



REPORT OF THE WHO INTERNATIONAL COMMISSION ON ASSESSMENT
OF SMALLPOX ERADICATION IN INDONESIA,
25 APRIL 1974

1. Conclusions

After deliberate consideration of all relevant data regarding smallpox and smallpox eradication activities in Indonesia, discussions with appropriate national, provincial and local health personnel, and careful and detailed field investigations of those areas of Indonesia considered most likely to support continued transmission of smallpox, the Commission reached the following conclusions:

(1) There is no evidence that smallpox has occurred in Indonesia since January 1972, at which time it is believed that endemic transmission was interrupted. Surveillance activities since that time appear to have been adequate to identify cases had they occurred.

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

2. Commission activities and membership

The membership of the Commission is recorded in Annex A. Formal meetings were held in Jakarta on 15, 16 and 17 April; detailed field investigations were conducted by members of the Commission from 18-23 April; and final deliberations were held on 24-25 April 1974. Field investigations were directed to those areas within Indonesia judged to be most likely to harbour smallpox cases. All field work was done in collaboration with representatives of national, provincial and local health staff. Documentation provided by the Indonesian Ministry of Health is listed in Annex B (copies of these documents may be obtained upon request from World Health Organization, Geneva, Switzerland). The outcome of visits to the four geographic areas selected for visits is summarized below (a description of the methods followed and a more complete report of activities are provided in Annex C).

2.1 Jakarta municipality

The five divisions of Jakarta (population 5.7 million) were visited. Surveillance activities relating to the routine reporting of smallpox cases and suspects were found to be accurate and complete for 1973 and 1974 at both the metropolitan health office and at the district level. Suspected cases of smallpox had been evaluated within 48 hours after report and most were diagnosed as varicella. Field visits by the team were made to selected areas within the districts and particular attention was paid to evaluating recently reported suspect cases and sick children and to assess the prevalence of pock marks. Densely populated areas in Central Jakarta, villages in the harbour areas of North Jakarta and densely populated areas in West Jakarta (adjacent to Tangerang), received special attention because it was considered that smallpox might be most likely to persist in such areas. A special visit was also made to Tangerang subdistrict in West Java, where, during January 1972, the last cases of smallpox had been detected in Indonesia.

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No active or recent cases of smallpox were detected in the city of Jakarta or in the adjacent area of Tangerang. Pock marks were observed in only two children less than four years of age. Both lived in the Tangerang area and had contracted their disease more than two years earlier. Several thousand children in the city of Jakarta were examined and pock marks were noted only in children more than five years of age. The percentage of children 5 to 14 years of age with pock marks varied from 1 to 30% according to the geographic area examined.

2.2 North Sumatra

North Sumatra (population 6.9 million) was visited because it was the last province in Sumatra to detect cases and because there was a poor performance in the programme of certification of smallpox-free villages.

Reports and records at the provincial level showed weekly reporting from province to national level to be 100% complete, and from regencies/municipalities to the province to be 95% and 90% complete, respectively, for reporting of cases weekly and suspect cases monthly.

Three regencies and one municipality were selected for further investigation - Deli Serdang, Tapanuli Utara, Nias and Medan. Included were those reporting the last cases; those where search activities had been poor; urban areas; and one area which had never been visited by the smallpox programme staff. Many persons were interviewed in 17 subdistricts and 51 villages and towns. There was no evidence of smallpox activity since the last outbreak in 1971. However, an unreported outbreak of 18 cases which occurred in April 1970 was discovered in a village in North Tapanuli Regency. It was reassuring that information leading to the discovery of this outbreak was received from four different sources, one as far as 10 km away. Although the outbreak had been misdiagnosed as chickenpox, adequate containment activities had been carried out.

Excluding previously known cases and the unreported outbreak, 3136 children were surveyed and only one with pock marks, dating from 1957, was found.

The importance of smallpox and the need to report its occurrence was well known to the community and governmental authorities, and it was obvious that there was more activity at local level than one might assume from regency records.

2.3 South Sulawesi

South Sulawesi, (population 5.2 million) was evaluated because it was one of the last provinces in which smallpox occurred (November 1971). The Smallpox Eradication Programme was begun in the province in early 1970, and since then the system of surveillance for the detection and reporting of cases and suspects had steadily improved. Since 1972, reporting of cases weekly and suspects monthly from the regencies to the province as well as from the province to the national level had been both complete and prompt. The last 19 cases were reported in one village (Arabika) in the regency of Sinjai during week 44 of 1971. Suspects have continued to be reported by many regencies, all have been checked and none have been found to be smallpox.

Three regencies, (Gowa, Sinjai and Tana Toraja) and two municipalities (Ujung Pandang and Pare-Pare) were selected for field investigation. Included were those experiencing cases most recently and those with a high population density. The field investigations confirmed the absence of smallpox cases since week 45 of 1971 as well as the awareness of the governmental authorities and of the general population of the importance of the disease and the need for close surveillance and reporting. Four pock mark surveys were done in different areas. Few children had pock marks - 0.5% among those 0 to 4 years and among those 5 to 14 years.

2.4 West Java

In West Java (population 22 million), the team visited the following areas - Bandung Municipality, and the Regencies of Bandung, Ciamis, Tasikmalaya, Cianjur, Subang, Karawang, and Bekasi. The standards of surveillance activity, reporting, evaluation and documentation at the provincial level were good. Local governmental authorities were aware of the importance of reporting smallpox. Certification of the smallpox-free status at the desa (village) level was 95% complete. Of 366 children in the 0-14 age-group examined, eight had pock marks. These children had contracted the disease at least three years previous. No children observed in the 0-5 year age-group had evidence of past infection.

In brief, there was no evidence to suggest that smallpox had occurred since January 1972 when the last case was detected in Tangerang Regency of West Java.

3. Recommendations

Due to the persisting high endemicity of smallpox in nearby countries, there exists in Indonesia, as with other countries currently free of the disease, a very real threat of importation. The Commission, therefore strongly recommends as follows:

3.1 Continuing vigilant surveillance and evaluation is necessary for all persons with illnesses suspected as smallpox. Appropriate laboratory confirmation should continue to be utilized freely and quality control of such laboratories should be maintained. The continued surveillance for smallpox may profitably be combined with a few selected diseases of public health importance.

3.2 Travellers to and from endemic countries should be carefully checked for adequate evidence of effective prior vaccination.

3.3 Primary vaccination of infants and children against smallpox should be continued as an important integral part of the national immunization programme until global eradication of smallpox has been achieved. It is hoped that both national and international support will be continued, if not augmented, to implement fully the above recommendations.

4. Acknowledgements

The members of the Commission wish to indicate their gratitude for the excellent meeting facilities provided and the many courtesies extended by health staff and others of the Republic of Indonesia. The members of the Commission also wish to record their appreciation for the frank and open manner in which the briefing was conducted and for the full cooperation and assistance extended to the members during field visits. Special appreciation is expressed for the strong support and assistance provided by Professor Dr J. Sulianti Saroso, Director General for Surveillance and Quarantine Directorate, CDC; Dr N. Kumara Rai, Chief Smallpox Eradication Unit, CDC; Dr A. Karyadi, Chief, Epidemiological Surveillance Unit, CDC; and the many other persons at national, provincial, and local levels, who assisted in this evaluation. The Commission is also grateful for the contributions of Dr D. A. W. Nugent, World Health Organization Representative, Indonesia; Dr J. Keja, Senior Public Health Administrator, WHO and Dr G. G. O. Cuboni, Medical Officer, Smallpox Eradication Programme, WHO.

ANNEX A

WORLD HEALTH ORGANIZATION INTERNATIONAL COMMISSION ON ASSESSMENT
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WORLD HEALTH ORGANIZATION INTERNATIONAL COMMISSION ON ASSESSMENT
OF SMALLPOX ERADICATION IN INDONESIA

WORKING PAPERS

No.	Title
1.	Smallpox Control in Indonesia during the Second Quarter of the Century and Re-establishment of Endemic Smallpox from 1947
2.	The Smallpox Eradication Programme in Indonesia
3.	The Establishment of an Effective Reporting System for Smallpox in Indonesia
4.	Low Level Transmission of Smallpox in a Well-Vaccinated Area, Pasarminggu, Jakarta, Indonesia (February - August 1970)
5.	The Twenty Years and the Twenty Months
6.	What Went Wrong in Loning?
7.	Smallpox in Jakarta Residency, 1970
8.	Is Routine Vaccination a Necessity in a Smallpox Eradication Programme?
9.	Assignment report on Smallpox Eradication, Indonesia (4-31 August 1973)
10.	General Information on Improvement of Smallpox Surveillance, Indonesia October 1971 - March 1974
11.	Indonesia 1971/1972 Smallpox Vaccinators as Surveillance Workers
12.	Rewarding of Smallpox Reports and Regular Recording and Reporting of Smallpox Suspects as a Surveillance Improvement
13.	Reporting and Recording of Smallpox Suspects, the Second Year of Implementation
14.	Indonesia 1972: Some Smallpox Surveillance Patterns
15.	Smallpox Eradication in Indonesia: The Laboratory as a Surveillance Support
16.	Indonesia 1973: Smallpox Free Certification by Village Chiefs in 12 Provinces
17.	Indonesia 1974: Special Search for Smallpox in the Islands of Kalimantan and Sulawesi
18.	Tangerang-Pandeglang, the Last Smallpox Outbreak in Indonesia
A.	Administrative Areas in Indonesia (provincial data)
B.	SEP-Indonesia: Routine Smallpox Vaccination
C.	SEP-Indonesia: Smallpox Vaccine Control, 1971 - March 1974
D.	SEP-Indonesia: Laboratory Diagnosis of Smallpox Suspects, January through March 1974
E.	SEP-Indonesia: Recording and Reporting of Smallpox Suspects, January and February, 1974
F.	Indonesia: Smallpox Cases by Province, 1967-1972

ANNEX C-1

SUGGESTED STEPS FOR FIELD INVESTIGATIONS BY THE COMMISSION

1. At provincial health office

- 1.1 Formalities - meeting with Health Director and other relevant authorities.
- 1.2 Review of the Smallpox Eradication Programme as conducted in the Province.
- 1.3 Review of Regency reports, their current status, regularity, etc.
- 1.4 Review of suspect cases - reporting, follow-up action etc. (Weekly reports to be checked from week 13, 1974 to week 14, 1974 and monthly reports from January 1973 to February 1974).
- 1.5 Status of Certification Programme.
- 1.6 Review of surveillance activities including any special activities.

The aim should be to evaluate the quality of surveillance activities and to select regencies needing closer investigation.

2. At regency level

Inquiries in the regencies should be similar to those at provincial level. Any recent rumours of smallpox should be investigated.

3. Field work

- 3.1 Information gathering - suggested sources are as follows:
 - 3.1.1 Key persons, such as the village chief, police, religious leaders, traditional midwives, healers, undertakers, schoolteachers, etc.
 - 3.1.2 Other sources
 - (a) Other persons - e.g. taxi drivers, becak drivers, etc.
 - (b) Area activities - graveyards, nurseries, military compounds, market places, harbours, special gatherings such as weddings and funerals, etc.
- 3.2 Survey for pock marks - an estimate of the frequency of pock marks should be made (both numerator and denominator must be recorded) in the age groups of 0-4 and 5-14 years.

Diagnostic criteria for identification of pock marks:

 - (a) more than five pock marks present on the face.
 - (b) each "pock" to be at least 5 mm in dia.
- 3.3 Efficiency of the certification system in affirming that villages are free of smallpox.
 - knowledge of the system by those who signed the certification forms; completeness of the coverage, etc.
- 3.4 Extent of knowledge of the reward offered for detecting and reporting smallpox to health authorities.
- 3.5 Health facilities - their distribution; experience in smallpox, facilities (including availability of vaccine) etc.

FIELD VISITS - JAKARTA MUNICIPALITY

Members of the team: Dr P. Wehrle, Dr N. McK. Bennett, Dr I. F. Setiady

1. Area investigated

Jakarta city is divided into five major areas (central, north, west, south and east). There are 27 subdivisions within the municipalities and these include a total of 220 desas (villages). The population in the city area is estimated in 1974 to be 5.7 million.

2. Assessment of surveillance activities

Relevant forms concerning the reporting of cases and suspects were reviewed at the Metropolitan Health Office for 1973 and 1974, and were found to be complete and accurate. Information from this central source was used to review similar forms in central, west, east and north Jakarta. Documentation in these areas was complete and in agreement with the central register. The evaluation of suspect cases was usually made within 48 hours and the final diagnoses in order of prevalence were varicella, impetigo, measles and herpes. The evaluation of suspect cases was usually done by an experienced vaccinator, a supervisor or a medical officer. It was noted that suspect cases had been reported from nearly half of the 220 sub-districts of Jakarta during 1973 with some sparing of the less densely populated eastern area and the better socioeconomic southern area. In all of the areas visited (vide infra) the diagnoses of suspect cases were checked where possible by the team and were found to be accurate.

3. Field visits

The districts were investigated as indicated below to assess the incidence of prior smallpox in children and to detect any possible hidden cases. On many occasions children with reported illness of any type were examined and smallpox photographs were used freely to make inquiries from people of all walks of life. Many children of all ages were found in the villages because it was school-holiday time. These children were a very valuable source of information.

3.1 Central Jakarta

In the densely populated areas of Gambir, Kemayoran and Tanah Abang, no pock marks were noted in about 200 children aged less than five years. About 2-3% of 150 children aged five to nine years had pock marks acquired four to five years previously. Pock marks were most frequently observed among children in Kemayoran.

3.2 West Jakarta

Particular attention was paid to this area because it is adjacent to Tangerang (West Java) where the last cases of smallpox had been detected in Indonesia in January 1972. Investigations were conducted in a large market place and several village areas in Grogol. Recent rumours of smallpox were found to originate in outbreaks of varicella. About 200 children were observed and pock marks were seen in about 1%, all of whom were aged 14 years or older. Similar results were found on visits to the subdistricts of Cengkareng and Taman Sari where 300 children were observed and pock marks were noted in about 1% of children aged 5 to 14 years.

3.3 North Jakarta

In the Koja subdistrict, several villages in the areas adjacent to the docks and oil refineries were examined. About 400 children were evaluated and pock marks were noted in only 1%, all aged 5 to 14 years. A special visit to a Bugis village on the waterfront disclosed

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pock marks in about 3% of 250 children aged 5 to 14 years. These children had all had the disease at least 5 years before; no pock marks were noted in children less than 5 years of age. The brothel area of Tanjung Priok was also visited and of about 50 children seen, none had evidence of pock marks.

3.4 South Jakarta

The Zoo and a large municipal playground were visited on a Sunday. In these two areas about 1500 children were observed. No pock marks were noted in children and only very occasional pock marks in adults.

3.5 East Jakarta

A market, a polyclinic and a village were visited in this area. Pock marks were present in 1% of about 200 children older than 5 years. These children had contracted their disease in West Java about 5 years previously.

3.6 Tangerang

Although a brief visit had been made to this area from Cengkareng across the river, a special one day trip was made to examine the area in which the disease had been recognized in 1971. The municipal centre was visited and the reporting of suspect cases and their evaluation was found to be in order. Some nearby recent suspected cases were examined and were found to be cases of varicella. In Sangiang desa (village), 15 km from the town of Tangerang, a further survey was made of about 150 children. In this village about 4% of children aged 5 to 9 years had pock marks and two children less than 4 years of age had pock marks. All of these children had had their disease just over two years previously, during the last Indonesian epidemic.

4. Summary

No active smallpox was detected in the city of Jakarta or the adjacent area of Tangerang. Pock marks were noted only in two children aged less than 4 years, both of whom lived in the Tangerang area. Pock marks in children aged 5 to 14 years varied from 1 to 3% in areas of Jakarta and no pock marks were seen in children less than 5 years of age. Surveillance of suspect cases in Jakarta City appeared to be excellent.

FIELD VISITS - NORTH SUMATRA

Members of the team: Dr J. S. Gill, Dr D. A. Henderson, Dr B. Cantayuda

This province was selected for visit for three principal reasons:

1. North Sumatra was the last province in Sumatra to detect cases.
2. A poor record in collection of certification forms from village chiefs attesting to the smallpox-free status of their respective villages.
3. Proximity to Malaysia and Singapore.

1. Basic features

Population - 6.9 million (density: 86 persons per square kilometer)

Administrative units - 11 regencies and 6 municipalities, 176 subdistricts and 5621 villages.

Transport - 90% of subdistricts capitals can be reached by four-wheel drive vehicles.

Medical facilities - 107 hospitals (12 734 beds); 69 health centres; 585 polyclinics; 458 MCH centres.

2. Contacted

Provincial level - IKES, Secretary of IKES, Director of CDC (Communicable Disease Control), Director of Smallpox Programme

Regency-Municipality

Medan - Municipal Health Officer, Chief CDC, Vaccination Supervisor

Deli-Serdang - Chief CDC, Vaccination Supervisor

Tapanuli Utara - Regency Medical Officer, Chief CDC, Vaccination Supervisor

Nias - Regency Medical Officer, Chief CDC, Vaccination Supervisor

Subdistrict and lower level

Health centres and polyclinics - 15

Hospital (Medan) - Hospital administrator and professor of paediatrics

Physicians (other than already noted) - 8

Nurses, midwives - 8

Vaccinators - 4

Civil authorities (village chief, sub-village chief, police) - 23

Others - numerous

3. Record of completion of weekly report of smallpox cases (SS.2 form) and monthly report of suspect cases (S.S.5 form)

3.1 From province to national level

SS.2 - Last report sent for week 14, 1974 - no missing reports since April 1973

SS.5 - Last report sent for February, 1974 - no missing reports since January 1973

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3.2 From regency/municipality to province

<u>SS.2 - Last report sent (week)</u>	<u>No. of regencies/municipalities</u>
11	1
12	4
13	8
14	4

Of 884 reports expected, 838 (95%) had been received. Nine of the 46 missing reports were from Nias; no other regency/municipality was missing more than five reports.

<u>SS.5 - Last report sent</u>	<u>No. of regencies/municipalities</u>
Dec. 1973	2
Jan. 1974	2
Feb. 1974	13

Of 238 reports expected, 215 (90%) had been received. Twelve of the 23 missing reports were from Nias; no other regency/municipality was missing more than two reports.

4. Overview of the Programme and smallpox incidence

Smallpox activities began in Sumatra during 1969 but were not in reasonably full operation until late in the year. In addition to the CDC Director and SEP Director and his staff at provincial level, there were stated to be at regency and lower levels: 14 CDC physicians, 15 SEP supervisors (sanitarians), 164 routine vaccinators and 31 Fire Fighting teams (local doctor plus four trained nurses).

Smallpox data prior to late 1969 are regarded as generally incomplete and unreliable. When the programme began, foci were discovered in North Tapanuli, Selatan and South Tapanuli in the southern mountainous areas. Cases occurred later in Asahan along the north-west with subsequent spread to the subdistrict (Deli Serdang) surrounding the capital on the north-eastern coast and into the capital itself. Surveillance-containment measures employing provincial and local staff as well as a number of seconded national staff, appear to have terminated transmission in week 34, 1971. The last outbreak of 104 cases was discovered during week 25 in Deli Serdang and the last case was detected nine weeks later.

5. Activities since week 34, 1971

Field visits disclosed a high level of awareness of the importance of smallpox and the need for reporting of cases by governmental authorities at all levels and, indeed, a reasonable awareness of the problem among quite a number of the local population. However, the extent of activities was not well reflected in records available at provincial level or in two of the regencies visited (Deli Serdang and North Tapanuli).

Subsequent to the last known outbreaks, teams from provincial and national level conducted in August 1971 a house-by-house search (75% of households reached) throughout 18 of the 30 subdistricts in Deli Serdang. From discussions with one medical officer who was responsible for seven subdistricts, it would appear that the search was reasonably effectively conducted. No cases were found. Other areas in the province with cases were repeatedly visited by various WHO, national and provincial staff during and after this time but no cases were found. From January to March 1972, vaccinators suspended vaccination activity to conduct an active search. From provincial records (column A, Table 1), this was reasonably complete in all but Nias and Tapanuli Utara regencies. During the search, 418 suspect cases were revealed but none proved to be smallpox (Column C). Subsequently, 665 suspect cases

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were routinely reported and investigated between January 1973 and March 1974 (column B) - none were confirmed as smallpox. From provincial records, participation in this activity was irregular from regency to regency but discussions in the field indicate that this primarily reflects irregular reporting practices and that many more cases were investigated than officially reported. Finally, certification of the smallpox-free status of each village was requested of each village chief. From field discussions and observations, it was probable that this "certification" scheme was taken as a serious civil responsibility by village chiefs. However, as shown in the table, six of the 17 regencies/municipalities fell well below 80% in compliance (column E). Failure of better performance seems to have been simply lack of follow-up on the part of provincial and regency health staff. (A further 515 suspect cases came to light during this exercise (column D). (None was smallpox.)

6. Selection and investigation of areas by the Commission

For the reasons noted in Table 1, three regencies and one municipality were selected for special study.

6.1 Tapanuli Utara

At regency level, neither the CDC chief nor the SEP supervisor appeared to know much about what had transpired - records were incomplete and, as noted in Table 2 (column B), inspection of the records showed that some had been concocted as an office exercise. As shown in Table 2, column A, special searches were conducted in 1971-72 by WHO, national and provincial staff in and around previously infected subdistricts. The January-March 1972 active search was conducted at most in 16 subdistricts (column B). Records from this exercise were poor.

In the certification exercise, regency staff decided on a "selective certification" plan for easily accessible and previously infected areas. Fifteen of 27 subdistricts were selected (column C). Response in most, despite minimal efforts at follow-up on the part of regency staff, was quite good. Nine of the 27 subdistricts were visited by the assessment team. Largely excluded were those which were very mountainous and had a scattered population. These were excluded on the grounds that the persistence of smallpox was unlikely in these areas. Also excluded were those infected in 1970 as they had been repeatedly visited after the outbreaks. In the subdistricts visited, the Commission was impressed by the general awareness of smallpox by health and civil staff as well as the general population. It was also clear that substantially more had been done in investigation and confirmation of suspect cases than had been reported to the regency. One unreported outbreak from 1970 was detected (see Section 7).

Throughout the areas visited, children (15 years and under) were inspected for evidence of facial pock marks. Excluding the known cases, a total of 3136 children were seen - one only had pock marks dating from 1957. None of the many health, medical and civil staff seen knew of cases since 1970. Eight reports of illness with rash were investigated by the Commission - these were confirmed as yaws (1), measles (6), infected allergic dermatitis (1).

6.2 Deli Serdang

At regency level, considerably more data and information were made available by an obviously more competent staff. As noted earlier, 18 of the 30 regencies had been searched house-by-house in August-September 1971, 91% of villages had been searched again in January-March 1972; a continuing (although under-reported) flow of suspects had been screened. Certification levels were low, reflecting poor follow-up by regency staff who had not been particularly encouraged by provincial staff.

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Two subdistricts in the last infected area were visited as well as a subdistrict containing the port of Medan and one subdistrict south of Medan which had not been searched in 1971. In all, awareness of smallpox reporting was high and it was clear that far more activity was present than was reflected by the reports. No reports of smallpox or suspects was obtained.

6.3 Medan

The various search and confirmation procedures were similar to those in Deli Serdang although in Medan certification was complete.

Three subdistricts infected in 1971 and two others were visited by the Commission. As elsewhere, civil and health staff seemed highly aware of smallpox. Eight illnesses with rash were investigated and found to be chickenpox (6) and measles (2). Approximately 700 children were surveyed for pock marks - excluding 1971 cases, one only was found who had acquired smallpox in West Sumatra in 1968.

Death records for the city showed no deaths due to smallpox or chickenpox in 1972 or 1973. Of 850 deaths to date in 1974, one was said to be due to measles. This was confirmed by field visit.

6.4 Nias

This island with a population of 400 000 lies off the south-west coast of the province and had never been visited by national or provincial staff. The regency health officer and CDC doctor appeared to be well-acquainted with the local situation and had reasonably complete records. The last known outbreak was found to be in 1965, although records showed it to be 1964. In regard to the incompleteness of certification, the regency doctor indicated that he had not received sufficient forms (432 of 658 needed). Three hundred children were examined at random but no pock marks were found. No evidence of any smallpox focus was discovered as a result of discussion with others in the community.

7. Unreported outbreak of 18 cases - Barangan - three kilometres from Doloksanggul, Tapanuli Utara - April 1970

Reassurance that knowledge of smallpox was widespread at the peripheral levels was provided by the discovery of a single unreported outbreak of smallpox in Doloksanggul. This was reported to the team by: (1) a hospital aide in Doloksanggul, (2) two vaccinators responsible for adjacent subdistricts and (3) an old woman encountered along the road perhaps 10 km distance from the outbreak area.

It was said and confirmed that the policlinic physician learned of the outbreak, diagnosed it as chickenpox, vaccinated widely and asked the villagers not to leave the village or to admit others. Investigation at the village revealed the source to have been a known outbreak in Medan. The villagers were quite clear as to the diagnosis however confused the physician may or may not have been. Thirteen of the 18 cases were seen of which eight had distinct scars, three had indistinct scars (all were less than one year old in 1970), and two had no scars (a previously vaccinated 20+ year-old woman and a child less than one year old in 1970). A pock mark survey of 114 persons in and around the infected villages revealed none with pock marks.

8. Notes on the persistence of pock marks

Three separate outbreaks (including Barangan) were investigated to assess the frequency of persistence of pock marks. The results were as follows:

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	Outbreak			
	No. 1	No. 2	No. 3	Total
Distinct pock marks (at 5+ metres)	8	0	8	16
Pock marks present (not obvious at 5 metres)	3	4	1	8
Pock marks (5+) not present	2	4	2	8
	13	8	11	32

Those without pock marks were generally those vaccinated during the incubation period or, in two instances, those who had been previously vaccinated. Most obvious were those in children presently of school attending age.

9. Conclusion

Noting that the last known case of smallpox in North Sumatra occurred 138 weeks before the team's visit and based on the available data regarding investigation, search and certification procedures undertaken as well as observations made by the Commission, it would seem highly improbable that there exists at present or during the past two years any focus of smallpox in North Sumatra.

TABLE 1. NORTH SUMATRA - SELECTED OBSERVATIONS OF SMALLPOX
ACTIVITIES BY REGENCY/MUNICIPALITY

Regency/Municipality	No. of villages	Population (000's)	Jan.-Mar. 1972 active search (% villages)	Suspect cases detected			1974 Certification (% comp)	Cases 1970	Visits made to problem areas and rationale
				1/73 - 2/74 (SS.5) (Forms)	Active search 1973	Certification			
			(A)	(B)	(C)	(D)	(E)	(F)	
1. ASAHAN	220	564	84	199	30	150	45	55	
2. DAIRI	157	176	99	4	0	0	69		
3. DELI SERDANG	905	1 571	91	21	43	44	65	164	Last cases (W34) in Sumatra
4. KARO	276	188	86	16	0	13	65		
5. LABUHAN BATU	192	355	100	97	38	143	98		
6. LANGKAT	215	471	87	19	76	63	92		
7. NIAS	656	409	57	0	26	0	57		No programme staff has ever visited - poor record of performance
8. SIMALUNGEN	216	643	91	28	6	19	81	6	
9. TAPANULI SELATAN	1 608	633	82	74	17	5	57	7	
10. TAPANULI-UTARA	871	734	19	9	1	0	42		Poor search in 1972 - few reports of suspect cases - certification poor
11. TAPANULI TENGAH	177	129	92	0	0	6	90		
12. BINJAI MUN	19	55	100	28	7	19	100	4	
13. MEDAN MUN	59	727	100	10	56	0	100	45	
14. P. SIANTAR MUN	29	148	100	91	53	27	97		
15. T. BALAI MUN	4	36	100	14	3	2	100		
16. TEBING TINGGI MUN	4	32	100	13	40	2	100		
17. SIBOLGA MUN	11	49	100	42	22	22	100		Large urban area - cases in 1971
TOTAL	5 621	6 920		665	418	515		281	

TABLE 2. TAPANULI UTARA - REVIEW OF REGENCY DATA

Subdistricts	Desas	Popula- tion (000)	Special searches conducted (A)	Active search Jan.-Mar. (B)	Certifi- cation (%) (C)	Visited by Commission (D)
I. <u>Infected - 1970</u>						
1. Pahae Jae	32	23	✓		84	
2. Pahae Julu	20	14	✓		45	
3. Porsea	50	23	✓	✓	94	X
4. Lbn. Julu	54	24	✓	✓	74	
5. Pangururan	43	34	✓	✓	93	
6. Harian	38	21		✓	74	
7. Palipi	28	18	✓	✓	68	
II. <u>Other</u>						
8. Sipahutar	21	21		✓	67	
9. Siboreng	45	37			80	X
10. Lintongnihuta	39	26		✓	90	X
11. Balige	44	30			46	X
12. Lagubuti	31	15		✓	87	X
13. Naingolan	35	26	✓		74	
14. Doloksaneul	40	40		✓	92	X
15. Sipoholon	22	15		✓	68	
16. Taratung	53	40		F	ND	X
17. Adianhoting	19	13			ND	X
18. Silaen	39	17			ND	
19. Simanindo	32	22	✓	✓	ND	
III. <u>Mountainous/ Isolated</u>						
20. Parmonangan	20	16			ND	
21. Panguriboan	28	24		✓	ND	
22. Muara	33	22		F	ND	
23. Parlilitan	20	24		✓	ND	
24. Pakkat	23	23		F	ND	
25. Onanganjan	22	13		✓	ND	X
26. Garoga	12	11			ND	
27. Parsoburan	28	24		✓	ND	

ND = not done.

F = obviously falsified data.

FIELD VISITS - SOUTH SULAWESI

Members of the team: Dr J. J. Dizon, Dr I. Tagaya and Dr N. Kumara Rai

1. Introduction

The team's main contact was the provincial CDC health officer, who extended full support and cooperation to the team.

South Sulawesi has a total population of about six million and is comprised of 23 regencies, 169 subdistricts and 1163 desas (villages). The Smallpox Eradication Programme started in the province during the early part of 1970 under the supervision of the CDC Medical Officer of the Province and, in line with the national policy, is mainly directed towards surveillance and containment activities.

2. Observations at the provincial level

During 1970, a total of 1807 cases with 113 deaths were reported from South Sulawesi and for 1971, 1397 cases with 74 deaths. The last cases were detected during week 44 of 1971 - an outbreak of 19 cases in the village of Arabica in the regency of Sinjai. Since that time suspects have continued to be reported. A total of 665 suspects were reported in 1972 and 622 in 1973. All of the reported suspects have been checked and evaluated and none has been shown to be smallpox. Weekly reporting of cases and monthly reports of suspect cases at the provincial level are complete. The last weekly report submitted to the national level was for week 15, and the last monthly report was for February 1974.

3. Observations at the regency level

Review of the records as well as personal consultations with the CDC medical officer indicated the need for closer observation through field visits to at least five of the 23 regencies. Three regencies with the most recent and most extensive outbreaks were selected - Sinjai, Gowa and Makassar (Ujung Pandang). Pare-Pare, a seaport, and Tana Toraja, a tourist area, were also visited, as it was felt that both might be more exposed to infection.

Specific data on the five regencies selected are shown below:

Regency	Last cases	Last suspect cases investigated	Status of reporting		Certification programme
			Weekly (SS.2)	Monthly (SS.5)	
1. Gowa	Week 38 1971	March 1974	Complete	Complete	Complete
2. Sinjai	Week 44 1971	March 1974	Complete	Complete	Complete
3. Makassar	Week 37 1971	April 1974	Complete	Complete	Complete
4. Pare-Pare	1968	Feb. 1974	Complete	Complete	Complete
5. Tana Toraja	Week 41 1970	March 1974	Complete	Complete	Complete

From the above it may be noted:

- (1) There has been no known case of smallpox since week 44, 1971.
- (2) Suspects have been continuously reported and investigated.

(3) Reporting of weekly cases (SS.2) and monthly suspects (SS.5) has been complete and prompt.

(4) The programme of certification by village chiefs of the absence of cases has been virtually complete (98%) and has been verified as having been actually undertaken.

All of the above observations gleaned from records and reports have been confirmed by detailed information gathered directly from key persons and others in the field, actual field observations, interviews and surveys in the regencies visited.

4. Field observations - while it was decided to visit only five regencies, field observations were also made in other areas en route.

4.1 Areas visited - The following areas were visited and the activities undertaken are as indicated:

4.1.1 Regency of Gowa

Desa Malino - At a small market place in this mountain village, inquiries were made for rumours of smallpox and a pock mark survey was done. Only three women with very old pock marks were found.

4.1.2 Regency of Sinjai

Desa Arabika - The chief of this mountain village was interviewed for rumours of smallpox and information was obtained regarding mechanisms for reporting of suspect cases, the certification programme and the nature of his contacts with subvillage chiefs.

Desa Lapa - This is a grouping of houses by the riverside from which many small boats sail for other islands of Indonesia as well as neighbouring countries. Inquiries were made for rumours of possible smallpox cases and a general pock mark survey as well as a house-to-house pock mark survey was performed.

4.1.3 Regency of Bulukumba

Health Centre, Tanete - This health centre provides services to nine villages. A nurse and the acting chief of the health centre were interviewed regarding recent suspect cases in this area.

Subdistrict Ujungbulu - The CDC staff was interviewed regarding suspect cases.

4.1.4 Regency of Maros

A market place (Pasar Bulu-Bulu) - Inquiries were made for rumours of possible smallpox cases and a general pock mark survey was made.

4.1.5 Regency of Pangkep

Desa Mattinibadji - A market place. Inquiries were made for rumours of smallpox cases and a general pock mark survey was made.

4.1.6 Municipality of Pare-Pare

Desa Watan-Soreang - At this grouping of houses near the seashore, inquiries were made for rumours of possible cases, and a general and semi house-to house pock mark surveys were made.

4.1.7 Regency of Tanah Toraja

At a market place in the centre of the town, inquiries were made for rumours of cases and a general pock mark survey was made.

4.1.8 Municipality of Ujung Pandang

Desa Matjini - In a crowded area of low class residences, inquiries were made for rumours of cases and general as well as house-to-house pock mark surveys were made.

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Desa Chief's office - The staff was interviewed in regard to suspect cases and inquiries were made in a room where pregnant women were being given lectures. A fresh suspect case was found here as will be described below.

4.2 Information gathering - Rumours of suspect smallpox cases were sought from key persons at subdistricts and villages from paramedical personnel in health centres, policemen, boy scouts and school teachers. Regency medical doctors were also interviewed. Visits were made to various local market places and one densely populated area each in two municipalities, Ujung Pandang and Pare-Pare, where merchants, people in the streets and becak drivers were asked about possible suspect cases, while showing them the WHO recognition cards. Such was also done during the house-to-house pock mark surveys. No rumours were obtained regarding smallpox cases since the last known outbreak, nor of current suspect cases, except on the last day. During a discussion with pregnant women attending an education course at a health centre in Makassar, one woman stated that a child in her neighbourhood had a skin disease with a similar appearance to that shown on the WHO recognition card. The patient's house, about 300 m from the health centre, was visited. There was found a two-year-old child suffering from impetigo, but with a similar distribution of lesions to that seen in smallpox cases.

4.3 Survey for pock marks - The results shown below are those obtained by house-to-house surveys.

Regency	Desa	No. with pock marks 0-4 years	Total No. seen 5-14 years
Gowa	Tamaona	0/45	0/56
Sinjai	Lapa	0/52	1/70
Pare-Pare	Watan Soreang	0/27	0/51
Makassar	Matjini	1/68	2/90
Total		1/192* (0.5%)	3/267** (1.1%)

* Case in 1971.

** All cases dated back more than 8 years.

During the general pock mark surveys in market places and along the roadsides, no pock marks were seen among children under 5 years of age.

4.4 As far as could be ascertained the certification system at desa level was complete, and the reward offered was well known, not only by key persons, but also by the general population.

4.5 While the health facilities in general in the rural areas are relatively poor, the mechanisms for smallpox surveillance are well organized and the supply of smallpox vaccine is good.

5. Conclusion

Based on the review of the records and reports at the provincial and regency health offices and on the observations during field visits, there is no evidence that any cases of smallpox have occurred in the province of South Sulawesi since week 45, 1971. However, it would seem well for continued surveillance and evaluation of suspects as well as primary vaccination of infants and children to be continued.

FIELD VISITS - WEST JAVA

Team Members: Dr S. Kumarapathy, Dr G. Cuboni and Dr A. Karyadi

1. Introduction

The team visited selected areas in West Java (population 22 million) after briefings and discussions at Bandung with the provincial health administration and senior health personnel involved with the Smallpox Eradication Programme. The criteria for selection of areas included:

- (1) Those where smallpox cases last occurred.
- (2) The areas where the last outbreaks occurred in which there were problems in containment.
- (3) Regencies with unsatisfactory or uncertain levels of surveillance activity and reporting.
- (4) Regencies with known weaknesses or deficiencies in health administration.

Key members of the provincial health staff and representatives of the Governor's office accompanied the team throughout their visit. The following areas were selected: Bandung Municipality and Bandung, Ciamis, Tasikmalaya, Cianjur, Subang, Karawang and Bekasi Regencies.

During each visit activities proposed in the outline of suggested procedures (Annex C.1) were followed as far as practicable.

2. Findings

2.1 Provincial Health Services - Briefings conducted by the provincial CDC Chief and his staff were good and current. Records of surveillance activities were well maintained. Six (1.9%) of a total of 312 weekly reports due in 1974 were missing. The six missing reports were from Sukabumi (4), Cirebon (1) and Karawang (1) Regencies. The monthly reports of suspect cases were up to date and complete for February 1974 and 2.5% of the March reports had been received. Smallpox-free certification forms had been received from 95% of the village chiefs and more were still being received.

2.2 Bandung Municipality - The standard of briefing was good. Field workers knew their job routines. Surveillance records were well maintained. The team visited Sukasari subdistrict where the last case occurred. The chief of the subdistrict knew fully about the certification programme and the reward offered for discovery of a case. At the sub-health centre, the team talked with the doctor and 45 patients (30 women and 15 children 0-14 years), but none knew of possible smallpox cases and none had pock marks. A visit was made to Sukasari village where the last case occurred in 1970. Some 80 children 5 years and older were examined and 10 below the age of 5 years. None had pock marks.

2.3 Bandung Regency - Cimahi subdistrict was visited to check a reported outbreak of varicella in a low income area. Four siblings in the 5-11 year age range were affected. All had vaccination scars and the diagnosis of varicella was confirmed. No pock marks were found among 30 neighbourhood children. A visit was also made to Cicalengka subdistrict which reported many cases of smallpox during 1970. In 1973 there were three suspect reports, none

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of which was smallpox. In 1974, no suspect cases had been reported. One low socio-economic area was visited and the subchief of a village interviewed. He knew of no suspect cases and was aware of smallpox reporting procedures.

2.4 Ciamis Regency - This regency has been free of smallpox since 1969. Some suspect reports since then have been checked personally by the regency medical officer. Reports on surveillance activity were up to date and properly maintained. It appeared that close cooperation with civil authorities existed. At the time of the team's visit, the entire regency health staff were coincidentally attending a routine meeting at the Regency Health Office. None knew of possible smallpox cases. Mangaluya village of Cikoneng subdistrict was selected for field visit. The village chief was aware of the reporting and certification system and proper procedures were being followed.

2.5 Tasikmalaya Regency - In this regency the Chief of CDC reported having sent special teams to visit health centres in remote areas to check for cases. Surveillance reports were up to date and well executed.

2.6 Cianjur Regency - This regency last experienced smallpox in January-February 1971 in Bojongpicun subdistrict. Surveillance reports were complete. However, three southern subdistricts (Cidaun, Cibinong and Sindangbarang) had not been visited by regency health staff during the previous six months. The team attempted to go to Sindangbarang, but had to turn back because of landslides which blocked the road. Two villages (Jati and Ciberengka) in Bojongpicun subdistrict were visited. In Jati, 116 children 5-14 years of age and 51 children below 5 years were checked. There were no pock marks in those below 5 years, while six had pock marks in the 5-14 year age-group. None had experienced smallpox since 1970. In Ciberengka village, 2 of 36 children in the 5-14 year group showed pock marks, but none of 25 children below 5 years of age had pock marks.

2.6 Subang Regency - The last cases of smallpox were in January 1970 in five subdistricts. The only reports of suspect cases were from the subvillage Sukamaju. There was considerable vagueness about the nature of surveillance activity, but some evidence of work at the local level. Sukamaju and Bumihayu villages were visited. No evidence of suspect cases was found.

2.7 Karawang Regency - The last case was detected in March 1971 and this arose from an importation from Bekasi Regency. Surveillance activities and reporting were satisfactory. A survey of becak drivers outside the railway station was not productive. A bystander, however, reported three possible cases in three different villages near the previously affected area. One case was confirmed to be contact dermatitis and the other two were unfounded rumour.

2.8 Beksai Regency - Smallpox was last active in the period February to April 1971. Surveillance activity and reporting was found to be satisfactory but one had the impression that interest was waning. In 1973, 130 suspect cases had been checked and thus far in 1974, 21 suspect cases. Two-thirds were varicella cases. Health personnel provided 70% of the reports; the remainder were received from the general population.

Sukatani subdistrict was selected for field visit. While there was little evidence of surveillance activity, the subdistrict chief and village chiefs, who coincidentally with the visit were attending a meeting, seem knowledgeable of the problem and were of the view that there was no smallpox present in the area.

3. Conclusion

From available information and visits to certain selected areas, the team is of the view that endemic transmission of smallpox has been interrupted in the province of West Java. Surveillance activities and reporting at provincial level were good but at peripheral and local levels, special efforts will be required to sustain the same degree of interest.