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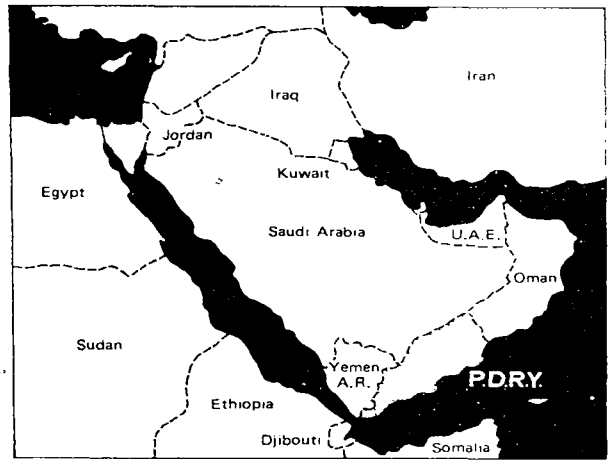
REPORT OF THE INTERNATIONAL COMMISSION FOR THE CERTIFICATION OF SMALLPOX ERADICATION IN THE PEOPLE'S DEMOCRATIC REPUBLIC OF YEMEN 3-11 June 1979



CONTENTS

		Page
1.	Conclusions	2
2.	Recommendations	2
3.	Commission membership and programme of activities	3
4.	Review meeting (3-4 June 1979)	3
5.	Final meeting (9-10 June 1979): Reports of Subgroups	5

Annexes:

1.	List of participants	11
2.	Subgroups and areas of assignment	13
3.	List of reference documents	14

1. Conclusions

After a detailed consideration of all information available on the Smallpox Eradication Programme in the People's Democratic Republic of Yemen (PDRY), members of the International Commission conducted independent field investigations. These investigations included study of the information available and discussions with governorate health and Smallpox Eradication Programme (SEP) workers.

After the completion and review of the information obtained from these visits, the International Commission concluded that:

1.1 Data presented in the country report on smallpox eradication in PDRY was found to be consistent with the findings of the field investigation and reflects the true situation in the country.

1.2 There is no evidence that endemic transmission or importation of smallpox has occurred in any part of PDRY since the SEP started in 1970.

1.3 Surveillance activities in the period since 1970 have been adequate to detect any case that might have occurred.

1.4 The requirements for smallpox eradication, as established by the WHO Expert Committee on Smallpox Eradication, 1971, have been fully met. The eradication of smallpox in the People's Democratic Republic of Yemen is considered to have been achieved.

2. Recommendations

In formulating these recommendations, the International Commission took note that:

- no endemic case of smallpox has been reported anywhere in the world for the last 19 months, i.e. since a smallpox case in Somalia had onset of rash on 26 October 1977;
- smallpox eradication has not yet been certified in some countries in the Horn of Africa;
- no variola virus stocks exist in the People's Democratic Republic of Yemen.

2.1 Since there is no smallpox infected country anywhere in the world, smallpox vaccination certificates should not be required from travellers entering the People's Democratic Republic of Yemen.

2.2 Since the risk of smallpox infection is practically negligible, the national smallpox vaccination policies should be determined after carefully comparing the risk of complications and cost versus benefit.

2.3 The trained personnel and the surveillance network developed during the last ten years should be further strengthened, expanded and re-orientated to cope with present and future challenging problems, especially the Expanded Programme on Immunization.

3. Commission membership and programme of activities

The membership of the Commission and the participating national and WHO staff are listed in Annex 1. The Commission unanimously elected Dr T. Kitamura as chairman and Dr F. Jurji as rapporteur. The review meeting of the Commission was held in Aden on 3-4 June. After the agenda was adopted, the activities of the national Smallpox Eradication Programme were presented by national and WHO staff, as reflected in the country report and other documents.

The activities of the Army Medical Service towards smallpox eradication were presented by General Yeslem, Army Medical Chief. In addition, Port Health Services were explained by Dr A. Salem, Senior Port Health Officer. A visit was made to the Port Health Department in Aden.

On 4 June the Commission members visited His Excellency Dr A. Bukeir, Minister of Public Health, and the current status of global smallpox eradication was discussed.

On 4 June arrangements for field visits by the International Commission members, national and WHO staff (Annex 2) were discussed and finalized.

The government of PDRY provided transportation including air transport for the team visiting the fifth and sixth governorates.

During the period 5-9 June 1979 field assessment was conducted by three teams consisting of the Interntional Commission members accompanied by the national and WHO staff.

The assessment included visits to selected localities to ascertain the results of surveillance presented in the country report, including interviews with the health staff, visits to the areas of the last outbreaks, vaccination scar and facial pockmark surveys, estimation of the awareness of the population about smallpox and surveillance activities.

The Commission members met again in Aden on 9-10 June 1979, to present findings from their field visits, to reach conclusions regarding smallpox eradication in the country, to make recommendations regarding future surveillance and smallpox vaccination programmes and to finalize their report.

4. Review meeting

4.1 Introduction

The meeting (4-5 June 1979) of the International Commission for Certification of Smallpox Eradication in the People's Democratic Republic of Yemen was opened by Dr G. Ismail, Director General of Health Services, Ministry of Health of PDRY. On behalf of His Excellency The Minister of Public Health and on behalf of all the national health personnel he welcomed the members of the International Commission and assured them that all facilities and support would be made available. Dr O.I.H. Omer, WHO Programme Coordinator, on behalf of Dr A. Taba, the Regional Director of WHO Regional Office for the Eastern Mediterranean, welcomed the International Commission members and expressed his gratitude to the government of PDRY for the excellent arrangements and facilities provided for the International Commission. Dr T. Kitamura, Chairman of the International Commission, in his reply expressed thanks for the warm welcome and the facilities provided by the government and WHO and expressed the hope that their mission would be successful.

4.2 Current status of global smallpox eradication

Dr Gromyko in his presentation said that the world had now experienced 19 months of freedom from endemic smallpox since a case of smallpox occurred in Somalia in October 1977. Of 79 countries and areas identified by the Global Commission for the Certification of Smallpox eradication, 70 countries had already been certified smallpox-free.

Intensive surveillance has been continuing in Djibouti, Ethiopia, Kenya and Somalia. These countries form the last epidemiological unit to be visited by the International Commission before global certification of smallpox eradication. The number of laboratories retaining variola virus has been progressively reduced from 76 laboratories in 1976 to eight in April 1979. WHO has initiated an intensive information campaign and a reward of US$ 1000 has been offered by WHO to the first person reporting an active case of smallpox resulting from human-to-human transmission. None of the 65 investigated smallpox rumours reported to WHO from January 1978 to May 1979 from 30 different countries was found to be a case of smallpox, except two laboratory-associated cases of smallpox in the United Kingdom. Forty-one human monkeypox cases have been reported from West and Central Africa since 1970. Of these, 32 cases were reported from Zaire. Although monkeypox does not appear to threaten the achievement of the smallpox eradication programme, active surveillance for human monkeypox will continue in West and Central Africa. Some countries have already changed their national health legislation in regard to smallpox vaccination policy. Routine smallpox vaccination is no longer obligatory in 46 countries and smallpox vaccination certificates are no longer required from travellers in 145 countries. WHO is making efforts to organize smallpox vaccine reserves, sufficient to vaccinate 200-300 million persons in case of urgent need, in three different locations in the world.

4.3 Strategy of the assessment of smallpox eradication

According to the criteria established by the WHO Expert Committee meeting in 1971, smallpox eradication is defined as elimination of clinical illness caused by variola virus. Before a country could be certified as smallpox-free the intensive smallpox surveillance should be carried out for at least two years and the national surveillance system should be sensitive enough to detect any smallpox case, if it occurred. For the international assessment of the smallpox surveillance activities a country report should be prepared reflecting the history of the smallpox eradication programme in the country with detailed information on surveillance activities during the previous years. The activities required for certification of PDRY as a smallpox-free country were specified at the Third Smallpox Surveillance Coordination Meeting held in Nairobi, 17-19 April 1978. These activities included:

- Active searches in priority areas for any suspected smallpox cases, combined with facial pockmark surveys and vaccination scar surveys.
- A nationwide school survey to inquire about smallpox during the last two years and to conduct a facial pockmark survey.
- Visits to health institutions for the same purposes.
- Strengthening of regular monthly reporting of any suspected smallpox or any case or death associated with chickenpox or nil reporting, through all health institutions.
- Collection of specimens for laboratory examination.
- Assessment and documentation of all activities for certification.
- Publicizing of the reward to be offered to any person who reports a smallpox case.

By assessing these activities the International Commission should reach a conclusion as to whether the country has been free from smallpox for at least two years and whether the national surveillance system during this period has been sensitive enough to detect and report a smallpox case if it had occurred.

If the eradication of smallpox cannot be certified, the Commission should cite specific reasons for the decision and outline steps which should be taken.

4.4 Review of the country report by the International Commission

Data on the history of smallpox and of the eradication programme in the country as presented in the country report and additional reference documents were reviewed and discussed in detail.

Note was made of the fact that transmission of smallpox was interrupted in 1961 and an intensive smallpox vaccination campaign with satisfactory coverage has been carried out since 1959. The possibility of the importation of smallpox from endemic countries by pilgrims has been greatly diminished since 1961 when the pilgrimage route was diverted avoiding PDRY and strict quarantine measures were introduced at the points of entry to the country.

The International Commission reviewed all aspects of the results of surveillance carried out since the beginning of the programme with special reference to the implementation of recommendations made for PDRY by the Third Smallpox Surveillance Coordination Meeting held in Nairobi, 17-19 April 1978.

4.5 Surveillance activities in relation to smallpox eradication by the Army Medical Service

The Army Medical Service actively participated in smallpox eradication and ordered all Army Health Units to report suspected cases of smallpox. Army personnel have been informed about the reward for reporting smallpox. They are vaccinated every three years.

Any suspected case of smallpox is usually reported to the smallpox office in Aden so that the necessary measures may be taken and specimens may be collected for laboratory diagnosis.

4.6 Port Health Services

Port Health Services exist in three sea ports and one international airport. A Port Health Officer is responsible for the control of infectious diseases at the international air and sea ports in collaboration with the smallpox eradication programme. These activities were reviewed by the Commission members during their visit to the Port Health Office.

4.7 Formulation and discussion of plans for field visits

The plans for field visits were discussed first by the Commission and later by each subgroup. The itineraries were chosen with the intention of obtaining thorough coverage of epidemiologically important areas and other selected areas. The need for some uniformity in the presentation of the results of field investigations was emphasized in order to summarize data in the final report of the Commission. A form to be filled in the field and a check-list were developed and distributed to facilitate the work of the Rapporteur. It was agreed that besides the form and check-list each subgroup would prepare a short written summary of their field activities and produce a map showing the localities visited.

5. Final meeting

The International Commission met on 9-10 June 1979 in Aden. Each International Commission member produced a report on his field visits including completed check-lists and maps of localities visited. The contents of their reports were discussed among all principal participants concerned.

Subgroups A, B and C visited 18 districts and 36 subdistricts out ot a total of 83 subdistricts in the country. The government of PDRY arranged air transport for subgroup C to travel to the fifth and sixth governorates. A total of 78 localities and 23 health units were visited by these three teams (Table 1, Fig. 1). A total of 8925 persons were seen for investigation regarding facial pockmarks, awareness of smallpox surveillance, awareness of reward and vaccination scar. Special attention was paid to the practice of variolation, which existed in the distant past. Of 8925 persons, 64 were found pockmarked but in no case was the disease which caused the pockmarks suffered since 1960.

Awareness of smallpox surveillance and the reward both by public and health personnel was satisfactorily high. Excellent vaccination coverage, mostly more than 90%, was found even in remote areas. However, a low vaccination coverage was found in those below 4 years of age by subgroup B during the visit. This might have been caused by the fact that subgroup B mainly saw children under the age of 2 years.

Variolation was once practised in the country but there has been no evidence of its being undertaken since 1958.

All the teams indicated that the findings of their investigations are consistent with those stated in the country report and other programme documents.

During the meeting the International Commission members finalized their conclusions and recommendations.

5.1 Report of subgroup A

Subgroup A visited 26 localities in Aden and other towns, villages, markets and schools of Governorates I and II. The assessed areas included localities situated in some remote mountains near the border with the Yemen Arab Republic. A total of 4287 persons were seen including nomadic groups. Special attention was paid to find out places where the last outbreaks occurred and where variolation was practised.

i. Technical competence of the programme workers

Interviews with programme workers, vaccinators and other health personnel showed good technical competence in relation to SEP activities.

ii. Awareness about surveillance activities

Awareness about smallpox surveillance and the reward both by public and health personnel is satisfactory. The civil authorities and police are instructed to report any rumour of smallpox to the Ministry of Public Health by radio, telephone or cable.

iii. Vaccination scar survey

The vaccination coverage in all age groups was found to be 80-90% in the visited area.

iv. Facial pockmark survey

In Aden and in other areas of Governorate I, 14 persons were found with facial pockmarks. Of these, 11 persons allegedly contracted the disease in the Yemen Arab Republic before 1959. Three remaining persons were infected locally 30-40 years ago.

In Governorate II, 21 persons were found with facial pockmarks. None of them gave a history of infection after 1960.

v. Variolation and variola virus stocks

Variolation was said to have been practised in the northern district of Governorate II in the past and the team was informed of the procedures used. The sites for variolation were mainly on the forearms and the material taken from skin lesions for inoculation was kept in small bottles for relatively short periods of one to two days. No evidence was found that it has been practised in either Governorate I or II since 1958.

vi. Islands

The subgroup did not visit the island of Socotra and the other smaller islands, but during the field visits they met a health assistant who had worked on the island from 1968 to 1976. He stated that during this period he had never seen a case of smallpox and that the vaccination coverage there was generally high. It is noted that during the surveillance operation on this island no one under 15 years of age was found with facial pockmarks.

The subgroup came to the conclusion that there is no evidence of continued smallpox transmission in Governorates I and II during the last 10 years.

5.2 Report of subgroup B

During the period 5-8 June 1979 subgroup B visited Governorates III and IV. According to the 1973 census, both governorates had a population of 473 108, amounting to 29.8% of the total population. The area is 94 293 km^2 (28.4% of the total area of PDRY). The area is divided into nine districts and 28 subdistricts. Of these, 5 districts and 13 subdistricts were covered by the field visit.

The subgroup made the following observations:

i. A high percentage of people knew about smallpox and the importance of reporting any suspected case. The knowledge about the reward was found to be satisfactorily high. There is no evidence of the disease being present in the area for about 20 years.

ii. The vaccination coverage among the population was found to be high even in remote areas. However younger children of the age group 0-2 years were not as highly vaccinated as other age groups. This is attributed to the accumulation of unvaccinated new borns since the last vaccination round by SEP teams.

iii. Variolation was widely practised in Governorate IV. Scars were seen clearly on the legs of people of 40 years and above and the procedure was described to the team. Pieces of cotton were soaked in pus from active lesions and were usually preserved in a container kept in a crack in the mud walls of the houses. When smallpox occurred in a nearby locality the material was taken from the wall and rubbed into the skin scratched using a knife, blade or any sharp instrument. There is no evidence that variolation has been practised during the last 20 years in the area visited.

iv Fourteen persons with facial pockmarks were seen. They all acquired the disease 20-50 years previously; four were infected outside the country (two in Saudi Arabia and two in the Yemen Arab Republic).

v. Health personnel in all health units visited were aware of the programme activities. Their knowledge about action to be taken if a suspected case of smallpox occurred was extremely high.

The subgroup concluded that there is no evidence of smallpox transmission in the area visited since the smallpox eradication started in 1970

5.3 Report of subgroup C

Subgroup C visited Governorates V and VI. The route Aden-Mukalla-Sayun-Gaydah-Aden was travelled by air. The group visited two health units, three hospitals, one MCH centre and 27 localities in six districts and 10 subdistricts and made inquiries and observations about the SEP and about the technical competence of the health unit staff. In several localities school teachers and local leaders were interviewed to confirm the epidemiological situation and general activities of the SEP workers. The findings are summarized as follows:

i. Technical competence of the programme workers

The knowledge of the programme workers and vaccinactos regarding storage of vaccine, vaccination practice, sterilization of needles, collection and handling of specimens for laboratory diagnosis was adequate.

ii. Awareness of the surveillance activities

Wall posters for the smallpox reward were seen in all localities and schools except two localities which had scattered houses in Governorate VI. Awareness of SEP activities was high among all populations seen, especially among schoolchildren.

iii. Vaccination scar survey

A high level of vaccination coverage was found: more than 80% of the whole population and more than 95% of schoolchildren. Vaccination coverage of children below two years of age seemed to be low, due to the cessation of vaccination in these two governorates in 1977.

iv. Facial pockmark survey

Fourteen cases with facial pockmarks were found. There were no pockmarked persons below 10 years of age. The latest infection was 30 years ago.

v. Variolation and variola virus stocks

There was no evidence of practice of variolation in the last 30 years. No health units retain specimens possibly containing variola virus.

vi. Reporting and diagnosis of fever and rash cases

Chickenpox and measles are regularly reported by hospitals and other health units. Several cases had been considered as necessitating laboratory diagnosis and specimens were submitted to WHO as mentioned in the country report. These specimens were found to be negative for variola virus.

vii. Nomads

The group could not visit the nomadic population in Thamud District. Information collected from students coming from nomadic areas and living in boarding schools in Districts 18 and 25 indicated that there is no evidence of smallpox foci in the nomadic population.

Conclusion

These field visits confirmed that the data presented in the country report reflects the actual activities of the SEP since 1970. There was no evidence of existing smallpox cases in these Governorates since the start of the SEP.

Table 1

Results of Field Investigation by the Commission Subgroups

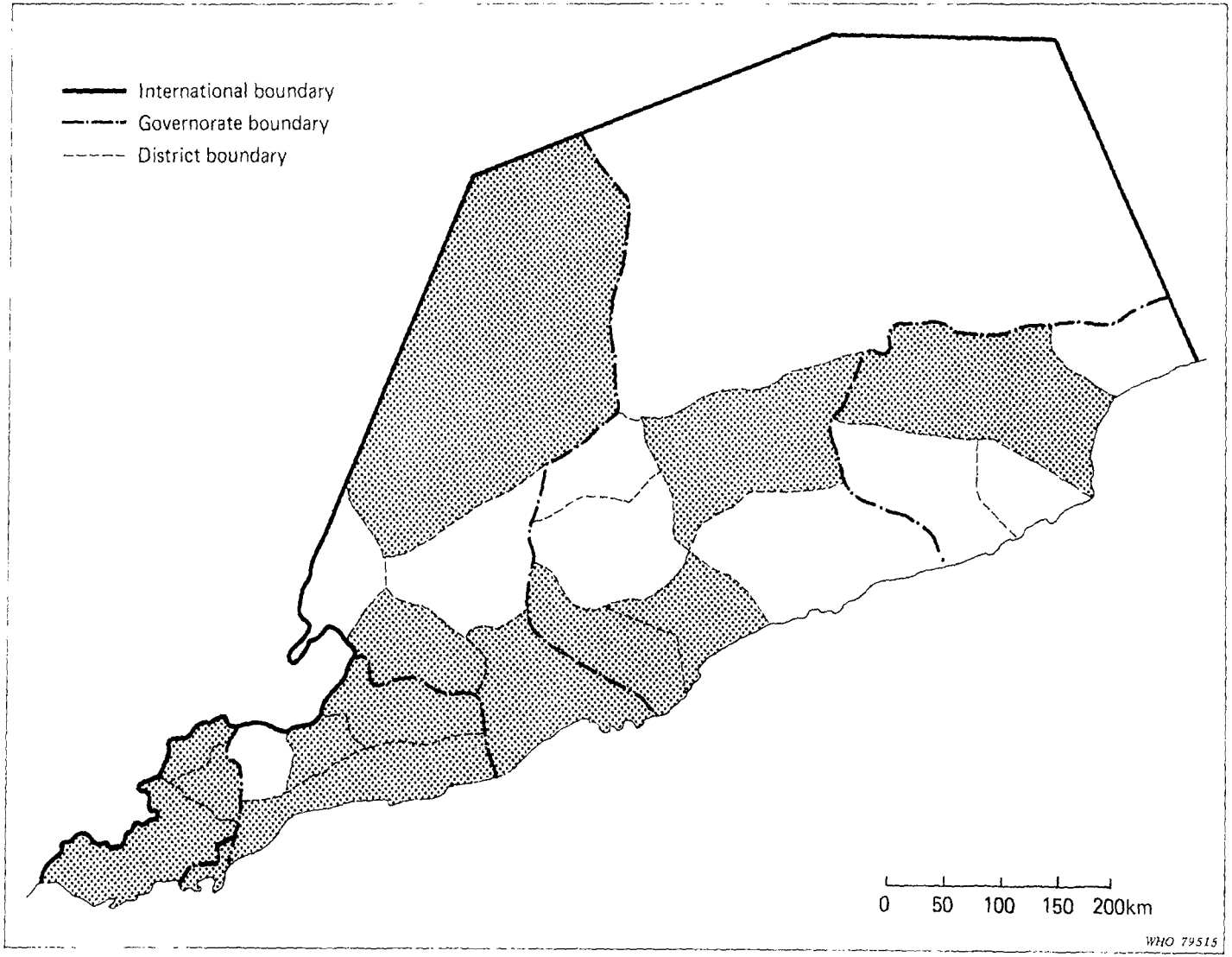
Areas visited and population seen	Subgroup A	Subgroup B	Subgroup C	Total
Number of districts	7	5	6	18[a]
Number of subdistricts	13	13	10	36[b]
Number of localities	26	25	27	78
Number of health units	9	8	6	23
Other places (markets, mosques, schools, etc.)	13	28	27	68
Pre-school age: 0-4 years				
Number seen	564	237[c]	121	922
Percentage with vaccination scar	88%	25%	79%	70%
Number with facial pockmarks	0	0	0	0
School age: 5-14 years				
Number seen	1518	1270	643	3431
Percentage with vaccination scar	93%	96%	97%	95%
Number with facial pockmarks	0	0	0	0
Adults: 15+ years				
Number seen	2205	1086	1281	4572
Percentage with vaccination scar	88%	94%	88%	90%
Number with facial pockmarks	36	14	14	64
Total persons seen	4287	2593	2045	8925
Total with pockmarks	36	14	14	64
Last year smallpox was seen	1960	1957	1957	1960

[a] Total districts in PDRY = 26

[b] Total subdistricts = 83

[c] Most of the children below 2 years of age

DISTRICTS VISITED BY INTERNATIONAL COMMISSION



ANNEX 1

LIST OF PARTICIPANTS

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* Attended final meeting
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Annex 1

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ANNEX 2

COMPOSITION OF SUBGROUPS AND AREAS OF ASSIGNMENT
(FIELD VISITS 5-9 JUNE 1979)

Subgroup	Governorates visited	Teams
A	I & II	Dr V. Šerý (Commission Member) Dr A. Gromyko* Dr A. Nashir Mr K. Gulam
B	III & IV	Dr F. Jurji (Commission Member) Dr M.N. El Naggar* Dr A. Ahmed* Dr A.A. Basahy Mr Salem El Ban
C	V & VI	Dr T. Kitamura (Commission Member) Dr A.A. Idris* Dr G. Ismail Mr J. Juman Dr A. Samad Mr A. Hirsi Mr A. Guzaih

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Annex 3

ANNEX 3

LIST OF REFERENCE DOCUMENTS

1. Report to the International Commission for the Certification of Smallpox Eradication in the People's Democratic Republic of Yemen, April 1979. WHO/SE/79.136. (A corrigendum was attached.)

2. Report by the Director-General to the Thirty-second World Health Assembly: Smallpox Eradication Programme. A32/WP/3. 8 May 1979.

3. Status Report on the People's Democratic Republic of Yemen. WHO/SE/78.125. (Global Commission WP/78.19)

4. Report on a Visit to the People's Democratic Republic of Yemen in Preparation for the Certification of the Eradication of Smallpox, November 1978. Dr R.N. Basu and Dr H. Lundbeck. Global Commission WP/78.20.

5. A Short Report on a Field Visit to the Fifth Governorate of PDRY (1-11 April 1979). Dr M.N. El Naggar.

6. Report of the Global Commission for the Certification of Smallpox Eradication, First Meeting, 4-7 December 1978. WHO/SE/78.132.

7. Guidelines for tracing original surveillance information in the files.

8. Form for Field Investigation by Commission Subgroups.

9. Check-list for Field Visits to be filled by International Commission Members.

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