



INTER-REGIONAL SEMINAR ON SMALLPOX ERADICATION

Lagos, Nigeria, 13-20 May 1969

COUNTRY REPORT



1.0 DEMOGRAPHIC DATA

1.1 Estimated population (July 1969)

Age	
0-4	517 374
5-14	684 607
15-44	1 021 685
45+	389 337
TOTAL	2 613 003

1.2 Population by geographic subdivision (Table 1)

1.3 Population density by geographic subdivision (Table 1)

1.4 Population density by geographic subdivision (Figure 1)

2.0 SMALLPOX INCIDENCE AND VACCINATION DATA

2.1 Smallpox cases by month and geographic subdivision - Jan. 1968 - Feb. 1969 (Table 2)

2.2 Location of smallpox outbreaks.

Oct. 68 - Dec. 68 (Figure 2)

Jan. 69 - Feb. 69 (Figure 3)

2.3 Incidence rates per 100 000 population by geographic subdivision and by quarter.

Jan. 68 - Mar. 68 (Figure 4)

Apr. 68 - Jun. 68 (Figure 5)

Jul. 68 - Sep. 68 (Figure 6)

Oct. 68 - Dec. 68 (Figure 7)

Jan. 69 - Feb. 69 (Figure 8)

2.4 Monthly distribution of smallpox cases by age and sex - Jan. 1969 - Feb. 1969
(Table 3)

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2.5 Smallpox vaccinations performed by quarter and geographic subdivision - January 1968 through February 1969 (Table 4)

2.6 Areas vaccinated since inception of the programme (Figure 9)

2.7 Smallpox vaccination targets by geographic subdivision - July 1969 through June 1970 (Table 5)

2.8 Method for recording of vaccinations:

Tally sheet: Yes No

Other registry system (specify) _____

2.9 Youngest age for beginning smallpox vaccination:

Birth 6 months Other _____

3.0 MEASLES INCIDENCE AND VACCINATION DATA (for countries engaged in measles vaccination programmes)

3.1 Reported measles cases by month and geographic subdivision (Table 6)

3.2 Measles immunizations by quarter and geographic subdivision (Table 7)

3.3 Areas vaccinated against measles since inception of the programme and areas where maintenance vaccination programmes have been initiated (Figure 10)

4.0 NUMBER OF PERSONNEL ENGAGED IN VACCINATION PROGRAMME

4.1 Vaccinators:	Regular teams	<u>S = 15</u>	C = 6	N = 6
S = Southern Zone	Maintenance teams	<u>S = 8</u>		
C = Central Zone	Other (Specify)	<u>-</u>		
N = Northern Zone				
	TOTAL	<u>S = 23</u>	C = 6	N = 6 = 35
	Other field staff, including recorders, drivers, etc.		<u>18</u>	
	Supervisory personnel (paramedical)		<u>2</u>	

4.2 Number of vaccinators directly supervised by one supervisor _____

4.3 Average number of vaccinations performed daily by each team:

Regular teams 1 163
Maintenance teams 200
Other (specify) -

5.0 PROGRAMME EXECUTION

5.1 Supervision

5.1.1 Proportion of time spent in field by supervisory staff and technical advisory staff checking directly on the work of vaccinators and assessors and lower level supervisors:

By country staff reviewing work of - Vaccination team: 10 days per mo.

Other levels: 10 days per mo.

By advisory staff reviewing work of -

Vaccination team: 8 days per mo.

Other levels: 8 days per mo.

5.1.2 Measures taken when vaccinator or assessor performance is unsatisfactory

5.2 Assessment

5.2.1 Vaccine "take rates"

Proportion of primary vaccinations in 0-4 year old children which are checked after seven days to determine takes _____

Steps taken when the proportion of successful primary vaccination falls below 95% _____

5.2.2 Vaccination coverage:

Number of vaccinations performed in each area are compared with the population estimate for the area (e.g. village register, census, etc.)

Yes

No

5.2.3 Assessment of coverage:

An assessment of coverage is regularly performed in a sample of the population

Yes

No

Level of coverage in the 0-4 and 5-14 year age group which is considered acceptable

85%

80%

Other _____

Proportion of assessment surveys which fall below the level noted above.

40 %

Steps taken if the coverage is not acceptable (i.e. revaccinate the area etc.) Revaccination in the markets

Changes which have been made in the programme as a direct result of assessment _____

5.3 Surveillance

5.3.1 Notification of smallpox cases:

Number of sites which could report smallpox cases (e.g. hospitals, health centres, health posts, dispensaries) 300

Frequency of reporting:

Immediate Weekly Other Monthly

Number of reports: Expected in 1968 -

Received in 1968 34

% received

Negative reporting is generally practised: Yes No

Other specialized programmes which report cases

Measles, leprosy, yaws, trepanosomiasis

Other persons or groups who have been requested to notify cases

Teachers, Village Chiefs, Missionaries, Volunteer workers

Proportion of cases for which age, sex, and vaccination status are recorded

0 %

Best estimate of the percentage of cases which are reported:

	January 1967	February 1969
More than 90%	<u> </u>	<u>x</u>
75-89%	<u> </u>	<u> </u>
50-74%	<u>x</u>	<u> </u>
Less than 50%	<u> </u>	<u> </u>

5.3.2 Case investigation and containment measures:

Number of case investigation/containment ('fire-fighting') teams which have been established 3

These teams are: Centralized Decentralized

If decentralized, to what extent S = 1 C = 1 N = 1

Proportion of cases, since October 1968, in which containment action was taken within 48 hours after notification 75 %

Proportion of outbreaks, since October 1968, routinely investigated to determine the origin of infection 75 %

Of the investigations noted above, the percentage of outbreaks where the origin was not ascertained 50 %

6.0 COMMODITIES

6.1 Vaccine use:

Year	Col. 1 Number of Doses Recd.	Col. 2 Number of Doses in Inventory	Col. 3 Number of Doses Used (Col.1-Col.2)	Col. 4 Number of Vacc. performed	Reasons for Difference between Col.3 and Col.4
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Smallpox vaccine

1967	1 205 400		724 900	698 920	Normal loss
1968	1 075 000		1 350 000	988 536	165 000 + Normal loss*
1969*	320 000		314 700	241 126	17 200 + Normal loss*

Measles vaccine

1967	334 450	297 200	175 000	177 679	
1968	180 000	124 800	203 000	206 926	
1969*	60 000	60 000	43 000	43 483	

* January and February only

6.2 Equipment:

<u>Item</u>	<u>Number Supplied</u> *	<u>Number in Operation</u>	<u>Comment</u>
Trucks	9	9	
Ped-o-Jets	34	34	
Refrigerators	0	0	
Motorbikes	3	2	

* Since inception of the programme.

Has a warehouse with rotating inventory system for spare parts been established? Yes No

* 165 000) doses distributed in rural health centres participating in maintenance
17 200) vaccination.

TABLEAU 1. DONNEES DEMOGRAPHIQUES PAR DIVISION GEOGRAPHIQUE
(Utiliser les divisions indiquées par les cartes)

TABLE 1. DEMOGRAPHIC DATA BY GEOGRAPHIC SUBDIVISION
(Use Subdivisions as shown on Country Maps)

Division géographique	Population approximative en 1969	Superficie (en km ²)	Densité de population au km ²
Geographic Subdivisions	Est. 1969 Population	Area (Square kms)	Population density per square km
<u>Dept. OUEME</u>	<u>575 703</u>	<u>4 720</u>	121
S/P Porto Novo	195 500	620	315
S/P Sakete	94 490	750	126
S/P Adjohoun	126 845	750	169
S/P Avrankou	87 683	voir Porto Novo	
S/P Pobé	47 495	600	79
S/P Ketou	23 690	2 000	11
<u>Dept. ATLANTIQUE</u>	<u>408 915</u>	<u>3 220</u>	126
S/P Abomey-Calavi	112 355	600	187
S/P Allada	117 450	2 000	145
Com. Cotonou	120 000		
S/P Ouidah	59 110	600	98
<u>Dept. MONO</u>	<u>361 825</u>	<u>3 800</u>	95
S/P Athieme	97 440	1 250	77
S/P Aplahoue	124 085	1 600	77
S/P Bopa	67 850	700	96
S/P Grand-Popo	72 450	450	161
<u>Dept. ZOU</u>	<u>506 000</u>	<u>18 700</u>	27
S/P Abomey	225 170	3 800	59
S/P Dassazoume	74 980	2 200	34
S/P Savalou	62 445	6 300	9
S/P Save	58 880	5 100	11
S/P Zagnanado	84 525	1 300	65
Total			

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Division géographique Geographic Subdivisions	Population approximative en 1969 Est. 1969 Population	Superficie (en km ²) Area (Square kms)	Densité de population au km ² Population density per square km
<u>Dept. BORGOU</u>	<u>380 535</u>	<u>51 000</u>	7
S/P Banikoara	59 685	7 900	7
S/P Bembereke	50 025	5 600	8
S/P Kandi & Segbana	86 480	12 100	7
S/P Malanville	37 145	5 900	6
S/P Nikki	90 275	8 900	10
S/P Parakou	56 925	10 600	5
S/P Segbana	voir Kandi		
<u>Dept. ATAKORA</u>	<u>380 075</u>	<u>26 900</u>	12
S/P Boukoumbe	48 070	1 100	43
S/P Djougou	139 955	11 000	12
S/P Kouande	62 445	8 900	7
S/P Natitingou	50 945	2 300	22
S/P Tanguieta	78 660	7 900	9
Total	2 613 053		

TABLEAU 2. CAS DE VARIOLE PAR MOIS ET PAR DIVISION GEOGRAPHIQUE (JUSQU'A FEVRIER 1969)
TABLE 2. SMALLPOX CASES BY MONTH AND GEOGRAPHIC SUBDIVISION (TO FEBRUARY 1969)

Division géographique	Nombre de cas pas mois/Number of cases by month														1969	
	1968													1969		
Geographic Subdivisions	J	F	M	A	M	J	J	A	S	O	N	D	Total	J	F	
Semaines/Weeks	1-5	6-9	10-13	14-17	18-22	23-26	27-31	32-35	36-39	40-44	45-48	49-52		1-5	6-9	
SUD Atlantique													0			
SUD-EST l'Ouémé		4						2				1	7	3		
SUD-OUEST Mono	4		1	1	2	1	1	12	2		12	6	42			
CENTRE Zou	15	113	19	11	5	4							167			
NORD-OUEST Atakora			75	16	42		4	4					141			
NORD-EST Borgou													0		2	
TOTAL	19	117	95	28	49	5	5	18	2	0	12	7	357	3	2	

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TABLEAU 3. CAS DE VARIOLE PAR AGE ET PAR SEXE
TABLE 3. SMALLPOX CASES BY AGE AND SEX

Mois	Age								Age/Sexe inconnu	Total
	0-4		5-14		15-44		45+		Unknown Age/Sex	
Month	M	F	M	F	M	F	M	F		
J 1968									19	19
F									117	117
M									95	95
A									28	28
M									49	49
J						1			4	5
J									5	5
A					1				17	18
S									2	2
O										0
N	2	2	2	2		4				12
D	3			1	2	1				7
J 1969	1				1	1				3
F					2					2

TABLEAU 4. VACCINATIONS ANTIVARIOLIQUES EFFECTUEES, PAR DIVISION GEOGRAPHIQUE
(Divisions indiquées par les cartes)

TABLE 4. SMALLPOX VACCINATIONS PERFORMED BY GEOGRAPHIC SUBDIVISIONS
(those shown on country maps)

Division géographique Geographic Subdivisions	1967	1er trim. 1968 First Quarter	2ème trim. 1968 Second Quarter	3ème trim. 1968 Third Quarter	4ème trim. 1968 Fourth Quarter	J-F 1969	Total général * Grand total*
Dept. Atlantique (SUD)	326 017	967		19 662	11 244	2 692	361 482
Dept. Ouémé (SUD-EST)	287 572	129 394	16 526	4 076	5 781		443 349
Dept. du Mono (SUD-OUEST)	84 431	122 497	24 335	3 834	6 736	26 904	268 737
Dept. du Zou (CENTRE)			151 819	112 020	89 989	68 011	421 839
Dept. Borgou (NORD-EST)			99 700		12 645	67 496	179 841
Dept. Atakora (NORD-OUEST)		22 428	16 304	7 858	118 307	65 825	230 722
Entretien S, SE, SO, C.					12 425	10 098	22 523
Total							1 928 493

* Englobant le total depuis la mise en oeuvre du programme.

* Includes the total since the inception of the programme.

TABLEAU 5. OBJECTIFS DE LA VACCINATION PAR DIVISION GEOGRAPHIQUE,
DE JUILLET 1969 A JUIN 1970

TABLE 5. VACCINATION TARGETS BY GEOGRAPHIC SUBDIVISIONS
JULY 1969-JUNE 1970

Division géographique	Nombre de vaccinations prévues/Number of vaccinations planned			
	1969		1970	
Geographic Subdivisions	Juillet-septembre	Octobre-décembre	Janvier-mars	Avril-juin
	July-September	October-December	January-March	April-June
Atlantique	40 000	40 000		
Ouémé	50 000	50 000		
Mono			40 000	40 000
Zou		50 000	50 000	
Borgou			35 000	35 000
Atakora			35 000	35 000
Total	90 000	140 000	160 000	110 000

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TABLEAU 6. CAS DE ROUGEOLE DECLARES DE JANVIER 1968 JUSQU'A FEVRIER 1969 COMPRIS
 TABLE 6. REPORTED MEASLES CASES JANUARY 1968 (THROUGH FEBRUARY 1969)

Division géographique	Nombre de cas par mois/Number of cases by month														
	1968													1969	
Geographic Subdivisions	J	F	M	A	M	J	J	A	S	O	N	D	Total	J	F
Semaines/Weeks	1-5	6-9	10-13	14-17	18-22	23-26	27-31	32-35	36-39	40-44	45-48	49-52		1-5	6-9
Atlantique	44	34	38	19	18	23	22	23	13	26	96	85	441	97	68
Ouémé	21	32	35	25	12	26	24	17	35	49	72	143	491	172	167
Mono	623	423	229	223	189	92	47	43	79	87	258	64	357	92	49
Zou	39	17	70	40	85	58	189	184	301	90	98	93	264	164	44
Borgou	738	420	566	501	269	120	50	43	51	102	109	137	106	86	20
Atakora	533	3	430	125	546	510	363	313	468	298	398	253	240	95	8
Total	1 998	929	1 368	933	1 119	829	695	623	947	652	1 031	775	11 899	706	356

TABLEAU 7. VACCINATIONS ANTIROUGEOLEUSES EFFECTUEES, PAR DIVISION GEOGRAPHIQUE
(Divisions indiquées par les cartes)

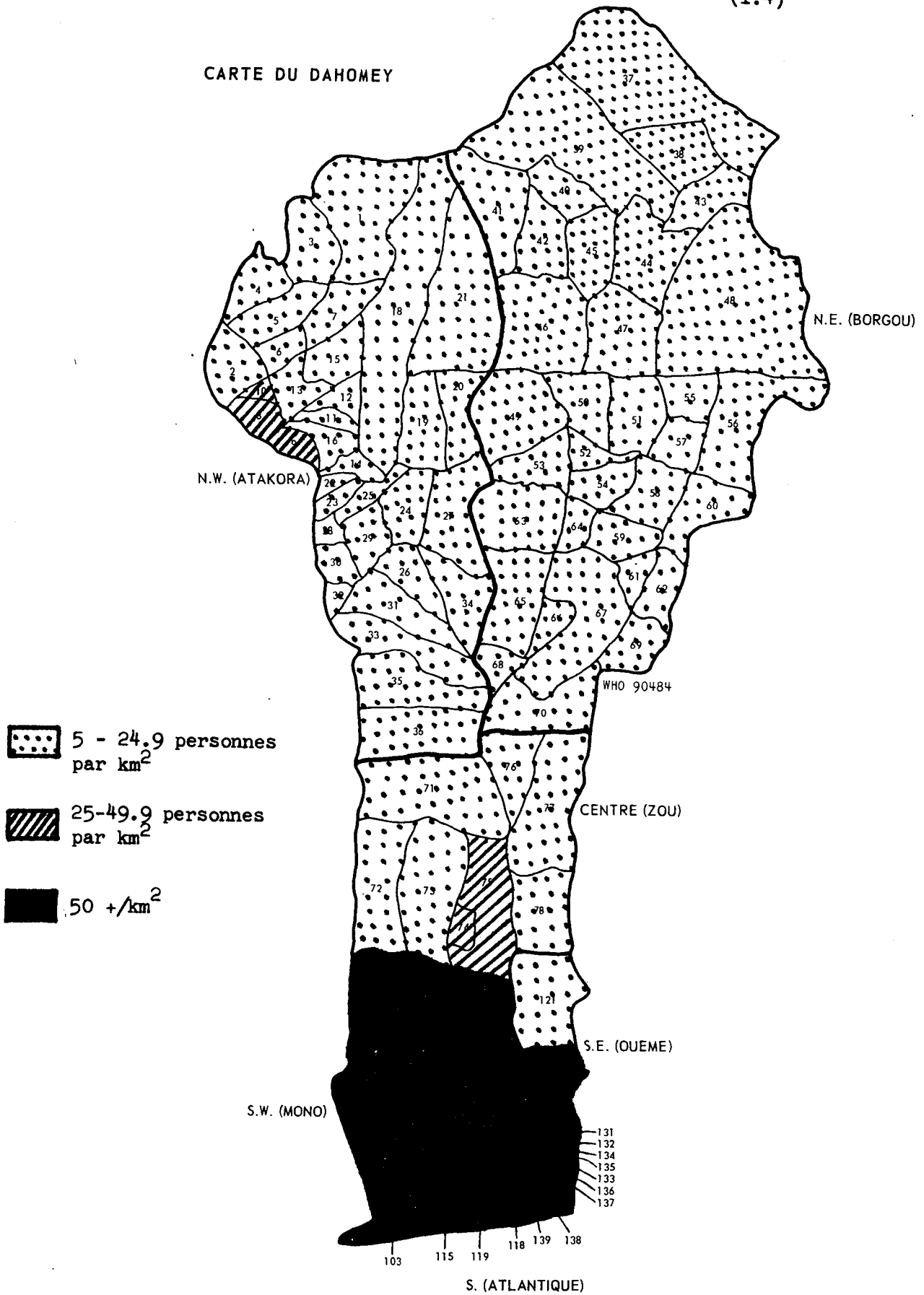
TABLE 7. MEASLES VACCINATIONS PERFORMED BY GEOGRAPHIC SUBDIVISIONS
(those shown on country maps)

Division géographique	1er trim. 1968	2ème trim. 1968	3ème trim. 1968	4ème trim. 1968	Janvier-février 1969	Total général*
Geographic Subdivisions	First Quarter	Second Quarter	Third Quarter	Fourth Quarter		Grand total*
Atlantique					594	594
Ouémé	33 563	3 538				37 101
Mono	27 803	5 531			477	33 811
Zou		33 184	8 316	9 269	17 154	67 923
Borgou		30 534		13 348	6 038	49 920
Atakora			18 311	23 533	14 520	56 364
Total	61 366	72 787	26 627	46 150	38 783	245 713

* Englobant le total depuis la mise en oeuvre du programme.
* Includes the total since the inception of the programme.

Figure 1
(1.4)

CARTE DU DAHOMEY



LEGEND

DAHOMEY

NORD-OUEST

1. Batia
2. Coby
3. Dassari
4. Gouande

TANGUIETA

5. Materi
6. Tatacou
7. Tanguieta

BOUKOMBE

8. Boukombe
9. Koungangou
10. Koutangou

NATITINGOU

11. Natitingou
12. Ouabou
13. Tantougou
14. Tchoumi-Tchoumi
15. Toucountouna
16. Yetapo

KOUANDE

17. Birni
18. Kouande
19. Pahungo
20. Tobre
21. Pably

DJOUGOU

22. Soroubas
23. Taneka-Koko
24. Taneka-Beri
25. Taneka-Pabegou
26. Djougou
27. Dongha
28. Dompago
29. Barei
30. Semere
31. Soubroukou
32. Aledjo
33. Penessouiou
34. S.O.B.
35. Bassila
36. Manigri

NORD-EST

MALANVILLE

37. Karimama
38. Guene

BANIKOARA

39. Gomprou
40. Banikoara
41. Toura
42. Ouney

KANDI

43. Saa et Angarandebou
44. Kandi
45. Sonsoro
46. Bagou
47. Canton Zougou

SEGBANA

48. Segbana

BEMBEREKE

49. Sinende
50. Yarra
51. Bouay
52. Bembereke
53. Saore
54. Ina

NIKKI

55. Dunkassa
56. Kidarou-Perou
57. Bouka
58. Biro
59. Sontou
60. Nikki
61. Guinagourou
62. Sandilo

PARAKOU

63. Bori
64. Ouenou
65. Ourora
66. Tourou
67. Parakou
68. Ouari-Marou
69. Kika
70. Tchaourou

CENTRE

SAVALOU

71. Bante
72. Djallokou
73. Savalou

DASSA-ZOUME

74. Dassa-Zoume
75. Mahis

SAVE

76. Ouesse
77. Kilibo
78. Save

CENTRE (Continued)

ABOMEY

79. Oungbegame
80. Tindji
81. Allaha
82. Sinhoue
83. Zogbodome

ZAGNANADO

84. Baname
85. Cove
86. Zagnanado
87. Agonlin-Dovi
88. Sagon

SUD-OUEST

APLAHOUE

89. Lonkly
90. Aplahoue-Nord
91. Aplahoue-Sud

ATHIEME

92. Dogbo
93. Tchis
94. Lokossa
95. Agame
96. Athieme

BOPA

97. Bopa
98. Sahoue

GRAND-POPO

99. Se
100. Kotafons
101. Pedahs
102. Minas
103. Ouatchis
104. Pias

SUD

ALLADA

105. Couffo
106. Koutto
107. Lama
108. Ava
109. Allada
110. So
111. Tori

QUIDAH

112. Lac
113. Segboroue
114. Savi
115. Quidah
116. Pahou

ABOMEY-CALAVI

117. Abomey-Calavi
118. Toffis
119. Godomey

COTONOU

120. Cotonou

SUD-EST

KETOU

121. Ketou

POBE

122. Adja-Ouere
123. Holli-Dje
124. Illemon

ADJOHOUN

125. Bonou
126. Adjohoun
127. Dangbos
128. Toffinous
129. Bas-Oueme

SAKETE

130. Sakete
131. Takon
132. Ifanhim
133. Banigbe

PORTO-NOVO

134. Torris
135. Adjarra
136. Honvie
137. Setto
138. Aguegues
139. Atlantique-Quest
140. Atlantique-Est

Figure 2
(2.2)

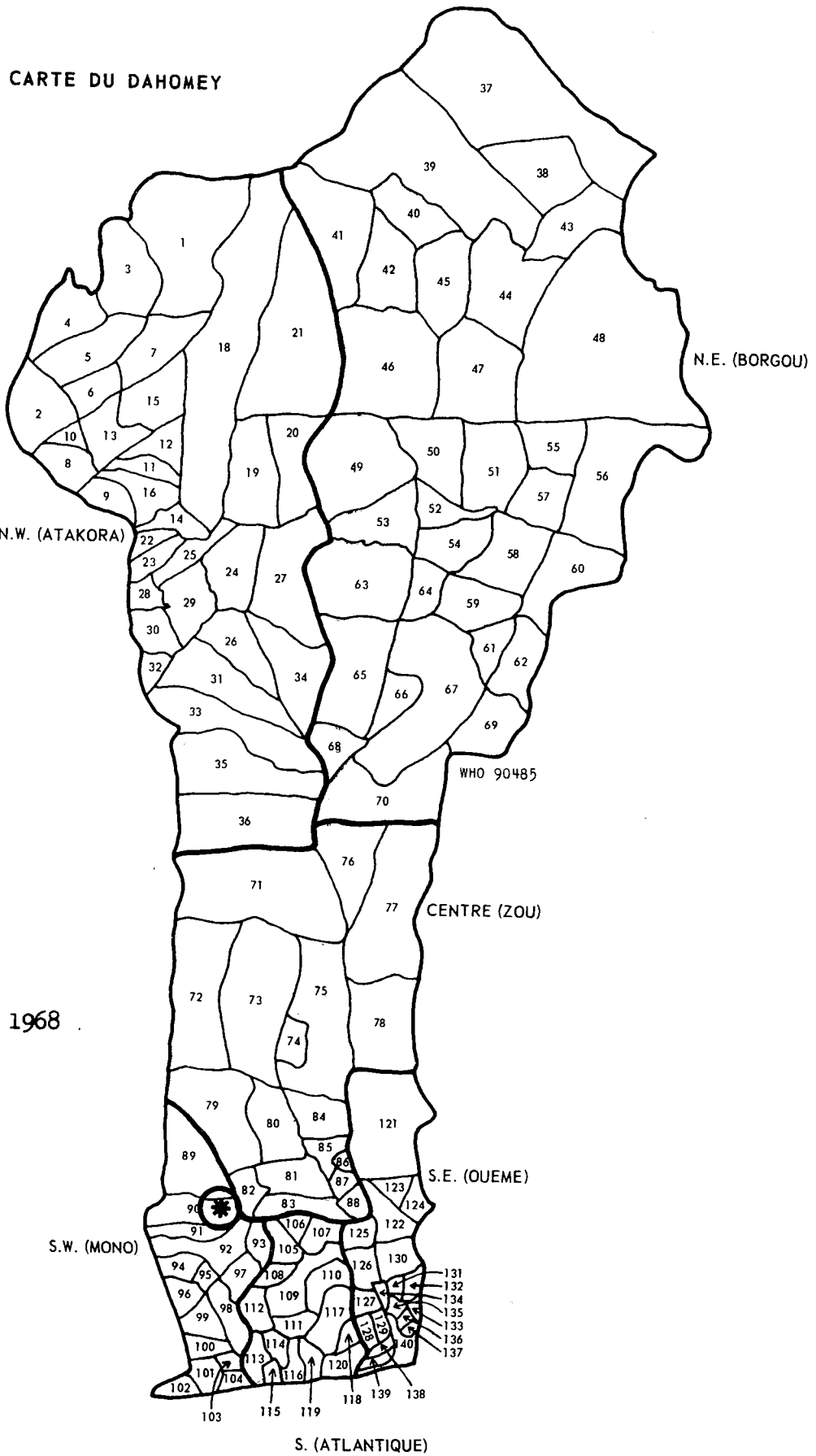
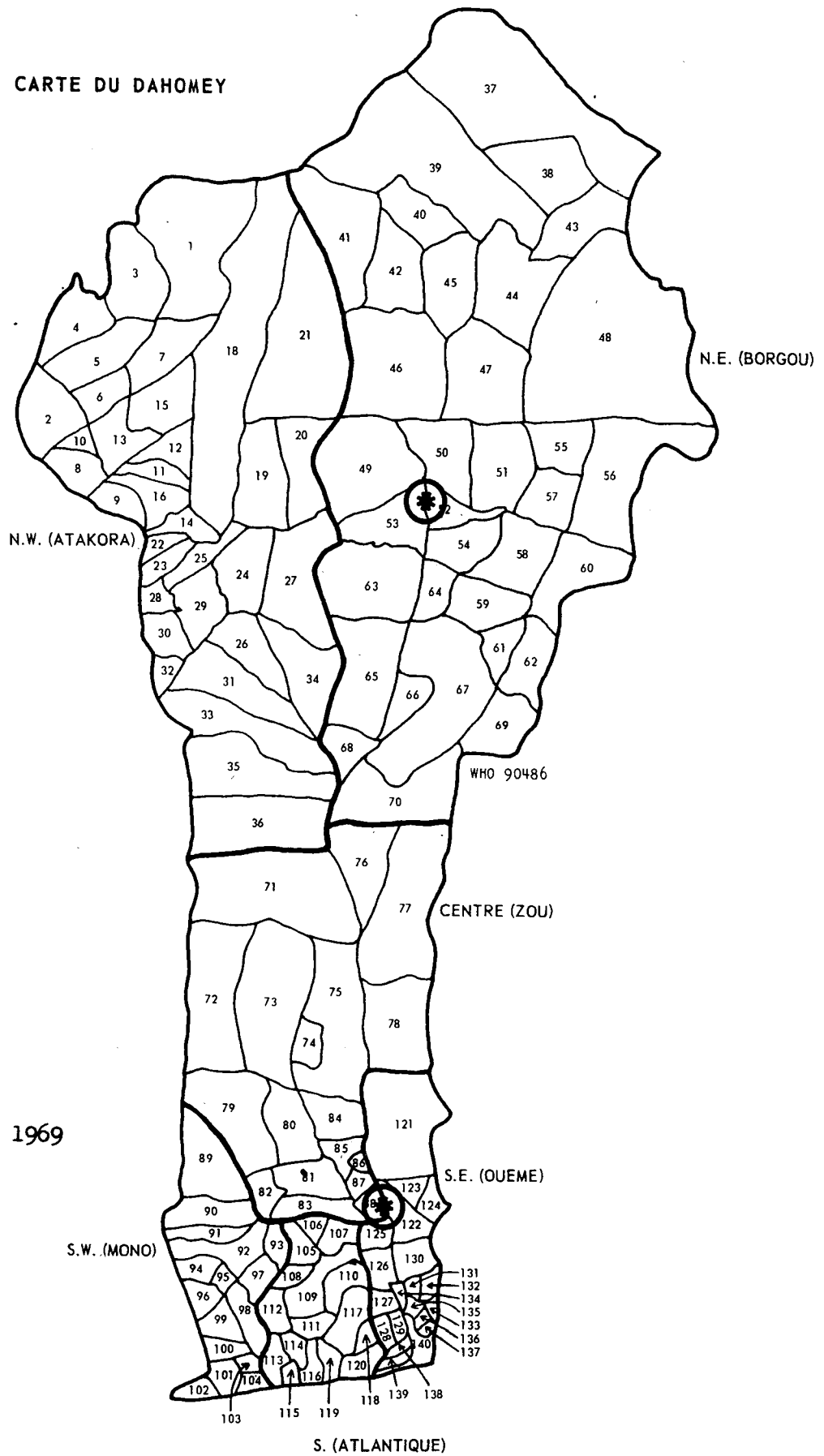


Figure 3
(2.2)

CARTE DU DAHOMEY



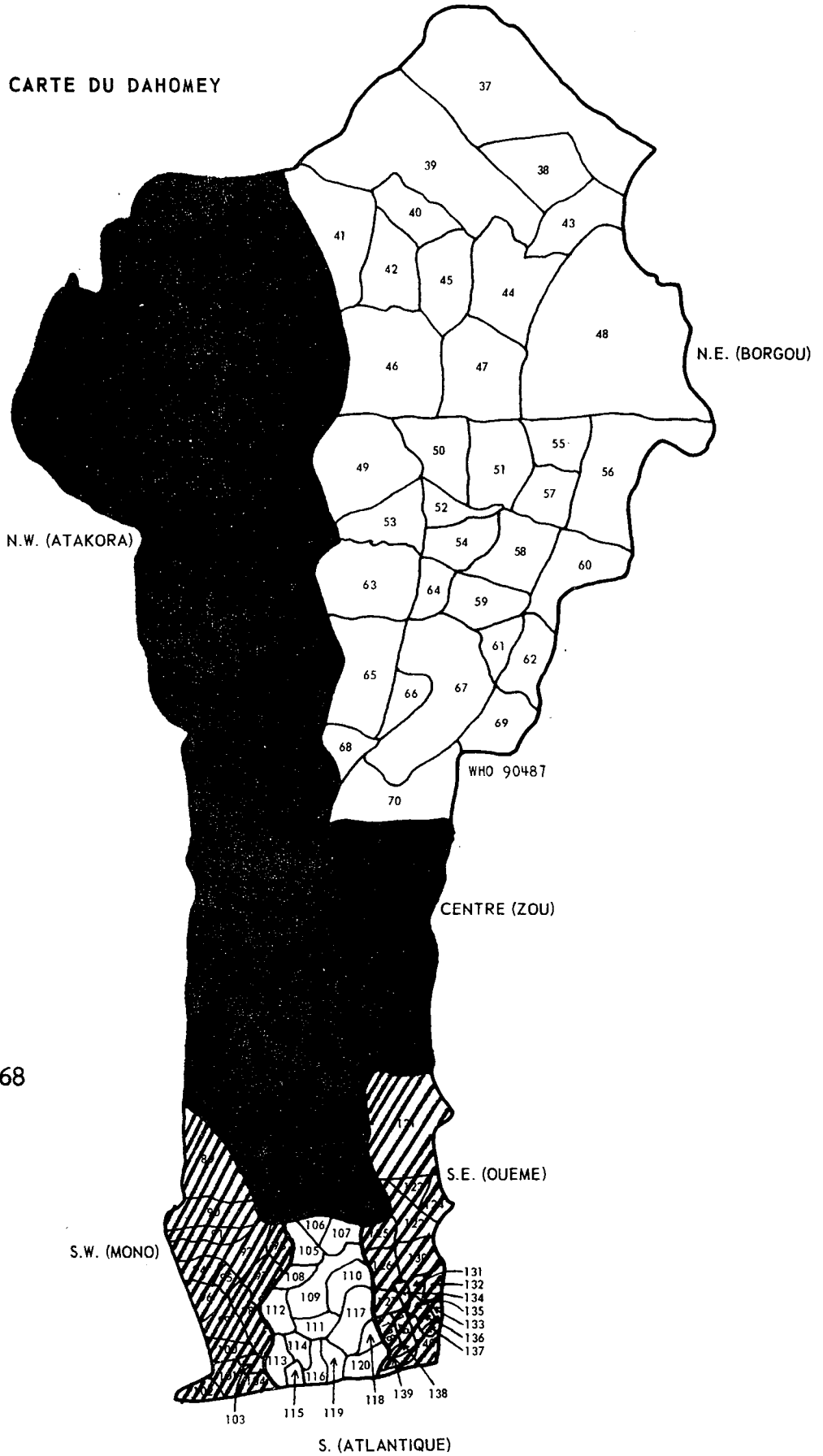
Janv.-Fév. 1969

WHO 90486

S. (ATLANTIQUE)

Figure 4
(2.3)

CARTE DU DAHOMEY



Janv.-Mars 1968




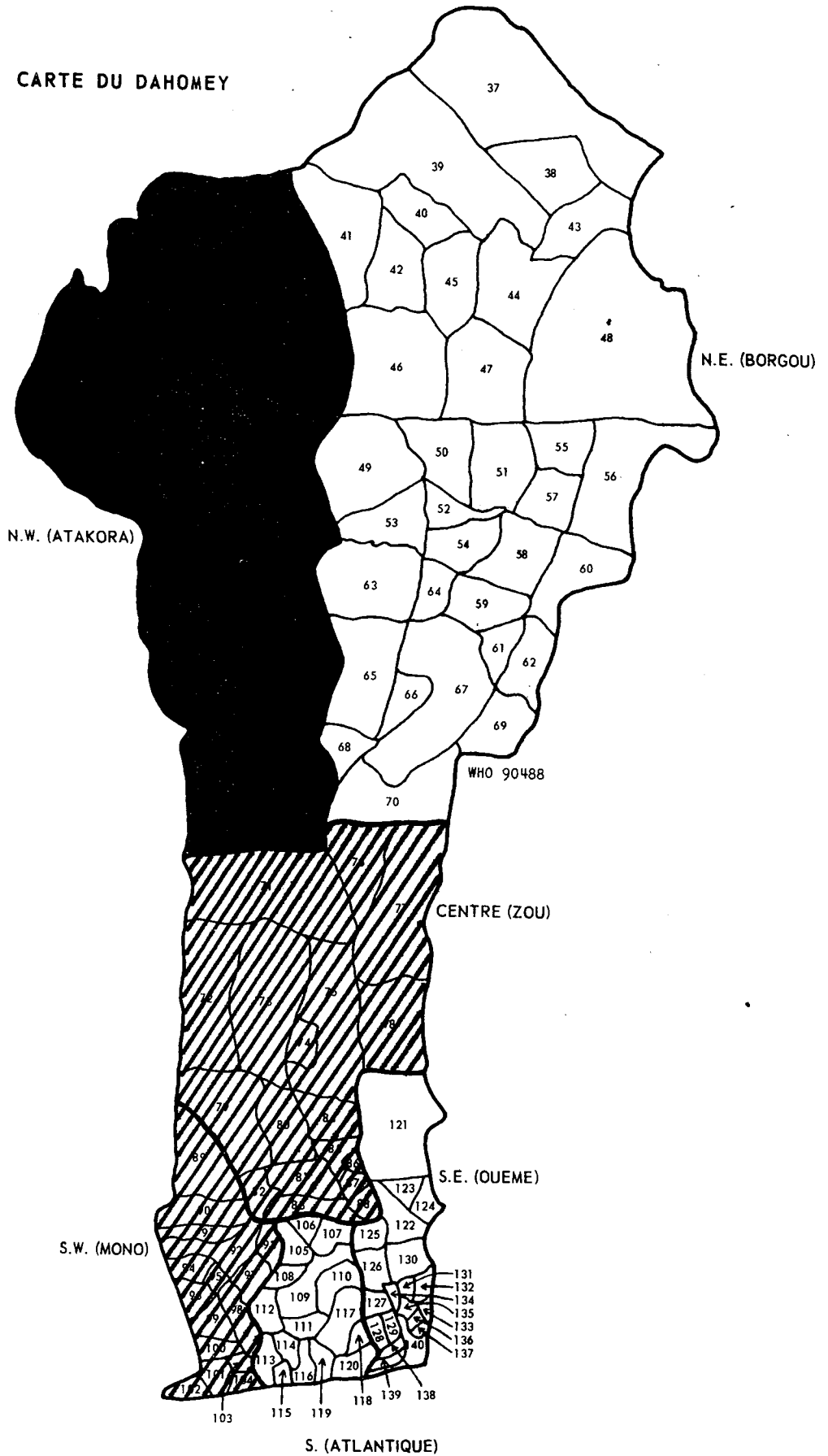
-  Néant
-  0.5 - 5.0
-  5 +

Figure 5
(2.3)

CARTE DU DAHOMEY



Avr.-Juin 1968




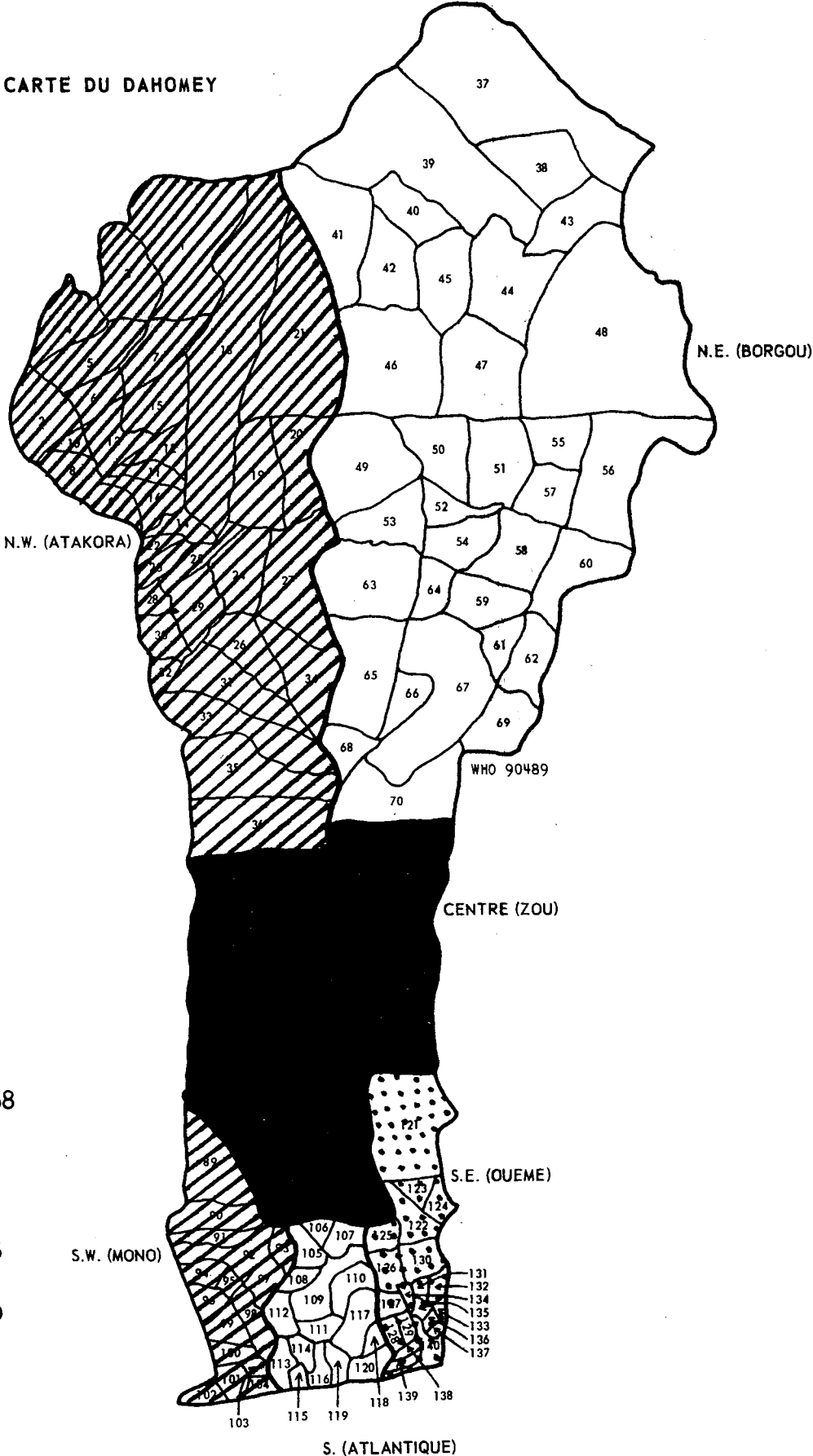
-  Néant
-  0.5 - 5.0
-  5 +

Figure 6
(2.3)

CARTE DU DAHOMEY



Juil.-Sept. 1968





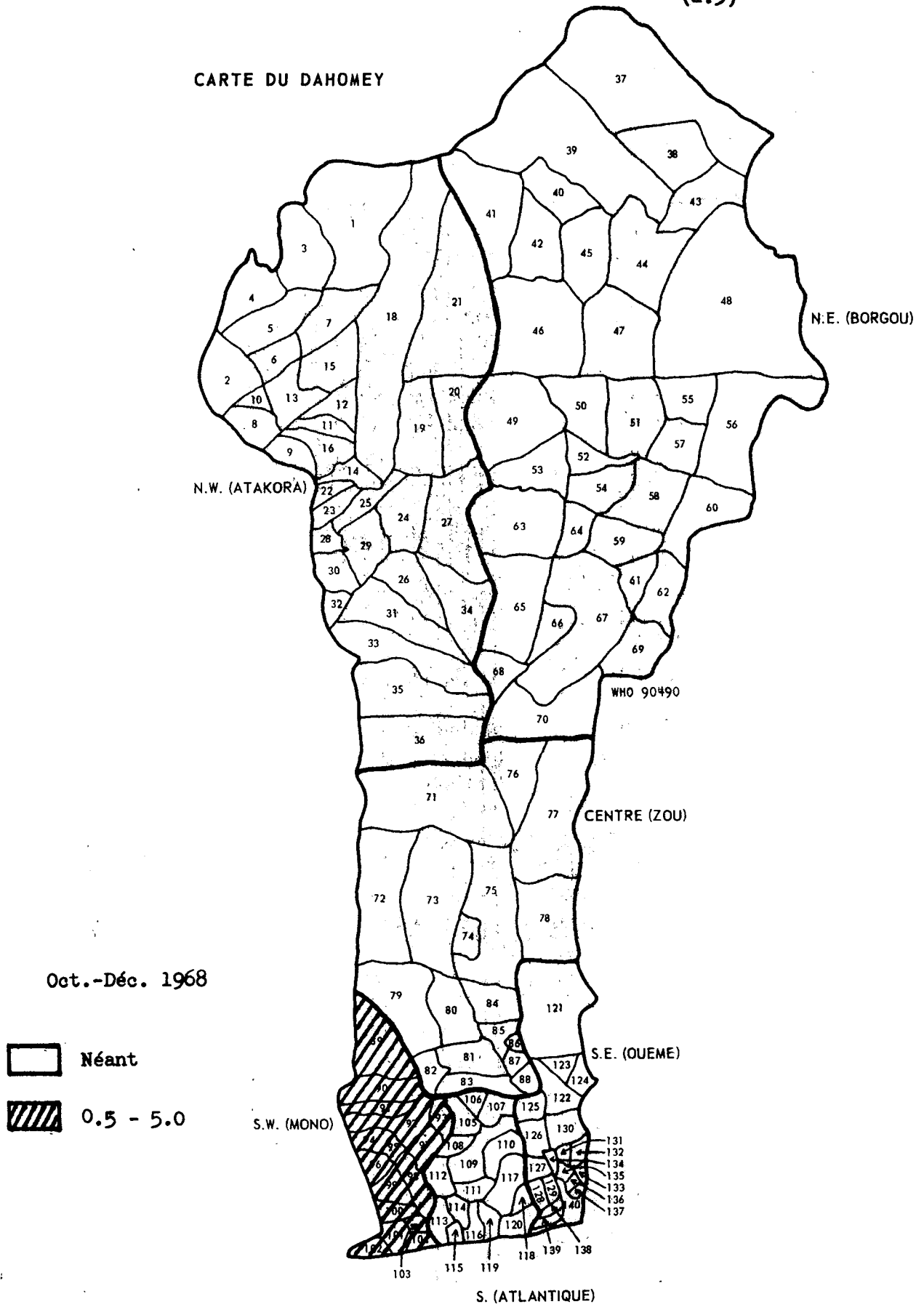
-  Néant
-  0.1 - 0.5
-  0.5 - 5.0
-  5 +

Figure 7
(2.3)

CARTE DU DAHOMEY



Oct.-Déc. 1968

□ Néant

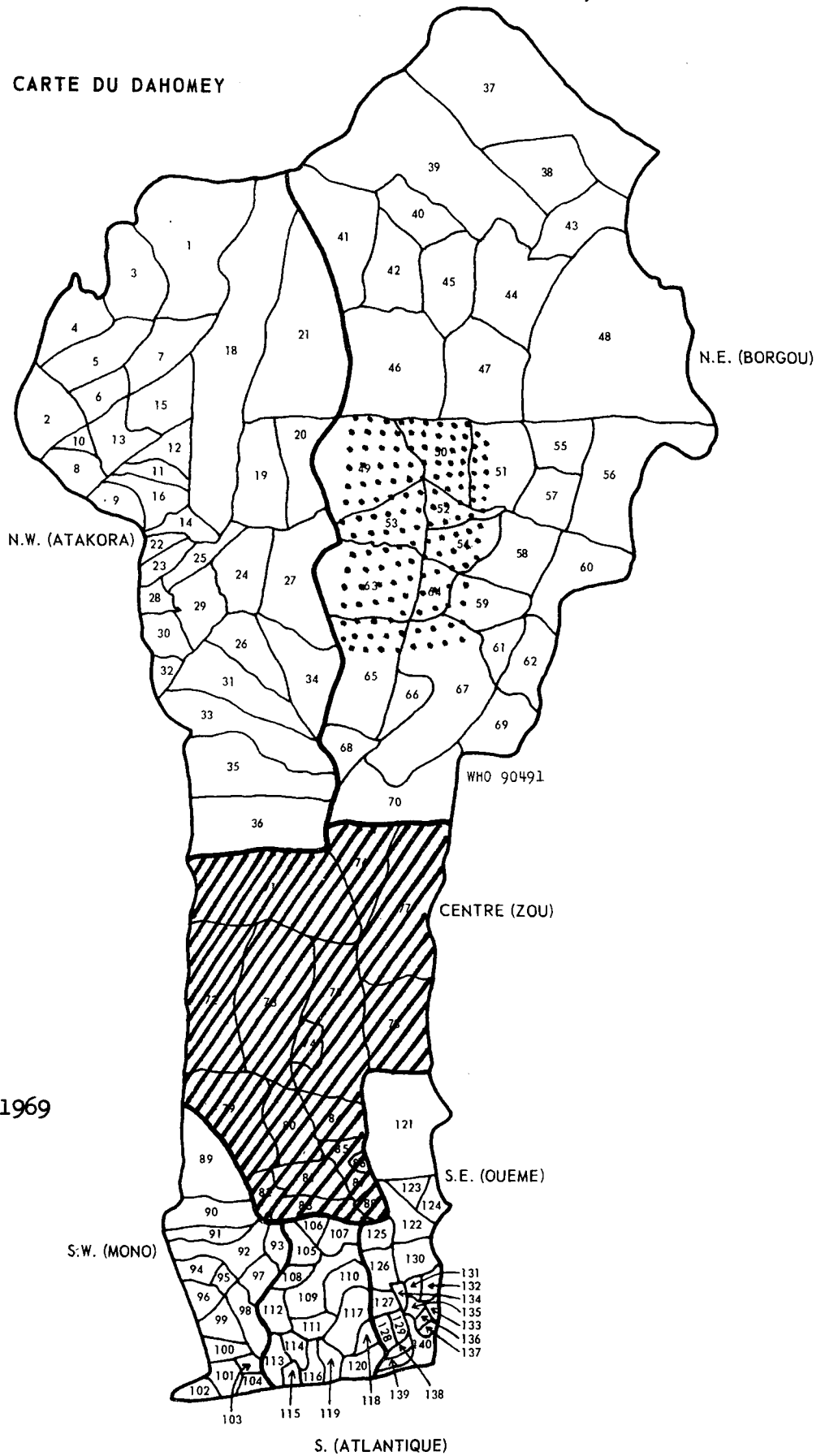
▨ 0.5 - 5.0

S.W. (MONO)

S. (ATLANTIQUE)

Figure 8
(2.3)

CARTE DU DAHOMEY



Janv. - Fév. 1969




-  Néant
-  0.1 - 0.5
-  0.5 - 5.0

Figure 9
(2.6)

CARTE DU DAHOMEY

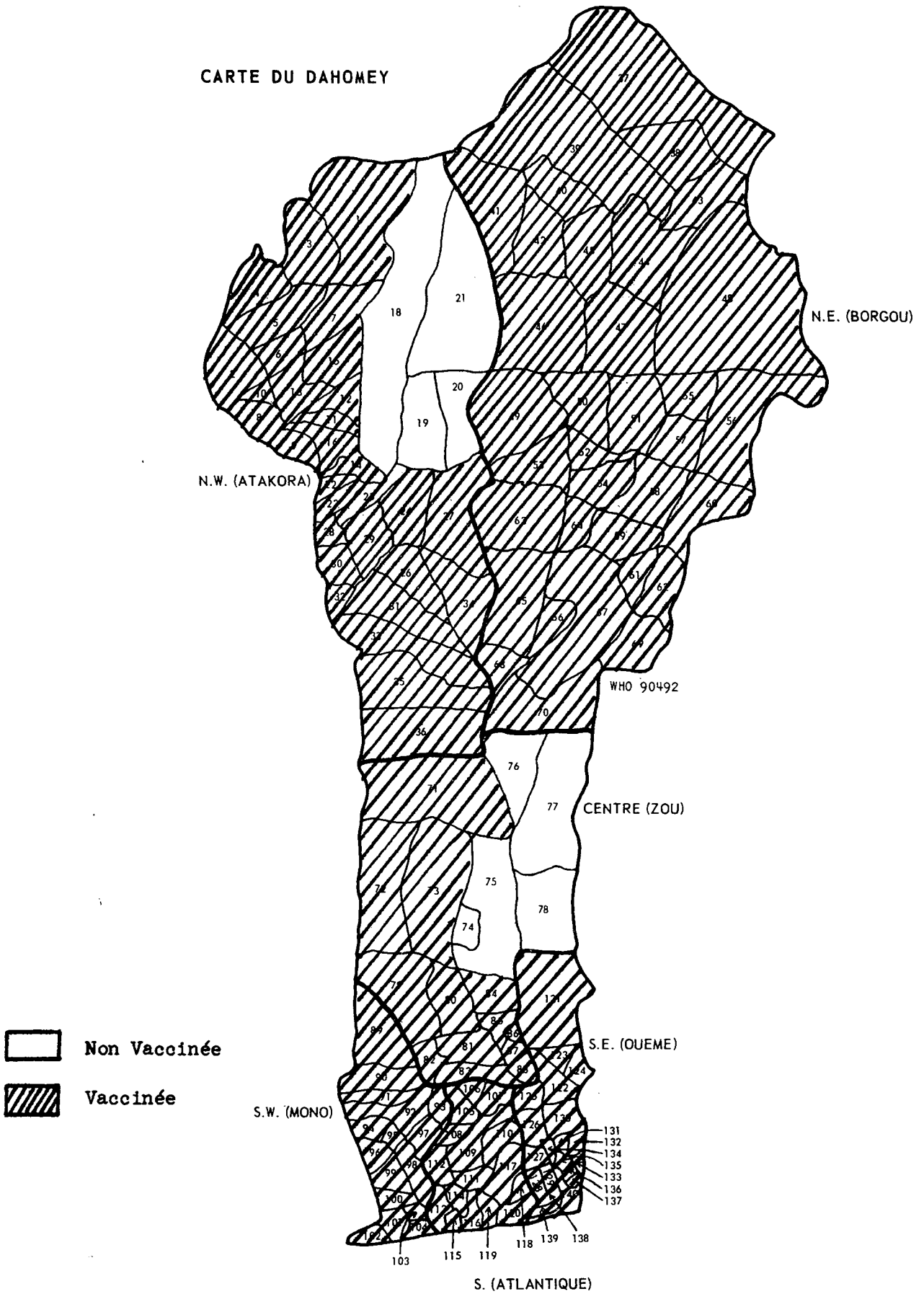


Figure 10
(3.3)

CARTE DU DAHOMEY

