leone Ministry of Health National Health Plan, 1965-1975, Freetown, 1965.

Table 18 - Togo

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>	<u>Vaccinations</u>
1960	12,118(1)	30(1)	-
1961	10,440	39	-
1962	12,220	77	-
1963	20,216	+	-
1964	14,955	+	-
1965	17,760	+	-
1966	9,725(2)	+	118,353(3)

(1) 18,087 cases and 82 deaths reported in the 1961 Rapport Annuel Des Service de la Sante Publique du Togo.

(2) Through April, 1966.

(3) December 15, 1965 - March 31, 1966.

Table 19 - Upper Volta

<u>Year</u>	<u>Cases</u>	<u>Deaths</u>	<u>Vaccinations</u>
1960	28,056	611	-
1961	16,507	456	-
1962	27,924	1,027	638(1)
1963	7,109	290(2)	756,224
1964	7,129	211(2)	33,652
1965	21,225	+	26,738(3)
1966	+	+	+

(1) Meyer, H.M, et al: Response of Volta children to live attenuated measles virus vaccine. Bull. Wld. Hlth. Org. 1964, 30:769-781.

(2) 1964 Rapport Annuel: Service des Grandes Endemies.

(3) Through October, 1965.

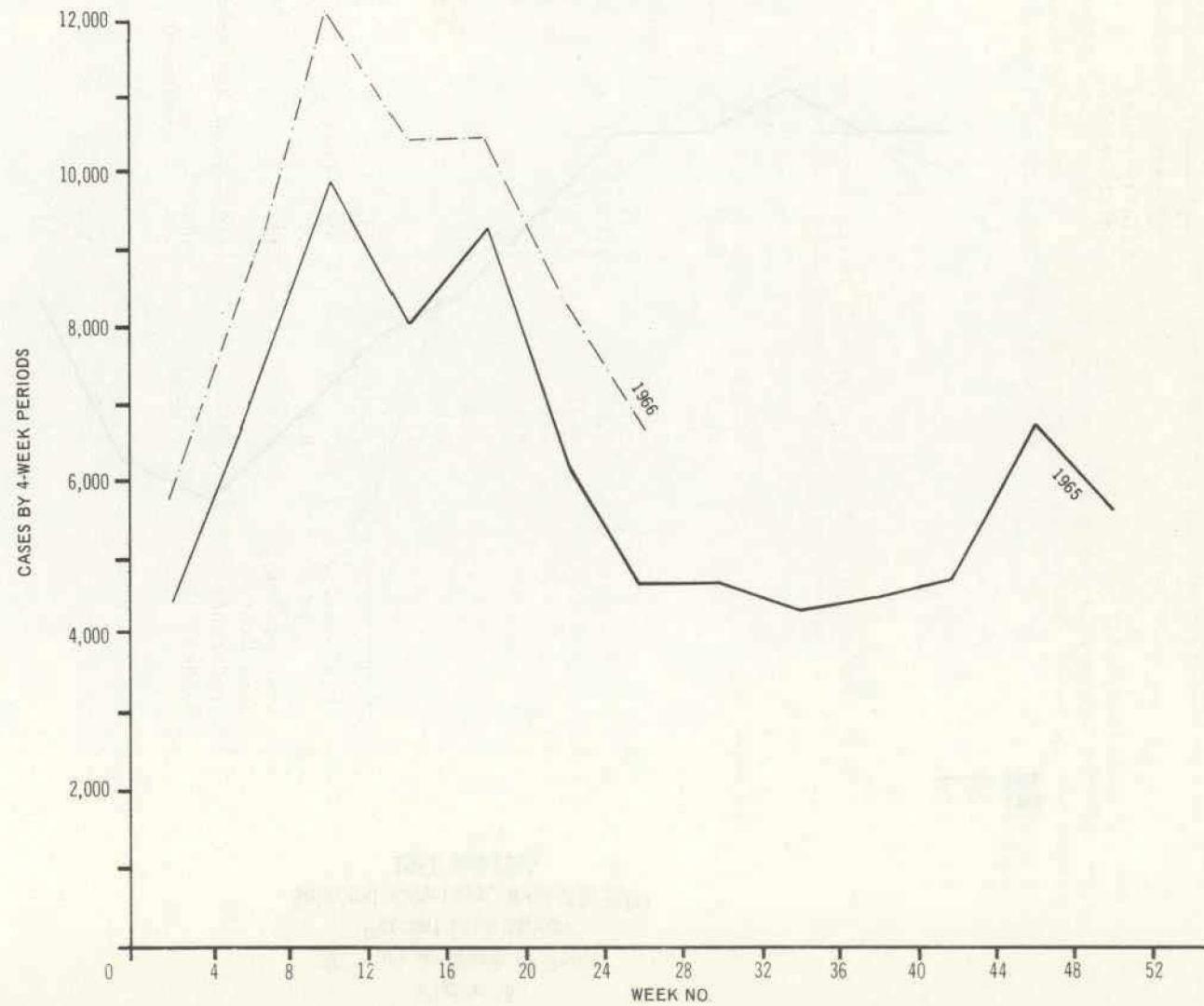
B. Seasonal Distribution

In Western Nigeria, Morley has reported measles as a disease that reaches epidemic proportions during the latter part of the dry season declining with the onset of the rains(1). The seasonal distribution of reported measles in Nigeria and the francophone countries corresponds to Morley's findings with the peak in reported cases occurring from March through May. Presuming a month's delay between onset and reporting of cases, the peak incidence of disease would be expected to occur during the period February through April, which roughly corresponds to the latter part of the dry season in many of these countries. Reported cases of measles in Nigeria are presented for 1965 and the first 28 weeks of 1966 by four-week periods in figure 4 (2). The seasonal peak during week 9 through 20 is clearly distinguishable in both years. It should be noted also that there has been an increase in reported cases in 1966.

In 1951, measles cases by month of report were available for the 14 francophone countries in West and West-Central Africa (3). Of these, 10 reported at least 1,000 cases (4). The total number of cases reported for the 10 countries was 19,479 and these same countries reported 203,487 cases in 1965(2). Despite the ten-fold increase in reported cases of measles over a 14-year interval, the seasonal pattern has essentially remained the same with the exception of a sharper peak and an apparent shift in the peak from March to April (see figure 5).

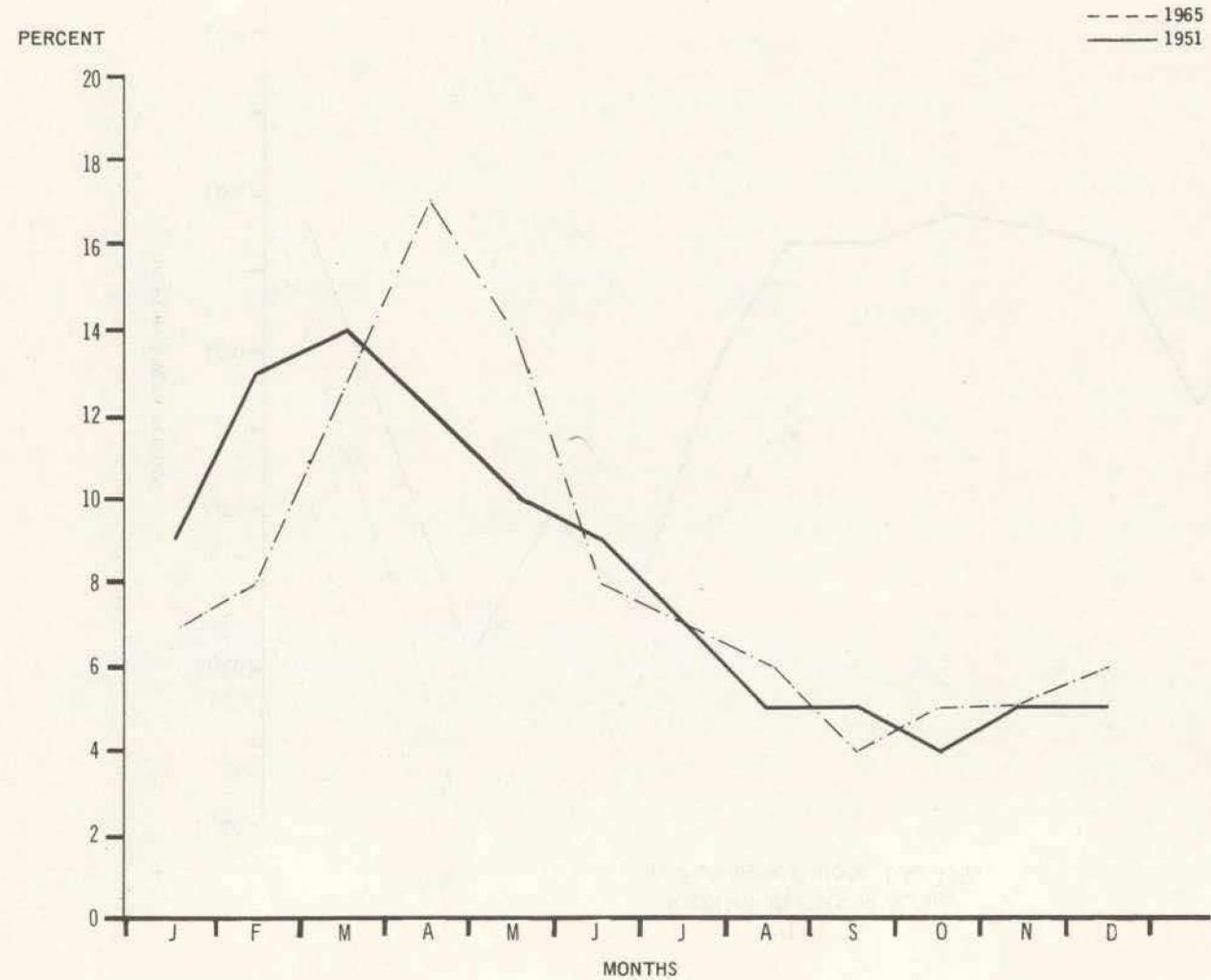
-
- (1) Morley, D.C.: Measles in Nigeria. Amer. J. Dis. Child., 103, 230-233 (1962).
 - (2) Epidem. vital Statist. Rep., 1966, 19, 335-432.
 - (3) Epidem. vital Statist. Rep., 1952, 5, 323-370.
 - (4) Data from references (2) and (3) included for Cameroon, Congo(B), Dahomey, Guinea, Ivory Coast, Mali, Niger, Senegal, Togo and Upper Volta.

Figure 4
Reported Measles in Nigeria
by Four-Week Periods, 1965-1966



Source: WHO Reports

Figure 5
Measles by Month of Report
Percent Distribution
Selected Countries, West Africa⁽⁴⁾
1951 and 1965



Source: WHO Reports

C. Age Distribution

Dr. David C. Morley of the Institute of Child Health, University of London, has kindly provided the Smallpox Eradication Program with data on the age distribution of hospitalized measles cases in several West African countries. These data, shown in the table below, are taken largely from voluntary agency hospitals although in the case of the Western Nigerian figures, two-thirds of them come from figures collected at University College Hospital in Ibadan.

In each country, at least 82 percent of the hospitalized cases were under age 5 and in Eastern and Western Nigeria, over 90 percent of the cases were under age 5. With the exception of Western Nigeria, the median age ranged from 21 to 30 months of age.

Table

Age Distribution of Hospitalized Measles in West Africa
Percent Distribution by Age

No. in Group	Sierra Leone 800	Ghana 5059	E. Nigeria 3799	N. Nigeria 946	W. Nigeria 6759
Age in (Years)					
< 1	26.3	20.4	23.9	20.9	33.1
1	23.1	28.7	30.7	21.4	35.3
2	16.2	16.4	17.1	18.0	14.5
3	11.4	11.5	13.3	13.0	8.0
4	8.1	8.6	6.6	8.9	4.2
5	2.9	4.0	3.3	5.6	2.2
6	4.2	3.4	2.0	3.6	1.1
7	2.3	2.1	1.2	2.9	0.6
8	2.0	1.7	0.6	1.6	0.4
9	0.6	0.7	0.4	1.1	0.2
10	1.1	0.8	0.2	1.1	0.1
11+	1.8	2.0	0.7	2.0	0.2
Percent under age 5	85.1	85.6	91.6	82.2	95.1
Median Age (months)	29.1	24.7	21.5	29.1	16.5

Seven francophone countries reported age distribution data to the World Health Organization for the year 1962. These countries included Cameroon, Dahomey, Mali, Mauritania, Niger, Senegal and Togo as shown in the table below:

AGE DISTRIBUTION OF MEASLES*
West Africa, 1962
Countries with Available Data

Age	Cameroon	Dahomey	Mali	Mauritania	Niger	Senegal**	Togo**
<1	6,033	2,140	7,330	1,397	3,044	4,374	4,636
1-4	12,858	4,189	9,444	2,730	6,091	8,466	5,087
5-14	5,287	3,256	6,200	2,616	5,376	5,679	1,787
15+	-	2,037	-	194	547	128	710
Unk.	-	-	1,000	-	-	-	-
TOTAL	24,178	11,622	23,974	6,937	15,058	18,647	12,220
Percent under age 5	78.1	54.5	73.0	59.5	60.7	68.9	79.6

* Source: WHO World Health Statistics Annual, 1962; Vol. II (1965)

** Inpatients and outpatients of hospitals and dispensaries.

The percentage of reported cases under 5 years of age ranges from only 55 percent in Dahomey to 80 percent in Togo. Even the maximum figure of 80 percent in Togo falls below the minimum percentage of cases under five years of age seen in Morley's series of hospitalized cases.

However, studies by Morley(1) and Hendrickse(2) suggest that greater than 80 percent of measles cases occur in children less than five years of age, as seen in the hospitalized series of cases, rather than only 50 to 80 percent, as seen in reported data. Morley has studied measles in the village of Ilesha in Western Nigeria on a longitudinal basis, with both numerator and denominator data available, and has reported that over half the children in the village had had measles by age three(1). Antibody studies in Eastern Nigeria by Hendrickse show the seropositivity rate increasing sharply at two years of age and reaching 84 percent by five years of age(2).

(1) Morley, D.C.: Measles in Nigeria. Amer. J. Dis. Child. 103, 230-233 (1962).

(2) Hendrickse, R.G. et al: Measles Vaccination - Report of a large scale trial of further attenuated measles vaccine in Nigeria. J. Trop. Med. Hyg. 69, 112-116 (1966).

III. LEPROSY IN WEST AND WEST-CENTRAL AFRICA

An excellent review of the worldwide leprosy problem has recently been published in the Bulletin of the World Health Organization (Bechelli, L.M. and Dominguez, V.M., 1966 Bull. Wld. Hlth. Org., 34, 811-826). Data presented for the 19 countries participating in the Smallpox Eradication/Measles Control Program has been abstracted and are presented in table III on page 24.

IV. DEMOGRAPHIC REPORT

A demographic report was included in Surveillance Report No. 4 (October 15, 1966). Table 5 of that demographic report presented population estimates for the capital cities and cities of 100,000 or more inhabitants in West and West-Central Africa. Since that date, new population estimates for several cities have been published in the 1965 United Nations Demographic Yearbook and a revised table 5 is presented on page 25.

New population estimates are included for Accra, Kumasi and Sekondi-Takoradi in Ghana; Nouakchott, Mauritania; and for three cities in Nigeria - Mushin, Ogbomosho and Oshogbo. In addition, new urban area estimates are available for Bangui, C.A.R.; Brazzaville, Congo(B); Libreville, Gabon; Bathurst, Gambia; Accra, Kumasi, and Sekondi-Takoradi in Ghana; Conakry, Guinea; Abidjan, Ivory Coast and Bamako, Mali.

Table III*

Leprosy in West and West-Central Africa

Country	Date of Prevalence Rates ^a	Leprosy Patients						
		Registered		Estimated ^b		Treated		
		No.	Rate ^c	No.	Rate ^c	No.	% Reg.	% Est.
Cameroon	Jan. 1965(1)	43,942	9.6	115,000(1)	25.4	34,718	79.0	30.2
C.A.R.	Dec. 1963(2)	66,781	53.4	117,000(3)	93.4	53,510	80.1	45.7
Chad	May 1965(3)	52,093	19.2	103,000(3)	38.0	30,980	59.5	30.1
Congo(B)	Nov. 1964(3)	17,875	21.8	30,500(3)	37.3	8,338	46.6	27.8
Dahomey	Dec. 1963(4)	36,053	16.4	63,000(3)	28.7	26,317	73.0	41.8
Gabon	Mar. 1965(3)	10,629	23.2	18,000(3)	40.0	7,416	69.8	41.2
Gambia	Mar. 1964(2)	5,587	17.7	14,000(4)	44.2	5,567	100.0	39.8
Ghana	June 1964(5)	25,183	3.4	63,000(4)	8.6			
Guinea	Dec. 1963(2)	64,431	19.2	161,000(4)	48.0	50,842	78.9	31.6
I. Coast	Jan. 1964(4)	110,419	30.1	183,000(3)	49.9	86,819	78.6	47.4
Liberia	Dec. 1963(2)	5,000	5.0	21,500(1)	21.5	5,000	100.0	23.2
Mali	Dec. 1963(4)	92,762	21.1	153,000(3)	34.8	45,098	48.6	29.5
Mauritania	Dec. 1963(2)	1,944	2.5	4,600(4)	6.0	1,009	51.9	21.9
Niger	Dec. 1963(4)	23,944	7.7	41,000(3)	13.1	6,338	26.5	15.5
Nigeria	Dec. 1963(2)	363,775	9.8	675,000(1)	18.1	352,987	97.0	46.4
Senegal	Dec. 1963(4)	42,468	12.6	74,000(3)	22.0	23,441	55.2	31.7
S. Leone	1959(6)	5,300	2.4	100,000(2)	45.8	4,260	80.4	4.3
Togo	Dec. 1962(2)	28,317	19.7	54,000(3)	34.5	28,317	100.0	52.4
U. Volta	Dec. 1963(2)	132,748	29.5	232,000(3)	51.6	119,917	90.3	51.7

* From table 1 in Bechelli, L.M. and Dominguez, V.M. (1966) The leprosy problem in the world. Bull. Wld. Hlth. Org., 34, 811-826.

a Footnotes in this column indicate source of information for prevalence rates.

- (1) Government Quarterly Report
- (2) WHO Regional Office for Africa
- (3) SNGE, Ministère de la Santé Publique
- (4) OCCGE
- (5) UNICEF Executive Board Rpt.
- (6) WHO Conference on Leprosy in Africa, Brazzaville.

b The footnotes in this column (in parentheses) indicate the method by which the estimate was obtained namely:

- (1) WHO Leprosy Advisory Team (LAT) sample survey.
- (2) Government, short-term consultants' and others' estimates.
- (3) Registered + 75% (WHO estimate).
- (4) Registered + 150% (WHO estimate).

c Rates (0/00) related to the population of the country for 1963 as given in the Demographic Yearbook of the United Nations.

Revised Table 5*

Population of Capital Cities and
Cities of 100,000 or More Inhabitants
Latest Available Year
West and West-Central Africa

Country	City	Date	Population		Source of Population Data
			City Limits	Urban Area	
Cameroon	Douala	1964	---	187,000**	Estimate
	Yaounde	1962	93,269	---	Municipal Census
C.A.R.	Bangui	1964	111,266	126,602	Municipal Census
Chad	Fort Lamy	1963	---	91,700	Estimate
Congo(B)	Brazzaville	1961-62	---	136,200	Municipal Census
Dahomey	Cotonou	1964	109,328**	---	Municipal Census
	Porto-Novo	1964	69,500	---	Estimate
Gabon	Libreville	1964	---	45,909	Municipal Census
Gambia	Bathurst	1964	28,896	42,104	Estimate
Ghana	Accra	1965	484,783	557,348(1)	Estimate
	Kumasi	1965	230,499	285,400(1)	Estimate
	Sekondi- Takoradi	1965	104,046	170,000(1)	Estimate
Guinea	Conakry	1964	---	175,000	Estimate
Ivory Coast	Abidjan	1963	---	246,700	Sample Survey
Liberia	Monrovia	1962	80,992**	---	National Census
Mali	Bamako	1960	---	130,000**	Sample Survey
Mauritania	Nouakchott	1965	15,000	---	Estimate
Niger	Niamey	1962	40,000	---	Estimate
Nigeria	Aba	1963	131,003	---	National Census
	Abeokuta	1963	187,292	---	National Census
	Ado	1963	157,519	---	National Census
	Benin	1963	100,694	---	National Census
	Ede	1963	134,550	---	National Census
	Enugu	1963	138,457	---	National Census
	Ibadan	1963	627,379	---	National Census
	Ife	1963	130,050	---	National Census
	Ikere	1963	107,216	---	National Census
	Ilesha	1963	165,822	---	National Census
	Ilorin	1963	208,546	---	National Census
	Iwo	1963	158,583	---	National Census
	Kaduna	1963	149,910	---	National Census
	Kano	1963	295,432	---	National Census
	Lagos	1963	665,246	---	National Census
	Maidurgi	1963	139,965	---	National Census
	Mushin	1963	312,063	---	National Census
	Ogbomosho	1963	343,279	---	National Census
	Onitsha	1963	163,032	---	National Census
	Oshogbo	1963	208,966	---	National Census
Oyo	1963	112,349	---	National Census	
Port Harcourt	1963	179,563	---	National Census	
Zaria	1963	166,170	---	National Census	
Senegal	Dakar	1961	---	374,700(2)	Sample Survey
Sierra Leone	Freetown	1963	127,917	---	Census
Togo	Lome	1962	80,000	90,000	Estimate
Upper Volta	Ouagadougou	1961	59,126	---	Municipal Census

Footnotes: * Supercedes table 5 of Demographic Rprt., Surv. Rprt. #4 (Oct. 15, 1966)

** Provisional (1) For "city councils"; includes some rural areas.

(2) For commune of Dakar, comprising city proper, the suburban villages and Goree.

Source of Data: United Nations Demographic Yearbook, 1965; Table 5.

