



WORLD HEALTH ORGANIZATION
ORGANISATION MONDIALE DE LA SANTÉ

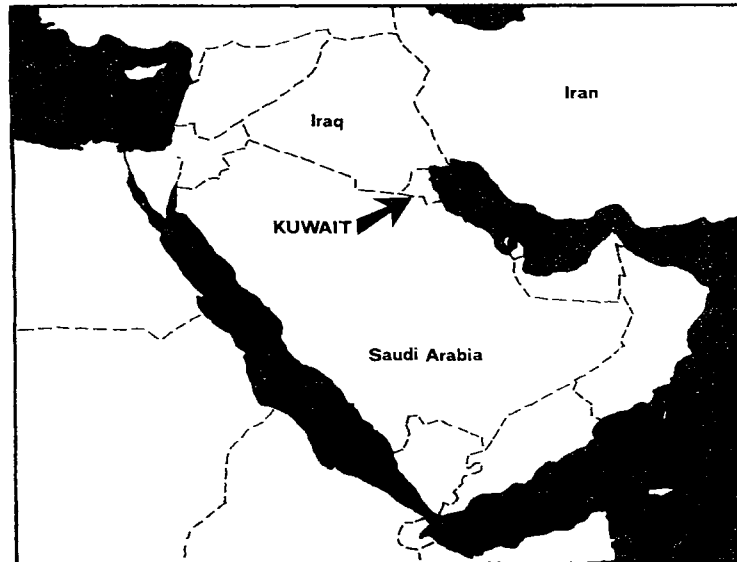
WHO/SE/78.119
Global Commission WP/78.38

ENGLISH ONLY

INDL

**REPORT TO
THE GLOBAL COMMISSION
FOR CERTIFICATION OF
SMALLPOX ERADICATION**

KUWAIT



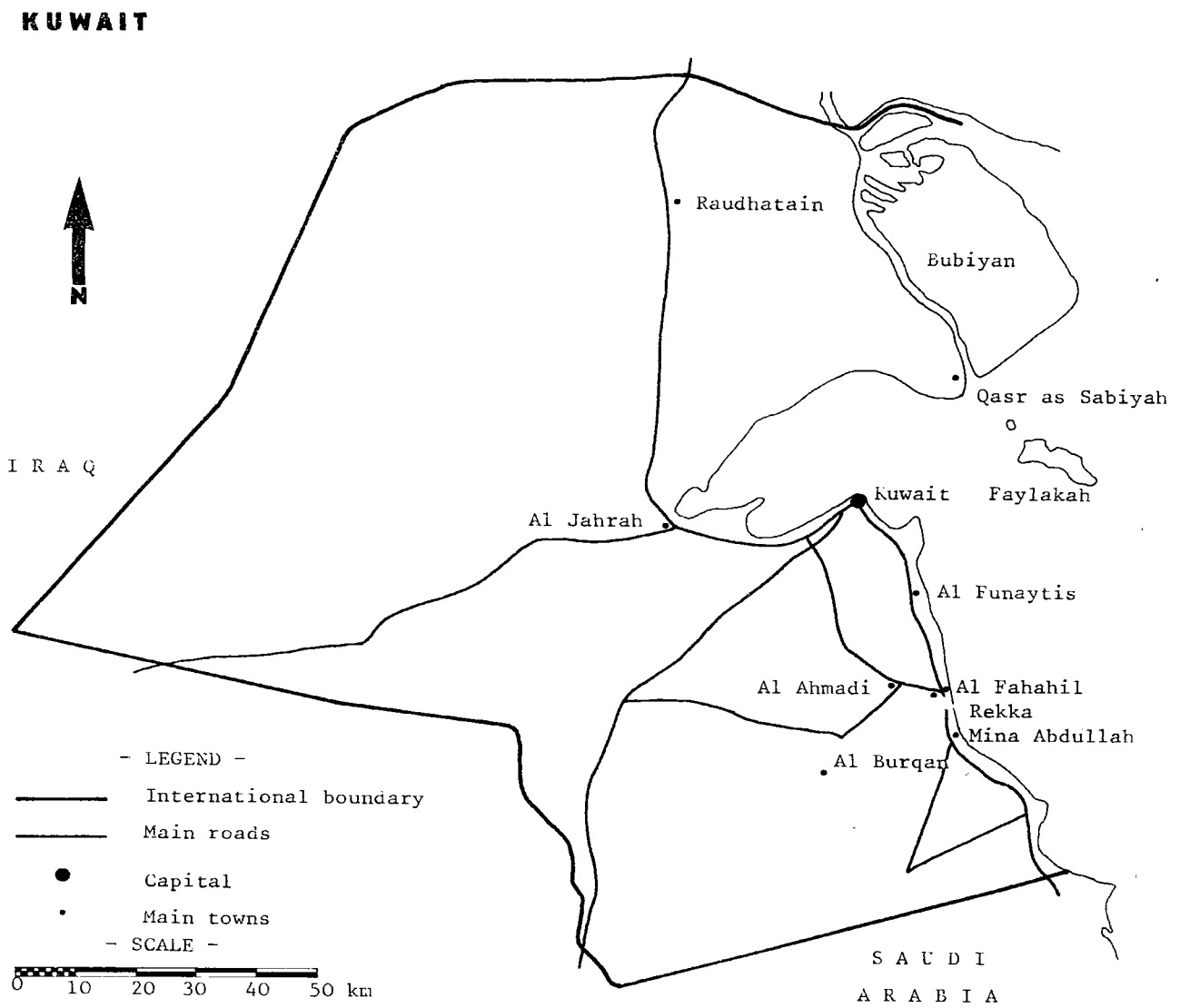
**MINISTRY OF HEALTH
KUWAIT**

WORLD HEALTH ORGANIZATION

The issue of this document does not constitute formal publication. It should not be reviewed, abstracted or quoted without the agreement of the World Health Organization. Authors alone are responsible for views expressed in signed articles.

Ce document ne constitue pas une publication. Il ne doit faire l'objet d'aucun compte rendu ou résumé ni d'aucune citation sans l'autorisation de l'Organisation Mondiale de la Santé. Les opinions exprimées dans les articles signés n'engagent que leurs auteurs.

FIGURE 1: MAP OF KUWAIT SHOWING MAIN POPULATION CENTRES



KUWAIT

1. BACKGROUND INFORMATION

1.1 GEOGRAPHY

The state of Kuwait (area about 17 818 sq. km.) lies at the north-west extreme of the Persian Gulf and is bordered to the north-west by Iraq and to the south by Saudi Arabia. In the extreme south-east lies the Neutral Zone (5 700 sq. km.) jointly owned and administered by Kuwait and Saudi Arabia from 1922 to 1966. It was partitioned between the two countries in May 1966, but the exploitation of oil and other natural resources continue to be shared.

1.2 CLIMATE

Kuwait is a desert country with a hot and humid climate; mean daily temperatures average 24°C and range from 16°C in January to 33°C in August with maximum daily temperatures around 45°C. Humidity may reach 60-80 per cent.

1.3 POPULATION

The total population at the census of 1975 was 994 837, of which about 500 000 were non-Kuwaitis (See Table 1). Islam is the predominant religion.

TABLE 1. POPULATION DISTRIBUTION BY NATIONALITY AND SEX, 1975 CENSUS

Nationality	Male	Female	Male + Female	Percentage of Total Population
Kuwaiti	236 600	235 488	472 088	47.5
Non Kuwaiti Arab	237 425	181 762	419 187	42.1
Other	69 743	33 819	103 562	10.4
Total	543 768	451 069	994 837	100.0

1.4 GOVERNMENT

Under the 1962 Constitution, executive power is vested in the Amir, the head of state chosen by and from members of the ruling family, and is exercised through a council of ministers. The Amir appoints the Prime Minister and, on the latter's recommendation, other Ministers. Legislative power is vested in the Unicameral National Assembly of 64 members. The National Assembly was dissolved in August 1976.

The country is divided administratively into three districts: Kuwait City, Hawalli and Ahmedi. Kuwait has one of the highest per capita incomes in the world.

1.5 EDUCATION

Education is free. It is graded into pre-primary (four to six years of age), primary (six to ten), intermediate (ten to fourteen) and secondary (fourteen to eighteen).

Today, Kuwait has 354 schools - kindergarten to secondary level - with a total of 231 422 pupils and 16 908 teaching staff. In addition there are special schools for the physically and mentally handicapped, two teacher training colleges, a technological institute, and a university which was founded in 1966. The university has 3 179 male and 4 111 female students, reading science, arts, law, engineering, commerce and medicine. (see Table 2).

There are a number of private schools in Kuwait - English, Palestinian, French, American, Armenian, Indian and German - which follow the educational curricula of those countries.

Over 2 000 Kuwaiti students are now receiving education abroad.

TABLE 2. GOVERNMENT EDUCATION FACILITIES 1974/75^a

Level	Schools	Teachers	Students
Kindergarten	52	1 001	12 582
Primary	111	4 810	83 581
Intermediate	90	4 346	55 238
Secondary	35	3 039	26 520
Tertiary and other	19	918	4 373

^a In 1973/74 there were 1 811 teachers and 37 360 pupils at private schools.

1.6 COMMUNICATIONS

There are no railways, and no internal air flights. The 1 920 km of roads include the dual carriageway from Kuwait City to the border with Iraq. A Kuwait - Saudia Arabia highway was completed in 1976. The modernized port of Kuwait is an important Middle Eastern port of call. Special oil terminals facilitate oil shipments, the chief one being Mina Al-Ahmedi. Kuwait Airways and a number of foreign airlines provide international air services.

2. HEALTH SERVICES

2.1 GENERAL

Kuwait has a highly developed and comprehensive public health service, which is extended mostly without charge. In terms of range and quality, the medical and health services of Kuwait can be compared favourably with those of any other country in the world. Remarkable progress has been achieved, particularly during the last few years (Table 3).

TABLE 3. COMPARISON OF HOSPITALS, HEALTH CENTRES
AND MEDICAL STAFF 1949 AND 1976

Health Unit or Staff	1949	1976
Hospitals and Sanatorium	2	11
Clinic and Polyclinics	2	46
Dental Clinics	-	58
Mother Care Centres	-	15
Child Care Centres	-	21
Preventive Health Centres	-	16
Beds	110	4 178
Specialists Cl. in School Health	-	7
School Clinics	23	325
Physicians	4	1 043
Dentists	-	95
Pharmacists	1	132
Assistant Pharmacists	5	303
Qualified Female Nurses	17	2 357
Assistant Female Nurses	2	555
Qualified and Assist. Male Nurses	10	1 015
Dental Technicians	-	47
Laboratory Technicians and Assists.	1	219
Radiographers and Assistants	-	130

The total number of visits to public hospitals and dispensaries was 7 849 470 in 1976.

The public expenditure on health services on current as well as capital account in 1976/77 was around K.D. 60 million, which works out at 6.5% of the total Government outlays.

2.2 HEALTH STRUCTURE AND UNITS

There is a well organized Ministry of Health with both preventive and curative departments.

In 1962, the health services attained a crowning achievement when the health registration system was put into effect. Its objective was the organization, co-ordination and provision of medical services for the benefit of all citizens or residents in Kuwait, through collective health units working day and night, and affiliated clinics. Each unit has a record for each resident in the area, reflecting his complete medical background.

There are, at present, 11 hospitals and sanatoria, 58 dental clinics, 36 mother and child care centres, 16 preventive health centres and 46 clinics. The country's 4 500 hospital beds represent one bed for every 110 persons.

Social Health centres have been created to include maternity and child welfare centres; family planning or guidance centres; a pre-marital medical examination office for the cure of sterility, for birth control, the control of venereal diseases and for health guidance and education.

The student's share of the health service is great. There are about 325 school clinics today, in addition to another seven specialized clinics belonging to the Schools' General Health Centre. Students of both sexes are subjected to periodical and preventive medical check-up, along with the other citizens.

2.3 HEALTH MANPOWER

The number of doctors employed by the Government was only 4 in 1949. In 1976, the number of doctors and dentists in Government health service reached 1 138, of whom 261 are female. The number of private doctors is 203. There is one doctor for every 793 persons.

Recruitment of extra staff was speeded up in 1976, when several British surgical specialists joined the Kuwait medical service, and more than 60 highly experienced British nurses were recruited. Since then many qualified physicians, nurses and medical technicians from the Arab world have joined this service (Table 4).

Doctors from the Ministry of Health, wishing to gain more experience or to specialize in specific branches of medicine, study abroad at the State's expense.

TABLE 4. DISTRIBUTION OF GOVERNMENT PHYSICIANS AND DENTISTS BY NATIONALITY AND SEX, 1976

Nationality	Total	Female	Male
Kuwaiti	160	44	116
Egyptian	508	135	373
Jordanian or Palestinian	276	28	248
Syrian	22	2	20
Lebanese	19	5	14
Iraqi	51	10	41
Indian	48	28	20
European	16	3	13
Other	38	6	32
Total	1 138	261	877

2.4 COMMUNICABLE DISEASE CONTROL

There is a Communicable Disease Control Section in the Preventive Medicine Department of the Ministry, with an epidemiologist and a statistician. There is an Infectious Diseases Hospital and there are 16 Public Health Centres which are responsible for the surveillance of communicable diseases. The locations of these centres and the population covered by each of them are shown in Figure 2 and Table 5.

Notification of all infectious diseases are received in the C.D.C. Section through weekly and monthly returns and by telephone where indicated. Serious cases are

FIGURE 2. LOCATION OF HEALTH CENTRES AND THEIR COVERAGE OF THE MAIN CONCENTRATIONS OF POPULATION

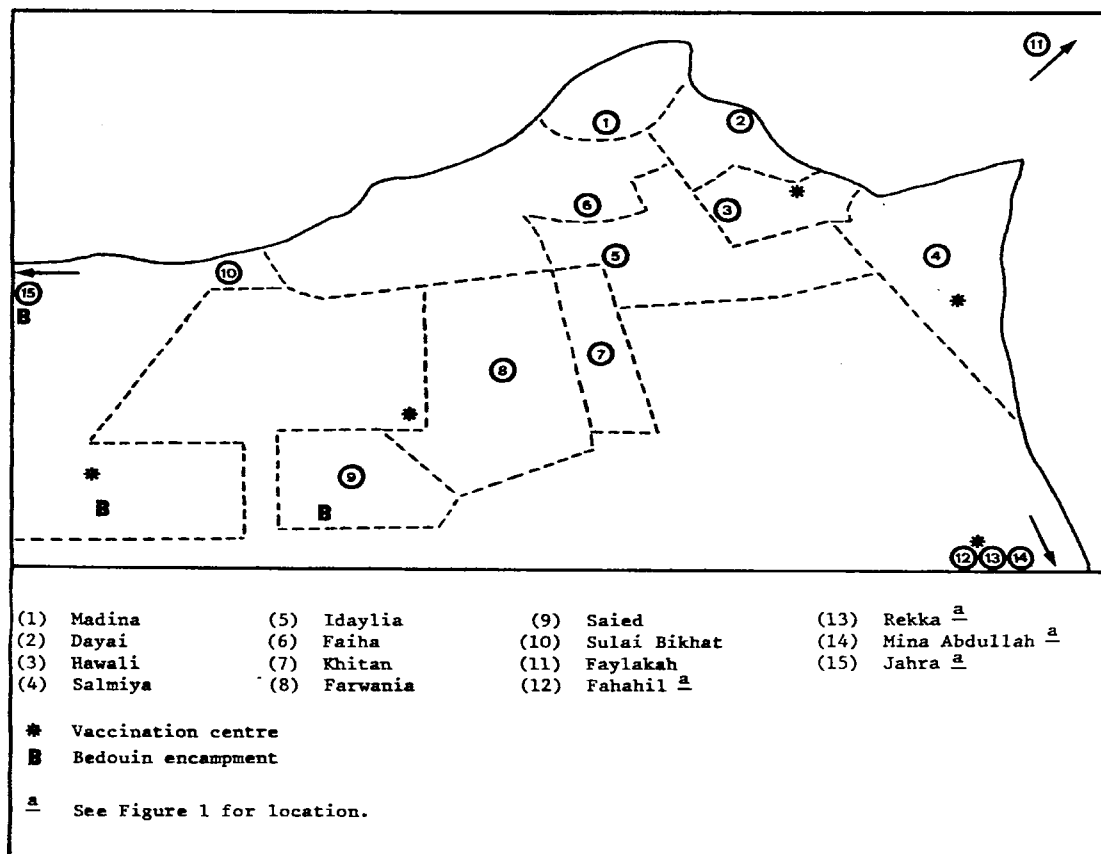


TABLE 5. MID-YEAR POPULATION COVERED BY EACH HEALTH CENTRE 1970 AND 1977

Centre	1970	1977
Madina	80 405	88 700
Dayai	43 881	55 594
Faiha	42 710	52 320
Sulaibihat	40 257	77 514
Jahra	30 707	73 455
Hawalli	121 851	173 790
Saied	19 177	48 480
Failaka	3 268	4 514
Edylia	33 242	43 727
Salmia	90 554	166 786
Khitan	38 015	68 720
Farawnia	89 662	114 126
Fahahil	42 849	65 090
Rekka	39 189	61 694
Mina Abdulla	22 181	33 690
Total Population	737 948	1 129 200

admitted to the hospital. Community preventive measures are carried out by the Public Health Centre doctors, under the supervision of the Ministry Epidemiologist. In 1976, 418 chickenpox and 420 measles cases were admitted to the Infectious Diseases Hospital.

The branch of health instruction and guidance maintain a firm relationship between the health authorities and the public by means of monthly medical periodicals, publications, pamphlets, broadcasting and T.V. programmes.

3. SMALLPOX INCIDENCE

3.1 GENERAL

The smallpox incidence since 1956 in Kuwait is shown below in Table 6.

TABLE 6 - REPORTED SMALLPOX CASES, 1956 - 1967 ^a

Year	Cases	Year	Cases
1956	8	1962	1
1957	23	1963	-
1958	-	1964	-
1959	10	1965	-
1960	-	1966	-
1961	-	1967	41 ^a

^a There has been no case since 1967

Although Kuwait appears to have been free of endemic smallpox since 1957, it has constantly been exposed to the danger of reintroduction of cases due to its close communications with, until recently, heavily endemic countries such as India and Pakistan.

The 10 cases reported in 1959 were said to have been due to an importation of the infection, although it was not specified from which country.

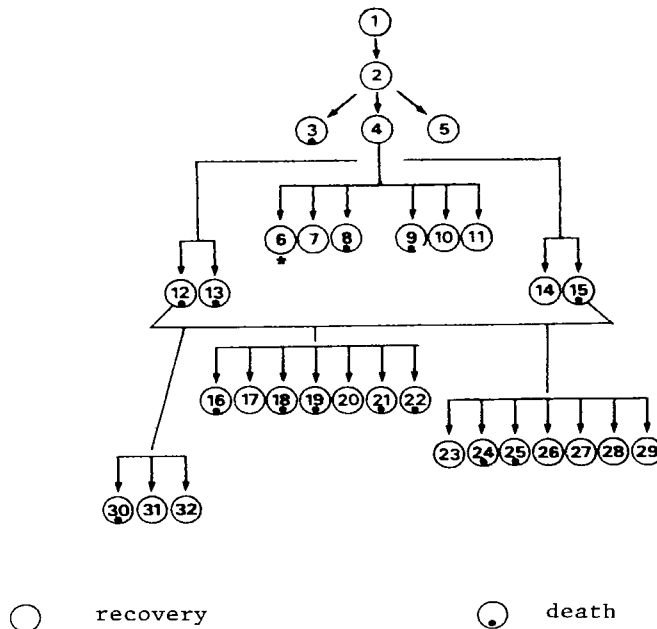
The single case in 1962 was a Pakistani woman, who had fully developed the disease and was put ashore into hospital from a boat. As all contacts with the case were properly vaccinated and the case was already diagnosed it did not present any problem and the patient recovered spontaneously.

After eight years of freedom from smallpox, in 1967 41 cases, including 19 deaths, were reported during February, March and April. Mass vaccination campaigns together with intensified surveillance activities were effectively conducted and the outbreak ceased rapidly. The onset of disease of the last case was on 1 May 1967.

3.2 THE OUTBREAK OF 1967

(i) Epidemiology - A Pakistani girl, Soraya, aged 17 (Fig. 3 Case 1) arrived in Kuwait from East Pakistan on 25th January 1967. Two weeks following her arrival she fell ill and was admitted to the Fever Hospital on 12 February as a case of "chickenpox". Next to her in the same room a Bedouin woman from the outskirts of Kuwait, Fatima (Case 2) had been admitted on the previous day with measles. Both of them were discharged on 18 February.

FIG. 3 CHAIN OF TRANSMISSION - 1967 OUTBREAK



* Case 6 was the source of infection for an additional 9 cases including 4 deaths at Sabah hospital.

In cases 1, 2, 4 and 6 the diagnosis of smallpox was initially missed.

Fatima was readmitted on the 28th of the same month as a severe case of "chickenpox". She suffered a long illness from which she eventually recovered and was discharged on 4 April 1967 as a healed case of "chickenpox".

She gave a history of previous vaccination one year previously but no vaccination scars could be seen at that time. Her one year old daughter, Jasmayah (Case 4) was also admitted on 17 March with "chickenpox". The daughter used to be brought to her mother in the Fever Hospital for nursing when her mother was still able to attend to her in the first few days of her illness. Both mother and daughter recovered from their illness and were discharged on 4 April.

Mudi, another 18 year old Bedouin girl (Case 3) from Udaliyah, a district different from that of Fatima, was admitted with "influenza" from 1 - 7 March 1967 where she came in contact with Fatima in her second admission as a case of "chickenpox". Mudi was readmitted with fever and a rash to the same hospital on 16 March and died of smallpox on 25 March. This was the first case of smallpox notified to the Ministry of Health and the diagnosis was confirmed by culture of the variola virus from material obtained from the dead patient.

On re-examination of cases 1, 2 and 4 later in the outbreak they were found to show pockmarks typical of healed smallpox.

Hamda (Case 5) the sister-in-law of Fatima was admitted the first time with measles from 13 - 22 February and was readmitted the second time with fever and an exanthem on 31 March and was diagnosed and isolated later as a case of smallpox. It is most likely that she caught the infection through contact with her niece Jasmayah (Case 4) at home since the incubation period is compatible.

The third crop of cases included cases 6, 7, 8, 9, 10 and 11. The presentation in this group was misleading in that nearly all of them were initially mistaken for drug reactions. All of them except cases 8 and 10 were in the Fever Hospital with measles at the same period when the second generation of smallpox cases were under treatment.

Case No. 8, Ghadra, must have caught the infection with her son Mut'eb when he was in the Fever Hospital with measles previously from 21 - 24 March, during which period she used to visit him, and frequently came in contact with Case 4, their common source of infection.

Case No. 10, Mufreh, a policeman, who had never been vaccinated in his life, came to visit his relative Nafla, a three year old girl, Case No. 12, during her admission with measles from 22 - 24 March and must have caught the infection (as she did) from contact with case No. 4. Both cases 10 and 12 come from the same area, Magwa, and live next door to each other.

It would have been anticipated that Nafla would have developed the disease earlier than Mufreh since she was a primary contact with case 4 whilst Mufreh did not come in contact with the same source except on his visit to Nafla; surprisingly enough he developed the disease earlier than Nafla. One may speculate that a variation in the incubation period may be related to a difference in the state of immunity acquired through previous vaccination. It is known that Mufreh was never vaccinated but Nafla's vaccination state is uncertain. It is a fact that Nafla's illness was much milder and her stay in hospital was the shorter by three weeks.

There was an unfortunate mishap over case 6, Nael, a 10 months old Iraqi baby, who was previously in the Fever Hospital with complicated measles from 16 - 30 March. He was readmitted on 7 April with fever. Following penicillin injections he developed a morbilliform erythema whilst his fever subsided. He was then considered to have a penicillin skin reaction and was referred to a dermatological out-patient department for opinion.

The dermatologist, thinking it could be a severe case of penicillin sensitivity, referred him to a paediatric clinic where he was diagnosed and admitted by the paediatrician as a case of Stevens-Johnson syndrome to a public ward. This child soon developed typical smallpox lesions and died on 14 April. This started a new nidus of infection. A group of 10 children who were in the paediatric ward at the Sabah Hospital, with one exception, were infected in the ward and all 9 cases belong to one generation of the disease.

The 4th and 5th crops of cases (cases 13 to 32) were all primary contacts in the Fever Hospital to the previous crop and a difference in the incubation period can be noted among these cases.

(ii) Control measures - As soon as the outbreak was identified as that of smallpox an intensive vaccination programme was started. State Health Centres, schools, army and police forces, oil companies and mobile teams participated in this containment operation.

The total number of vaccinations performed by the various organizations was recorded as follows:

Health centres	70 162
Dispensaries	100 000
Schools	105 833
Army and police corps	10 000
Mobile teams	73 595
TOTAL	<u>359,590</u>

It was believed that with good surveillance activities, together with the intensive mass campaign, this outbreak could be stopped within a short period.

A more detailed account of the outbreak is given in the American Journal of Public Health Vol. 60 No.10, October 1970, p.1960.

4. SMALLPOX VACCINATION ACTIVITIES

The last mass vaccination campaign was in 1974, when mobile teams were deployed to vaccinate all those without any previous vaccination scars. Now smallpox vaccination is offered at all the Public Health Centres, MCH and School Health Clinics.

Primary vaccination of infants and revaccination of all every three years is the policy of the Ministry.

In a random survey carried out this year, 758 children of 0-5 years age group in 411 households were seen, of which 77.4% bore vaccination scars. Details are shown in the following table.

TABLE 7: VACCINATION SCAR SURVEY RESULTS, 1978

Age group	No. examined	Number with vaccination scar	Percentage
< 1 year	110	39	35.5
1 - 2 years	248	206	83.1
3 - 5 years	400	342	85.5
Total	758	587	77.4

The number of vaccinations given during the years 1967-1977 and during the first six months of 1978 are shown in Tables 8 and 9.

TABLE 8: SMALLPOX VACCINATIONS PERFORMED 1967 - 1977

Year	Primary Vaccination	Re-vaccination	Total
1967	16 707	271 659	288 366
1968	19 986	210 150	230 136
1969	24 713	226 551	251 264
1970	28 577	249 529	278 106
1971	31 299	313 942	345 241
1972	37 183	333 475	370 658
1973	24 632	172 572	197 204
1974	78 029	223 670	301 699
1975	51 310	177 694	229 004
1976	52 538	150 793	203 331
1977	69 870	158 714	228 584
Total	434 844	2 488 749	2 923 593

TABLE 9: SMALLPOX VACCINATIONS PERFORMED JANUARY - JUNE 1978

Month	Primary Vaccination	Re-vaccination	Total
January	3 251	2 580	5 831
February	3 006	11 923	14 929
March	6 249	12 610	18 859
April	5 709	12 813	18 522
May	7 073	23 905	30 978
June	6 811	39 688	46 499
Total	32 099	103 519	135 618

5. SPECIAL OPERATIONS CARRIED OUT FOR THE CERTIFICATION OF SMALLPOX ERADICATION

5.1 GENERAL

As decided by the Secretariat of Health for the Arab Countries of the Gulf, the Ministry of Health, Kuwait, undertook to institute special activities for a period of six months and to present the results of these in order to satisfy the Global Commission that the country is indeed free of smallpox.

The specified activities were:

- (a) Chickenpox surveillance;
- (b) Laboratory examination of specimens from particular categories of chickenpox cases and other suspect smallpox cases;
- (c) Facial smallpox scar survey of as many children as possible in the 0-10 year age group from different parts of the country;
- (d) Epidemiological investigation of all suspect smallpox cases and of chickenpox cases associated with death.

5.2 CHICKENPOX SURVEILLANCE

Chickenpox has always been a notifiable disease, by numbers, in the country. However, since January 1978, each case was individually reported with name, age and sex. Serious cases and cases of doubtful diagnosis were admitted to the Isolation Hospital where they were observed and laboratory specimens were taken for confirmation of diagnosis. Altogether, 1 776 chickenpox cases were thus critically examined and not one of them could be considered as a suspect smallpox case. The particulars of these cases are shown in Tables 10 and 11.

TABLE 10: NOTIFIED CHICKENPOX CASES BY AREA AND MONTH
JANUARY - JULY 1978

Area	Month							Total
	January	February	March	April	May	June	July	
Madina	12	12	15	28	26	21	7	121
Dayai	6	5	3	22	27	29	3	95
Edylia	3	1	3	27	44	30	9	117
Faiha	5	7	5	12	14	34	7	84
Hawali	19	14	10	64	70	36	14	227
Salmia	5	12	8	52	73	38	8	196
Khaitan	4	7	20	46	42	25	7	151
Jahra	-	5	7	16	14	8	3	53
Sullibik	11	8	11	24	24	31	12	111
Farwani	7	10	33	78	9	80	18	235
Rekka	8	9	25	46	62	19	12	181
Fahahil	1	1	6	9	37	15	3	72
Saied	2	18	11	24	19	9	6	89
Mina Abdullah	-	6	5	8	5	2	6	32
Fai Laka	-	-	-	-	2	-	-	2
Total	83	115	162	456	468	367	115	1 766

TABLE 11. NOTIFIED CHICKENPOX CASES BY AGE AND SEX^a
JANUARY - JULY 1978

Age Group In Years	Male	Female	Total
< 1	39	24	63
1 - 4	259	227	486
5 - 14	425	359	784
15 - 24	112	54	166
25 - 34	117	61	178
35 - 44	31	9	40
45+	4	1	5
Unspecified	26	28	54
	1 013	763	1 776

^a Particulars regarding vaccination status were not available.

5.3 LABORATORY EXAMINATION OF SPECIMENS FROM CHICKENPOX CASES OF DOUBTFUL DIAGNOSIS

Since January 1978, specimens for laboratory examination were collected from chickenpox cases of the following categories:

- (1) All cases unvaccinated against smallpox.
- (2) All severe adult cases.
- (3) All cases with lesions on palms and soles.
- (4) All cases associated with death.

A total of 78 specimens were thus collected up to July 1978 and sent to WHO for testing. These included specimens from two fatal cases and one case with lesions on palms and soles. All the specimens were found to be smallpox negative (See Annex 1). The laboratory testing results and details of these 78 cases by place of origin and by age, sex and vaccination status are shown in Tables 12, 13 and 14.

TABLE 12. RESULTS OF LABORATORY TESTING OF SPECIMENS

Virus Identified	Number of Specimens
Herpes Varicella (by EM)	53
Vaccinia (growth on CAM)	1
Variola Virus	0
No virus	22
Information not available	2
Total	78

TABLE 13. PLACE OF RESIDENCE OF PERSONS FROM WHOM SPECIMENS WERE COLLECTED

Place	Number of Specimens
Madina	31
Dayai	3
Faiha	2
Hawali	3
Sulai Bikhath	1
Jahra	3
Saied	6
Farwania	5
Khitan	11
Rekka	1
Fahahil	3
Salmiya	3
Mina Abdullah	2
Ahmedi	1
Fadisiya	1
Shab	2
Total	78

TABLE 14. DISTRIBUTION OF CHICKENPOX CASES FROM WHICH LABORATORY SPECIMENS WERE COLLECTED BY AGE, SEX AND VACCINATION STATUS

Age Group in Years	Male		Female		Total
	Vaccinated	Unvaccinated	Vaccinated	Unvaccinated	
< 1	-	4	-	1	5
1 - 4	-	1	3	1	5
5 - 14	3	5	4	3	15
15 - 24	13	4	-	1	18
25 - 34	26	-	-	1	27
35+	6	1	-	1	8
Total	48	15	7	8	78

5.4 FACIAL SMALLPOX SCAR SURVEY

All the staff of the Public Health Services and the MCH Clinics carried out this survey. Altogether 80 791 children were examined in different parts of the country. Only three children were found to have some slight scarring of the face, but not as a result of smallpox. Names of the localities and the number of children examined in each of them are shown in Table 15.

TABLE 15. SMALLPOX FACIAL SCAR SURVEY, JUNE - JULY 1978

Name of Locality	No. of Children under 10 years Examined	No. Found with Facial Scar
Madina	4 277	0
Hawali	18 554	0
Khitan	6 434	0
Saied	4 256	0
Farwania	10 438	0
Fahahil	3 255	0
Rekka	2 621	0
Salmiya	7 209	0
Jahra	11 430	0
Sulai Bikhath	4 450	0
Mina Abdullah	5 696	0
Ahmedi	2 171	0
Total	80 791	0

5.5 INVESTIGATION OF SUSPECT SMALLPOX CASES

After the last outbreak of smallpox in 1967, whenever any case of fever with rash was suspected to be smallpox, specimens were immediately taken and sent to a WHO designated laboratory for testing. Six specimens were thus sent, but all of them were confirmed not to be smallpox. (See Table 16).

During this year, the special chickenpox surveillance showed up no suspect smallpox case either.

TABLE 16. RESULTS OF LABORATORY TESTING^a OF SPECIMENS FROM SUSPECT
SMALLPOX CASES, 1967 - 1978

Year	No. Tested	Variola Virus	Vaccinia Virus	Herpes Virus	Negative
1967	30	11	3	-	16
1968	2	-	1	-	1
1969	2	-	-	1	1
1972	1	-	-	-	1
1978	1	-	-	1	-

^a Tested at Public Health Laboratory Service, Collindale, UK

6. CONCLUSION

Kuwait has a highly developed and comprehensive Public Health Service. Smallpox, chickenpox and measles have been, and still are, notifiable diseases in the country. A good surveillance system exists and the population is well covered with smallpox vaccination. The recent country-wide smallpox facial scar survey showed that there is no evidence of smallpox infection at least during the last ten years. Therefore, it can be safely assumed that the country has eradicated the disease.

LINE LISTING OF PATIENTS FROM WHOM SPECIMENS WERE TESTED AT
THE WHO COLLABORATING CENTRE AT C.D.C. ATLANTA U.S.A.

REF. No.	PATIENT			RECEIVED	RESULTS	
	NAME OR CASE NO.	AGE	SEX		HERPES VARICELLA (by EM)	VARIOLA VIRUS ISOLATION
1	Abdil Malik Ahd Esswan	40	M	17.5.78	positive	negative
2	Mathu Kutty	28	M	"	"	"
3	Abraham Isaak	23	M	"	"	"
4	Joseph John	25	M	"	negative	"
5	Jameskatty Mathew	22	M	"	"	"
6	K.C. Francis	31	M	"	positive	"
7	Cehllayya Muthu	30	M	"	"	"
8	Noora Saad	25	F	"	"	"
9	John Peter	30	M	"	negative	"
10	Krishna Moorthy	27	M	"	positive	"
11	Hadi Phadil Talmis	18	M	"	"	"
12	Joseph Thomas	27	M	"	"	"
13	Gehad Hussan	10	M	"	negative	"
14	Erayan	26	M	"	positive	"
15	Khadiga Abd Jahr	9	F	"	"	"
16	Dahya Khanefis	20	F	17.5.78	negative	"
17	Moh. Said	23	M	"	positive	"
18	Al Hemedi Alib Danit	22	M	"	"	"
19	Johns John	30	M	"	"	"
20	Nahida Ibrahim Khalil	7	F	"	<u>a</u>	"
21	Mada Swamy	30	M	"	positive	"
22	Varghese Chaka	31		"	"	"
23	Abas Shawkat	21	M	"	"	"

REF. NO.	PATIENT			RECEIVED	RESULTS	
	NAME OR CASE NO.	AGE	SEX		HERPES VARICELLA (by EM)	VARIOLA VIRUS ISOLATION
24	Sam Kuruvilla	26	M	"	"	"
25	Math Varghes	21	M	"	"	"
26	Fady Khidr Hamshary	7	M	"	"	"
27	Alliah Aly Sein Alabedem ⁸		F	"	positive	negative
28	K.C. Jacob	26	M	"	"	"
29	Maniet Mohamed Maniet	5	M	"	negative	"
30	Yousuf Abdulla	1	M	"	positive	"
31	Abdthorwe		M	17.5.78	negative	"
32	Rashmi Atye	36	M	"	positive	"
33	T.V. Narayen	28	M	"	"	"
34	Kurvilla Bmathai			"	"	"
35	O.M. Mathews	19	M	"	"	"
36	Amal Abdulla Yousif	12	F	"	"	"
37	Khalid Badr Alwishi	16	M	"	"	"
38	Hisham Abdulli Yousef	14	M	"	"	"
39	Aqad Hussikan	26	M	"	"	"
40	Agamy Falah Neyaf	5	M	"	"	"
41	Shakha	35	F	"	"	"
42	Hadeya Khali		F	"	negative	"
43	P. Narayan Nayr	32	M	"	positive	"
43A	Radia Gabor	65	F	26.6.78	negative	"
44	Tomas P.T.	24	M	"	"	"
44A	Mohsen Lafta Rashed	6	M	"	positive	"

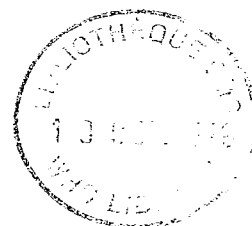
REF. NO.	PATIENT			RECEIVED	RESULTS	
	NAME OR CASE NO.	AGE	SEX		HERPES VARICELLA (by EM)	VARIOLA VIRUS ISOLATION
47	Viswana V.S.	25	M	"	"	"
48	Gareeb Ayad	31	M	17.5.78	"	"
49	Khalid Thaung	28	M	"	"	"
50	Dalal Abdl Mohsin	1	F	"	"	"
51	?	25	M	"	"	"
52	Kareem Sawood Males	24	M	"	negative	"
53	Layla Ali Ibrahim	6	F	"	negative	negative
54	Mourur Welid Hamadi	3	M	"	positive	"
55	Maznah Hamoud Mazeed	2	F	"	"	"
56	Hedaa Rashed Mohammad	35	F	"	"	"
57	Salah Mousa Saleh	45 yrs	M	"	"	"
58	Hassan Haycham Al-Kareeb	5	M	"	"	"
59	Mohammed Ahmed Mohammed	35	M	26.6.78	negative	"
60	Jarmeen Moh'd Naif	5 ms	F	"	positive	"
61	Mona Suleiman Hasan Sharafa	6	F	"	negative	"
62	George Jamel	27	M	"	positive	"
63	Hissin Moh.ABdelaal	35	M	"	"	"
64	Sohayla Hassan Abdulla	5	F	16.8.78	negative	"
65	Ali Hassan Abdulla	8 ms	M	"	"	"
66	Nawwaf Sood Dawood Suleiman	8 ms	-	"	"	"
67	k. Ibrahim Tomass	38	M	"	positive	"
68	Anmed Abbass Hamdan	24	M	"	negative	"
69	Soud Ayaad Khodayer	18	M	"	"	"

	PATIENT			RECEIVED		
		AGE	SEX			
70	A. Selvaraj	17	M	"	"	"
71	Niman Mathew	32	M	"	"	"
72	Awaad Gamaan Mokarat	35	M	"	"	"
73	Sameer Mahmoud Moh.	37	M	"	"	"
74	Kared Khalef Degeman	18	M	16.8.78	"	"
75	Galeb Tashtesh Galeb	25	M	"	"	"
76	K.T. Thomas	38	M	"	positive	"
77	Kochukunja P.K.	32	M	"	"	"
78	?	9ms	M	"	"	"



ADDENDUM

REPORT TO THE GLOBAL COMMISSION
FOR CERTIFICATION OF SMALLPOX ERADICATION
KUWAIT



POCKMARK SURVEY OF CHILDREN ATTENDING OUTPATIENT CLINICS IN KUWAIT
JUNE-JULY 1978 ¹

S.No.	Name of Locality	Name of Clinic	Number of children 0-10 years examined	Number found with facial scars
1	Jahra	Jahra Polyclinic	12 658	0
2	East Jahra	East Jahra Clinic	6 046	0
3	South Jahra	South Jahra Clinic	15 269	0
4	Salmia	Salmia Polyclinic	7 313	0
5	Rumethia	Rumethia Clinic	1 969	0
6	Hawalli	Hawalli Polyclinic	3 168	0
7	Solibikhat	Solibikhat Clinic	10 324	0
8	Shadadyeh	Shadadyah Clinic	12 478	0
9	Farwania	Farwania & Saiehad Clinic	11 996	0
10	Farwania	Jaleb & Shuwaikh Clinic	7 747	0
11	Abbassyia	Abbassyia Clinic	2 281	0
12	Rabia	Rabia Clinic	1 741	0
13	Omaria	Omaria Clinic	629	0
14	Farwania	North Khitan	3 008	0
15	Kuwait Shark	Kuwait Shark	1 032	0
16	Khitan	Khitan Clinic	1 063	0
17	Khitan	North Khitan	1 784	0
18	South Khitan	South Khitan Clinic	2 235	0
19	Rikka	Rikka Polyclinic	2 469	0
20	Ahmadi	Sabahiya	4 438	0
21	East Ahmadi	East Ahmadi	2 479	0
22	Ahmadi	Wafra	1 499	0
23	Mina Abdulla	Mina Abdulla	4 205	0
24	Wora	Wora	1 287	0
25	Ahmadi Area	Fahaheel	921	0
26	Fahaheel	Fahaheel Polyclinic	2 334	0
27	Fantus	Fantus	2 244	0
28	Abu-Halifa	Abu-Halifa	1 574	0
29	Faiha	Faiha	4 012	0
30	Dasma	Dasma	320	0
31	Rawdha	Rawdha	511	0
32	Al Shaeb	Al Shaeb	741	0

¹ Results received after printing of the Report to the Global Commission.

The issue of this document does not constitute formal publication. It should not be reviewed, abstracted or quoted without the agreement of the World Health Organization. Authors alone are responsible for views expressed in signed articles.

Ce document ne constitue pas une publication. Il ne doit faire l'objet d'aucun compte rendu ou résumé ni d'aucune citation sans l'autorisation de l'Organisation Mondiale de la Santé. Les opinions exprimées dans les articles signés n'engagent que leurs auteurs.