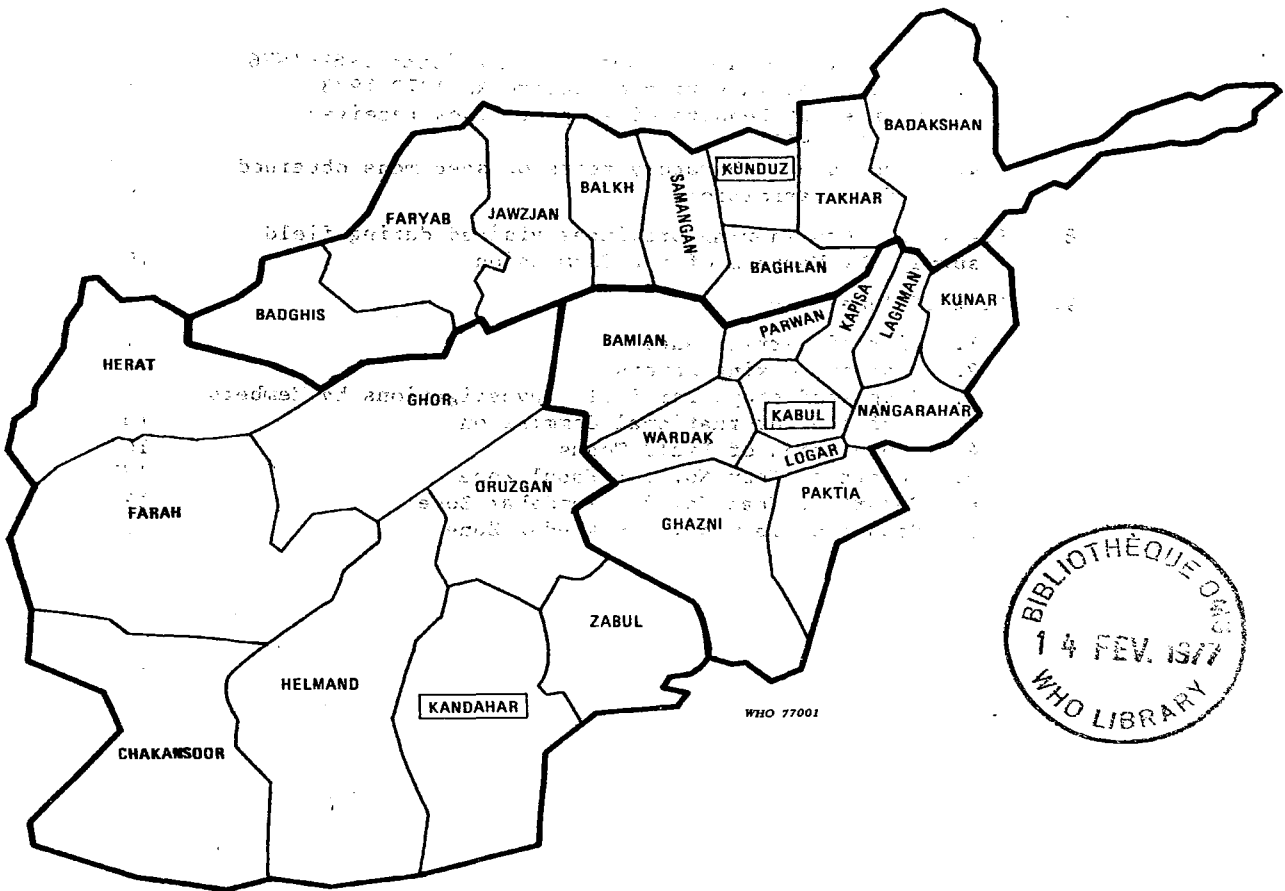




INTERNATIONAL COMMISSION FOR THE ASSESSMENT
OF SMALLPOX ERADICATION IN AFGHANISTAN

Smallpox - Conf.
Smallpox - D. & C.

Kabul, Afghanistan, 22-29 November 1976



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1. Conclusions

The Members of the Commission reviewed and discussed with the National Committee all aspects of the Smallpox Eradication Programme, including the surveillance activities which have been conducted since transmission was stopped. Particular attention was directed to the possible risks of variolation. Following this, groups consisting of two Commission members and of the National Smallpox Eradication Programme (N.S.E.P.) and WHO staff, made field visits to each of the three N.S.E.P. zones. Information was obtained from zonal, provincial and local personnel and visits were made to a number of rural and urban areas searching for any evidence of continuing transmission. After the completion of these visits, the Commission concluded that:

1.1 There is no evidence that there has been endemic transmission in Afghanistan since October 1972. The three outbreaks which occurred in 1973 have been traced to importations from Pakistan and were promptly contained. Energetic and thorough surveillance activities since that time are believed to have been adequate to disclose cases of smallpox if they had occurred.

1.2 The requirements for smallpox eradication, as established by the WHO Expert Committee on Smallpox Eradication (1971) have been fully met; thus the eradication of smallpox in Afghanistan is considered to have been achieved.

2. Recommendations

In formulating the following recommendations, it was noted that final assessments have yet to be made in some countries of Asia which appear to be free from smallpox, and that smallpox transmission is continuing in parts of East Africa. Although the Commission believes that importation is highly improbable, it recommends continuing surveillance for possible smallpox cases and continuing vaccination against smallpox until these matters have been resolved. The principal cause for concern is the practice of variolation which has been observed as recently as April 1976, albeit with material from which live variola virus was not recovered. Although no outbreaks of smallpox have resulted from variolation during the last four years and it is unlikely that scabs containing live virus remain in the possession of variolators, the possibility that variolation might cause future outbreaks cannot be completely excluded.

2.1 Mobile surveillance teams should be maintained in the three zones under central direction to coordinate and ensure the reporting of suspected cases of smallpox. They should also investigate suspect smallpox cases which pose difficult diagnostic problems, cases of chickenpox with death, and continue to search for evidence of variolation. The Basic Health Services network, the hospitals, and BCG/smallpox vaccination teams should continue to report and investigate suspect cases and should be supported in this by the National Malaria Control Programme, as at present. As other immunization programmes are implemented, the duties of the surveillance teams might well include surveillance of other diseases of national public health importance.

2.2 The present programme of smallpox vaccination by the mobile BCG/smallpox teams should be continued until the remaining six provinces have been covered.

2.3 Basic Health Services units and hospitals should continue to make smallpox vaccination available until a global decision on vaccination policy is taken by the World Health Assembly.

3. Commission Membership and Activities

The Membership of the Commission is recorded in Annex 1.

The Inauguration Meeting was held in Kabul on 22 November 1976. The meeting was officially opened by His Excellency Professor Dr. Abdullah Omar, Minister of Public Health. Following this the Commission reviewed the working papers listed in Annex 2 with members of the National Committee for Smallpox Eradication and representatives of the WHO Secretariat on 22 and 23 November. The period from 24 to 28 November was spent in field trips to the three N.S.E.P. zones. The teams visited 15 of the 28 provinces in the country (Figure 1). The Commission then reassembled in Kabul on 29 November for final discussions with the N.S.E.P. staff and for the declaration by the Commission that smallpox has been eradicated in Afghanistan.

4. Smallpox Eradication Programme in Afghanistan

The Smallpox Eradication Programme was initiated in 1969 and by 1972 endemic transmission had been stopped. This remarkable record was achieved in the face of obstacles which were truly formidable. Smallpox was endemic in all parts of the country. The terrain and climate made it difficult to reach large segments of the population. The vaccination coverage was low in the younger segments of the population and variolation was widely practised. There was a large nomadic population. There was also a shortage of trained personnel. Finally smallpox was endemic in adjoining areas of Pakistan and importations were frequent. For these reasons many observers held the opinion that eradication in Afghanistan would be an especially long and difficult process.

The programme was based on two major objectives. The first was to raise the level of immunity of the population by a mass vaccination programme. During the attack phase, this was carried out in large measure by mobile vaccination teams and was backed up by a rigorous programme of assessment. Subsequently, during the maintenance phase, attention was focussed on the 0-4 year age group and very high levels of vaccination coverage were obtained (AFG/WP/76.4, Annex 2). Simultaneously, a highly effective surveillance system was developed, with seven mobile teams operating in all parts of the country under the supervision of an exceptionally energetic and effective central directorate.

Progress was remarkably rapid. The number of reported cases rose from 250 in 1969 to 1 044 in 1970 (Table 1), as surveillance improved, and then fell to 736 cases in 1971 and to 236 cases in 1972, when endemic spread was eliminated. The 25 cases which occurred in 1973 originated from three outbreaks which were traced to importations from Pakistan.

Important and interesting data were obtained on the source of the 237 outbreaks between 1970 and 1973 (Table 2). Thirty-one percent were traced to endemic foci, 20% to variolation, 19% to importations from Pakistan, 7% to nomads, 5% to Kabul City, 3% to hospitals and, for 15% of outbreaks, the source remained undetermined.

Since 1973 there have been repeated searches by mobile teams and by all other components of the health services and an active campaign of education has been carried out to encourage the population to report suspect cases or evidence of variolation activity. In 1976, an intensified search for suspect cases was conducted utilizing all components of the health services (AFG/WP/76.11, Annex 2). This was accompanied by the introduction of a reward of 3 000 Afs. for a report leading to the discovery of a smallpox case. Numerous suspect cases were reported (Table 4), most frequently of chickenpox, but no smallpox was found.

5. Field Surveys

During the initial meetings in Kabul, a working paper setting out the proposed methodology for the field investigations (Annex 3) was discussed and accepted as a general guideline. Field visits to the three zones of the N.S.E.P. were made in the period 24-28 November. Each team consisted of two members of the Commission, a WHO adviser and members of the N.S.E.P. staff. The details of the field teams are set out in Annex 4.

In each zone the records of smallpox outbreaks and the work of the smallpox eradication programme staff was reviewed. Visits were made to provincial medical officers and other units of the Basic Health Services to learn of their part in the surveillance and immunization programmes. Selected urban and rural communities were visited and evidence of active smallpox sought by means of pockmark surveys in children and by checks on recent suspect cases. Scar surveys were made to assess vaccination coverage and to detect any recent variolation. Several kuchi camps were included in these programmes. Where possible, known variolators were traced and interviewed about their practices. Enquiries were also made among different sections of the population to determine the extent of knowledge about smallpox and the reward offered for its detection.

The teams found that good records had been kept of the smallpox activities and that the work of the zonal smallpox eradication programme staff was of a high order. The basic medical health services units played a valuable role in the investigation of suspect cases of smallpox, but the recording and reporting of such activities was apparently not standardized and in places deficient. A number of recent suspect cases were reinvestigated and confirmed not to be cases of smallpox. The surveys for pockmarks in children failed to disclose the occurrence of any outbreaks in the period after the time when the zones had been considered free from smallpox. No pockmarks were observed in children under the age of five years. The checks for vaccination coverage in children confirmed the very high figures reported by the National Smallpox Eradication Programme staff, the major exceptions being in some kuchi camps, where small groups of families were found to have been missed. Variolation scars were very common in adults but there was no evidence of recent variolation other than that reported in Kandahar province in April 1976. It was confirmed that successful vaccination takes had been obtained in those involved in this incident after the attempted variolations. Interviews were obtained with a number of known variolators. All claimed not to have practised for many years. Some of the information gained from them about their techniques is dealt with in section 6. The teams were most impressed with the general level of knowledge about smallpox, vaccination and the importance of reporting suspect cases among all sections of the community. Knowledge of the reward was found to be widespread in most of the provinces visited.

The findings of the teams were presented and discussed during the final meetings in Kabul, and the individual team reports are given in Annexes 5, 6 and 7.

6. The Problem of Variolation

From the inception of the Smallpox Eradication Programme in Afghanistan, there was concern that variolators, who were especially active in the central and eastern parts of the country, might play an important role in smallpox transmission. In fact, 51 of the 257 outbreaks which occurred between 1969 and 1973 could be specifically attributed to variolation. Throughout the eradication programme intensive efforts were made to educate the population about the dangers of variolation, to vaccinate systematically throughout the country in order to demonstrate that vaccination was available to all, to identify variolators and to discourage them from continuing the practice. The net effect of these measures was remarkably successful. Between October 1972 and November 1976, only a single episode of variolation could be documented - in Kandahar province in April 1976. The variolator concerned claimed to have obtained his material from Baluchistan (Pakistan) at least two years previously. No cases of smallpox occurred as a result of variolation and no virus could be isolated by a WHO virus reference laboratory from the material which he used.

The salient question of concern, however, is whether it might be possible for any variolator to retain scars over a period of many years which contained viable variola virus in titre sufficiently high to permit successful variolation and perhaps the re-establishment of endemic smallpox transmission. The experience of the last four years, interviews with villagers and with persons who had practised variolation in the past, and the results of laboratory examination of variolation material, suggest that this is most unlikely.

Villagers and various influential people throughout the country assert that variolation effectively ceased between five and 15 years ago, depending on the area, when vaccination became available first at health centres and subsequently through mobile vaccination teams. Variolators who have been interviewed claimed to have ceased the practice sometime during this period, in part because villagers gradually ceased to seek their services and in part because of pressure from the Government. Most variolators who have been interviewed assert that variolation material which they used was not viable for more than one year or, at most, two years. Thus, with no known fresh source of material available either in Afghanistan or Pakistan for more than two years, it is likely that most would not perform variolation because of the lack of effective material. Moreover, of 20 specimens collected from variolators in Pakistan and Afghanistan over the past eight years, none have yielded viable virus since 1971, a time at which smallpox was still endemic (Table 4).

However, the possibility cannot entirely be dismissed that one or more variolators might be able to preserve for years material which contained variola virus of titre sufficient to produce successful takes. One variolator from Kunar province stated in interview that he (as well as a colleague in Peshawar, Pakistan) usually preserved scabs in a screw-capped container which was buried in the ground in a mountainous area. This material he considered to be viable for up to ten years. On further questioning, however, it appeared that fresh material was periodically added to the basic stock and it was, in fact, far from clear how long scabs of sufficient titre actually could be preserved.

Although it is recognized that no case of smallpox has been caused by variolation in Afghanistan since 1972, it would seem prudent to continue to make vaccine freely available through the Basic Health Services to those who seek it; and to provide for surveillance teams who can investigate any evidence of continuing variolation practice.

TABLE 1

REPORTED SMALLPOX CASES IN AFGHANISTAN 1969-1976

(Annual figures by Province)

Province (or major administrative area)	1969	1970	1971	1972	1973	1974	1975	1976*
1. Bamian	-	24	50	-	-	-	-	-
2. Ghazni	-	37	3	37	13	-	-	-
3. Kabul	33	156	79	4	-	-	-	-
4. Kapisa	-	55	3	-	-	-	-	-
5. Kunar	3	9	12	-	-	-	-	-
6. Laghman	-	31	14	-	-	-	-	-
7. Logar	11	25	7	1	-	-	-	-
8. Nangarhar	88	68	30	54	-	-	-	-
9. Paktia	5	21	22	13	-	-	-	-
10. Parwan	9	-	-	-	-	-	-	-
11. Wardak	-	16	40	-	-	-	-	-
12. Chakansoor	-	-	-	-	-	-	-	-
13. Farah	-	-	-	-	-	-	-	-
14. Helmand	9	-	-	2	-	-	-	-
15. Kandahar	-	3	1	13	11	-	-	-
16. Oruzgan	-	-	135	28	-	-	-	-
17. Zabul	1	30	6	65	1	-	-	-
18. Badakshan	5	53	-	-	-	-	-	-
19. Baghlan	31	176	10	1	-	-	-	-
20. Balkh	-	7	142	-	-	-	-	-
21. Jawzjan	-	16	35	-	-	-	-	-
22. Kunduz	43	1	42	18	-	-	-	-
23. Samangan	-	-	-	-	-	-	-	-
24. Takhâr	-	28	-	-	-	-	-	-
25. Badghis	11	-	9	-	-	-	-	-
26. Ghor	1	1	33	-	-	-	-	-
27. Herat	-	10	10	-	-	-	-	-
28. Fariab	-	277	53	-	-	-	-	-
Total	250	1 044	736	236	25	-	-	-

* January-November

TABLE 2

SOURCES OF INFECTION OF OUTBREAKS 1970-1973

Source of Infection	1970	1971	1972	1973
Pakistan	11 (13%)	13 (12%)	18 (41%)	3 (100%)
Variolation	23 (27%)	21 (19%)	3 (7%)	-
Nomads	8 (10%)	4 (4%)	5 (11%)	-
Hospitals	5 (6%)	2 (2%)	-	-
Kabul City (Urban reservoir of infection)	8 (10%)	4 (4%)	-	-
Endemic foci	8 (10%)	51 (48%)	14 (32%)	-
Undetermined	20 (24%)	12 (11%)	4 (9%)	-
Total	83	107	44	3

TABLE 3

SOURCES OF REPORTS OF SUSPECT CASES RECEIVED 1969-1973

False Reports received from	1969	1970	1971	1972	1973
Provincial Medical Officers	2 (100%)	9 (14%)	5 (5%)	4 (5%)	14 (13%)
Private Practitioners	-	-	-	10 (13%)	7 (7%)
Basic Health Services Staff	-	13 (20%)	13 (14%)	17 (21%)	21 (20%)
Hospitals	-	1 (2%)	11 (11%)	-	2 (2%)
Local People	-	40 (64%)	64 (65%)	49 (61%)	60 (58%)
Schools	-	-	5 (5%)	-	-
Total	2	63	98	80	104

TABLE 4

RESULTS OF LABORATORY TESTS OF SPECIMENS OBTAINED FROM VARIOLATORS

No.	Country	Age of Specimen	Type of Material	Date Collected	Results		
					EM	PIG	VI
1.	Afghanistan	-	Fluids	March 1969	n.d.	n.d.	+
2.	Afghanistan	9 months	Scabs	May 1969	n.d.	n.d.	+
3.	Afghanistan	4 months	Scabs	September 1969	n.d.	n.d.	+
4.	Afghanistan	-	Scabs	April 1970	n.d.	n.d.	+
5.	Afghanistan	-	Scabs	January 1972	-	-	-
6.	Afghanistan	?*	Scabs	April 1976	+	+	-
(7.	Afghanistan	6 years	Powder	May 1976	+	+	-
(8.	Afghanistan	6 years	Scabs	May 1976	+	+	-
9.	Afghanistan	10 years	Scabs	May 1976	+	+	-
10.	Pakistan/ NWFP	3-6 years	Scabs	March 1976	+	+	-
11.	Pakistan/ NWFP	4-5 years	Scabs	April 1976	+	+	-
12.	Pakistan/ NWFP	3/8 years	Scabs	April 1976	+	+	-
13.	Pakistan/ NWFP	4 years	Scabs	May 1976	+	-	-
14.	Pakistan/ NWFP	3½ years	Scabs	July 1976	+	+	-
(15.	Pakistan/ NWFP	-	Scabs	August 1976	+	+	-
(16.	Pakistan/ NWFP	-	Scabs	August 1976	+	-	-
17.	Pakistan/ Punjab	1 year	Scabs	March 1975	n.d.	n.d.	-
18.	Pakistan/ Punjab	4 years	Scabs	April 1975	+	+	-
19.	Pakistan/ Punjab	2 years	Scabs	May 1975	+	+	-
20.	Pakistan/ Punjab	-	Scabs	May 1975	herpes-var.	-	-

* obtained second-hand from non-professional variolator in Quetta, Pakistan in October 1974

n.d. = not done

herpes var. = herpes varicella (chickenpox)

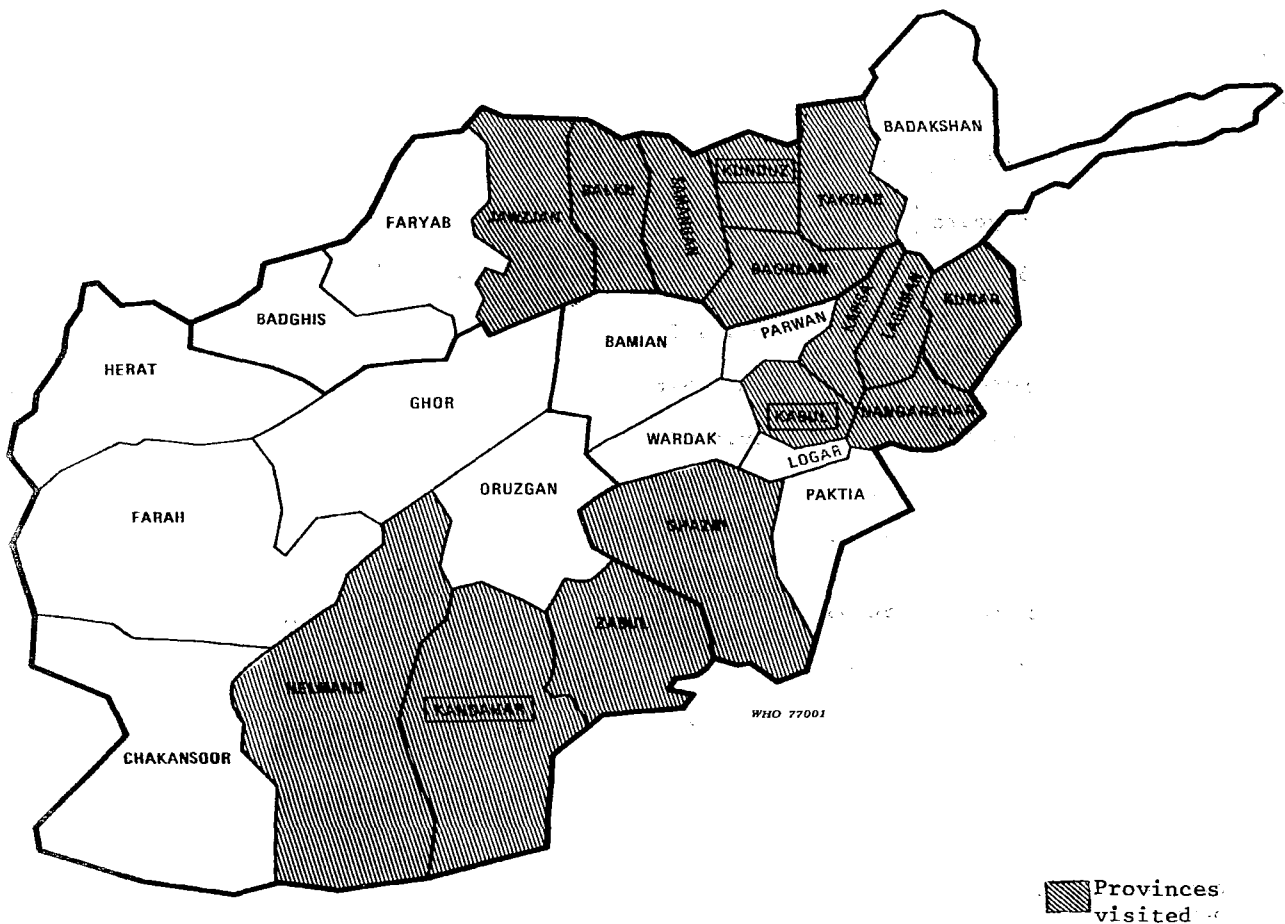
EM = Electron Microscopy

PIG = Precipitation in gel

VI = Virus Isolation

FIGURE 1

MAP SHOWING PROVINCES VISITED DURING FIELD SURVEYS BY MEMBERS OF THE COMMISSION



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LIST OF WORKING PAPERS

The Republic of Afghanistan at a glance	AFG/WP/76.1
Organizational and administrative aspects of the smallpox eradication programme in Afghanistan	AFG/WP/76.2
The Epidemiology of Smallpox in Afghanistan 1969-1973	AFG/WP/76.3
Mass Vaccination Programme and its assessment in Afghanistan	AFG/WP/76.4
Smallpox Surveillance and Containment activities in Afghanistan during 1969-1973	AFG/WP/76.5
Active Smallpox Surveillance in Afghanistan 1969-1975	AFG/WP/76.6
The outbreaks of 1973	AFG/WP/76.7
The problem of variolation practice in the eradication of smallpox in Afghanistan	AFG/WP/76.8
Special problems relating to the Smallpox Eradication Programme in Afghanistan	AFG/WP/76.9
A report of variolation activity in April 1976	AFG/WP/76.10
Intensified search for suspect smallpox cases in Afghanistan in 1976	AFG/WP/76.11
Search for variolators in Afghanistan 1976 - pockmark survey among kuchi children	AFG/WP/76.12
Public Health Education in Afghanistan before and during the intensified search for suspect smallpox cases in 1976	AFG/WP/76.13
<u>Information Document</u> - Operational Guidelines for 1976	AFG/INF/1

SUGGESTED STEPS FOR FIELD INVESTIGATIONS BY MEMBERS OF THE
INTERNATIONAL COMMISSION

1. At Central and Zonal level

- 1.1 Meeting with Minister of Public Health, President of Preventive Medicine and President of Communicable Disease Control
- 1.2 Visiting Central Smallpox Eradication Office
- 1.3 Examination of records and reports, charts, graphs, etc. as desired
- 1.4 Review of outbreak, containment and vaccination forms
- 1.5 Evaluation of supervisory capacity at Headquarters and Zonal levels
- 1.6 Interviewing supervisors as desired
- 1.7 Selection of provinces/places to be visited for closer observations

2. At Provincial level

- 2.1 Visiting Provincial Medical Officer
- 2.2 Discussions on health facilities in Province - distribution, manpower and their strength
- 2.3 Examination of records, reports re smallpox at provincial level
- 2.4 Evaluation of provincial health staff's knowledge of and participation in the smallpox eradication activities
- 2.5 Selection of villages/places/old outbreak sites for field visits
- 2.6 Regularity of reporting

3. At Village level (field work)

- 3.1 Visiting key people, village elders, religious leaders, tea shop owners and private practitioners to examine their knowledge of the reward
- 3.2 Visiting schools, interviewing school headmasters/headmistresses, teachers and students about their knowledge of smallpox and the reward
- 3.3 Visiting a few randomly selected households, nomad camps, etc., to evaluate their knowledge of the reward
(note the number questioned and the number who knew about the reward to calculate the percentage)
- 3.4 Look for wall writing, posters and signs re the smallpox reward
- 3.5 Survey for pockmarks amongst children under five years of age (under 2 and 2-5 years), if desired
(diagnostic criteria for identification of pockmarks related to smallpox as defined by the project is the presence of at least five, facial pockmarks with a diameter of at least 2mm.)
- 3.6 Survey for vaccination scars in any sector of the community
- 3.7 Revisit of an outbreak and comparison of information with central reports
- 3.8 Identification of a suspect case recently investigated and verification as to speed, promptness, diagnosis and quality of investigation
- 3.9 Interviews with variolators

COMPOSITION OF FIELD TEAMS

Team Number	Zone	Team Members			Surveillance Team Members	
		International	WHO	National	Zonal Director	Sanitarian
1	Kabul	Dr. Bennett Dr. Kumara Rai	Dr. Henderson Dr. Faqir Amin	Dr. Darranger Dr. Faqir Amin	-	Mr. Zalmai Mr. Khalil-ul-Rahman
2	Kandahar	Dr. Meiklejohn Dr. Idris	Dr. Rangaraj	Dr. Salehi	Mr. Dehghanzadeh	Mr. Koohestani Mr. Nazar Mohd.
3	Baghlan	Dr. Shrestha Dr. Bedson	Dr. Shafa	Dr. Ennavat Dr. Akbar	Mr. Habib	Mr. Shoja Mr. Hamid
4	Kabul City	-	Dr. Hajian	Dr. Ahmadi Mr. Baz Mohd.	-	Mr. Qasim Mr. Abdulahad

Note: Each team was provided with two cars, one for the team members and one for the surveillance team members

REPORT OF TEAM NO. 1 - KABUL ZONE

One of three zones created in Afghanistan, for smallpox eradication, this area encompasses eleven provinces, the city of Kabul, and 44% of the population. Kabul zone is of special importance because:

1. A high percentage of the importations of smallpox from Pakistan occurred in the area in the period 1969-1973.
2. Variolation had been performed in a number of provinces during the period 1969-1972.
3. Annually a large nomad (kuchi) population passes through the provinces bordering with Pakistan.

Members of the Commission visited four provinces of Kabul zone (Nangarhar, Kunar, Laghman and Kapisa). Provincial and/or local Medical Officers were interviewed to confirm the absence of smallpox in their respective areas and to discuss local problems such as nomads and variolators. The results of the field visits in the provinces can be summarized as follows.

1. Smallpox Cases

There was no evidence that the disease has occurred since 1972. No facial pockmarks were found in children aged less than five years and the only pockmarks observed were those in children who had the disease some 5-6 years previously.

2. Suspect Cases

One suspect case, a four year old boy, reported by the surveillance team about two months previously, was confirmed as being a case of varicella. Recently rumoured cases in Kunar province were found to be pyoderma.

3. Variolation Activities

One variolator who lived near Jalalabad in Nangarhar province, and three related variolators in Laghman province were interviewed. All of them claimed that they had ceased practising about ten years previously due to a decreased demand by the people as a result of the popularity of vaccination. It was significant that variolation material (dry powdered scabs) was only considered to be effective for 6-12 months after procurement. No specific methods were used to store such variolation material. One variolator admitted that he had used scabs of two years' duration, but said that in these circumstances he advised that variolation should be augmented by contact with smallpox patients and/or application of fresh scabs to the variolation area, to ensure success. In addition, there was no evidence that any variolation material had been kept in the Kabul zone. Variolation scars were only found in adults.

Subsequently an additional variolator from Kunar province was interviewed in Kabul. He suggested that under certain circumstances variolation material might remain viable for much longer periods (Section 6 on Variolation).

4. Vaccination Status

Results of scar surveys are divided into three groups:

i. School children

<u>Province</u>	<u>Village</u>	<u>No. of children less than 14 years of age</u>	<u>No. with scars</u>
Nangarhar	Tralli	69	69 (100%)
Laghman	Ali Shing	135	125 (93%)

ii. Spot check in the villages

<u>Province</u>	<u>Village</u>	<u>No. of children less than 14 years of age</u>	<u>No. with scars</u>
Kapisa	Rahman Khil	56	56 (100%)
Nangarhar	Masteli	27	25 (93%)

iii. Nomad children (kuchi camps)

<u>Province</u>	<u>No. of children less than 14 years</u>	<u>No. with scars</u>
Nangarhar	68	61 (90%)*
Nangarhar	65	65 (100%)

* there were four without scars aged less than one year

These surveys revealed a high vaccination status in school children as well as in villages. This was also true of the province of Kapisa, which had a low incidence of smallpox in the period 1969-1973. The vaccination status amongst nomad children was also commendably high.

Kabul City

Health units and institutions were visited to enquire about smallpox cases. The results of checking the records and interviewing medical officers indicated that no smallpox case has been reported or referred, whereas chickenpox, measles and skin conditions have been recorded. Vaccination of new-born children referred to the health units has been done regularly.

A scar survey in 893 school children showed a high coverage, and only two children did not have scars.

A pockmark survey was also done in more than 2 300 school children. Two children, aged 11 and 12 years, were found with facial pockmarks due to smallpox infection in early childhood.

All signs indicate that smallpox has not been present in Kabul City for the last four years.

REPORT OF TEAM NO. 2 - KANDAHAR ZONE

The Kandahar zone occupies the southern and western parts of Afghanistan and has a population of about four million. It is of special interest because:

1. It had the last three recorded outbreaks in 1973.
2. Many outbreaks were due either to importations or to nomads.
3. Attempted variolation was observed in Kandahar province in April 1976.

A sub-group of the Commission visited four provinces (Kandahar, Helmand, Zabul and Ghazni), and made the following observations.

1. Kandahar Zonal Office

The examination of records and reports, charts and graphs at the Zonal Office showed a high standard of record-keeping, as well as an excellent supervisory capacity of the Zonal Director and the Sanitarians. Their knowledge and participation in smallpox eradication activities was adequate - their ability to coordinate and investigate was good.

2. Governors and Provincial Medical Officers

The three Governors interviewed were appreciative of the work done by the smallpox eradication programme. Some Provincial Medical Officers had actually participated in the programme and were well informed. The Basic Health Service units were, however, involved in many other health and administrative problems and smallpox eradication was only part of their activities. The smaller Basic Health units at rural level were vigilant and active in immunizing against smallpox and tuberculosis.

3. Village leaders and teachers

Visits were made to 15 villages and five schools. The village leaders and teachers had a good knowledge of smallpox and considered it to have been virtually eradicated for at least five years.

4. General Population

The population was in general aware of smallpox and the activities which were carried out. They knew about the reward and in most villages the sign of the Smallpox Eradication Programme was seen. The latest smallpox outbreak of which they knew occurred at least five years ago.

5. Pockmark surveys

No pockmarks were found in the 1 347 children under five years of age who were examined.

6. Suspect Cases

In the course of the visit, one false report was received and when investigated, proved to be measles.

7. Kuchi Camps

Seven kuchi camps were visited. Checks of vaccination in 203 children showed scars in 113. Coverage was good in four camps, but in three, it was uneven, some family groups being protected and others completely missed. This is explained by the fact that the kuchies move in groups of five to seven families and that while some groups are reached by the vaccination programme, others are missed.

8. Variolation

Scars of variolation were seen in most of those examined above the age of 30. When questioned, these people were aware of the 'old' practice of variolation and were of the opinion that the practice ceased to exist more than five years ago and that most of the variolators have now died.

The village of Merd Kala, where the recent variolation activity was done on 4 April 1976 (AFG/WP/76.10, Annex 2) was visited. Some of the children who were variolated were examined and showed evidence of successful vaccination following the variolation. The variolator, Said Omer, was also interviewed. He claimed that he was no longer variolating and that he was sorry for what he had done, but he was unwilling to provide any further information.

REPORT OF TEAM NO. 3 - KUNDUZ ZONE

The northern zone (population about four million) comprises nine provinces lying between the northern slopes of the Hindu Kush mountain range and the northern border.

It was the first zone to become free from smallpox, the last case being reported in February 1972. One province, Samangan, recorded no outbreaks during the eradication programme. Variolation accounted for 26 of the 69 recorded outbreaks, but nomads and importations for only a single outbreak each.

A sub-group of the Commission visited six of the provinces and obtained the following information.

1. Kunduz Zonal Office at Pule Khimri

The records of smallpox outbreaks were examined, but most of the records of suspect cases occurring since 1972 had been transmitted to the Central Office for documentation and only very recent reports were available. Five of these suspect cases were subsequently investigated and the diagnoses confirmed. The zonal staff were well informed about smallpox and rendered valuable assistance throughout the field survey.

2. Provincial Medical Services

Six Provincial Medical Officers, 12 other Medical Officers and a number of paramedical staff were interviewed. All appeared conversant with the smallpox activities but the quality of recording and reporting of suspect cases varied from area to area. However, there was widespread knowledge among the people of the nature of smallpox and the need and methods of reporting it. Posters and stencilled signs announcing the reward were numerous in some provinces, but only a few were seen in others and there were wide variations in local knowledge about the reward.

3. Survey for pockmarks

Pockmarks were found in 32 of 1 832 children from eight schools, 12 villages and one market area (see table attached). The infections concerned occurred five or more years previously and no pockmarks were seen in children under five years. Two recorded outbreaks of 1971 were traced and a third was discovered in a village which was not in the documents listing infected villages provided to the Commission.

4. Vaccination Status and Variolation Activities

Scar surveys in 308 children under 15 from eight different communities showed a coverage of 87%. About 16% of the vaccination scars were on the dorsal surface of the forearm, a site often used for variolation. No scars of recent variolation were observed although old scars in adults were very common. Repeated enquiries revealed no knowledge of recent activity by variolators. Two former variolators were traced and interviewed and confirmed to be no longer practising.

5. Other Special Features

(a) Special attention was paid to Samangan province because no outbreak had been reported from it since the smallpox eradication programme began. It was found that the province was only created about eight years ago and that epidemiological data for earlier periods did not exist. There was no evidence to suggest that any outbreak had been missed. Of 514 children under 15 years examined, only four (0.8%) had pockmarks and the youngest of these was 12 years old and probably infected in 1966. Special reasons advanced for the early freedom of the province from smallpox were the highly receptive way in which

vaccination was received during the attack phase of the smallpox eradication programme and the relative infrequency of visitors from other provinces.

(b) Visits were made to three kuchi groups in Kunduz province. In each there was an awareness of smallpox and the need to report suspect cases, but in only one were sufficient children present for it to be shown that the vaccination coverage was good.

Conclusion

The sub-group found no evidence of active smallpox in the last four years and considered that the general level of surveillance was satisfactory.

POCKMARK SURVEY IN KUNDUZ ZONE

Province	No. of samples	<1 year		1-4 years		5-14 years		15+ years		All Ages	
		No. seen	No. with pockmarks	No. seen	No. with pockmarks	No. seen	No. with pockmarks	No. seen	No. with pockmarks	No. seen	No. with pockmarks
Baghlan	5	2	-	6	-	267	2	-	-	275	2
Balkh	4	18	-	64	-	139	5	-	-	221	5
Jawzjan	3	2	-	7	-	566	7	82	7	657	14
Kunduz	3	5	-	31	-	46	4	3	-	85	4
Samangan	4	9	-	31	-	474	4	-	-	514	4
Takhar	2	-	-	2	-	78	3	-	-	80	3
Total	21	36	-	141	-	1 570	25*	85*	7	1 832	32*

* All due to infections five or more years previously