Smallpox/WP/19 —

PLANNING, ORGANIZATION AND EXECUTION OF NATIONAL SMALLPOX ERADICATION CAMPAIGN IN INDIA

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by

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This paper deals with the planning, organization and execution of the National Smallpox Eradication Programme in India, including up-to-date progress and coverage in each State and Union Territory. The staffing pattern of units engaged in eradication, the incidence of smallpox and epidemiological investigations of epidemics, complications observed during the course of implementation, the lacunae discovered during simultaneous assessment and evaluation and the success rate, both in primary vaccinations, and revaccinations, in each State, as well as the number inspected, have also been highlighted.

1. Planning and Organization

The Government of India, Ministry of Health, taking note of the periodicity with which epidemics of smallpox were occurring in the country, appointed a central expert committee in May 1958, under the auspices of the Indian Council of Medical Research, to examine the question of smallpox in all its aspects and to suggest ways and means for its eradication. This Central Committee, in collaboration with similar committees formed under instructions from the Centre in the constituent States of the country, examined the problem and brought out a report on its deliberations in June 1959, making specific recommendations that steps should be taken to launch, with the least possible delay, a national smallpox eradication programme in the country, with the avowed object of successfully vaccinating the entire population as far as practicable and completing the programme within a period of three years. This necessitated a concerted and simultaneous action in all States of India.

The Committee further recommended that, in order to attain this object, immediate action should be taken, as follows:

(1) To ensure availability of adequate supplies of potent vaccine lymph;

(2) To recruit and train adequate numbers of vaccinators and other personnel required for the campaign;

(3) To obtain the necessary equipment for vaccination work and storage of vaccine lymph at all levels;

(4) To bring into being a suitable organization, both at the Centre and in the States to ensure the smooth functioning of the campaign, and, above all;

(5) To prepare the population well in advance to receive the programme as outlined.

The Central Expert Committee also recommended the initiation of pilot projects in one district of each State in order to work out the methodology for the eradication programme and to gather first-hand experience of the difficulties that might be encountered during the course of mass vaccination drives and how to overcome them as well as to collect data for estimating the requirements in personnel and finances for the country-wide eradication programme.

As a sequel to the above recommendation, pilot projects were started in October/November 1960 in one district in each State and in the Union Territory of Delhi, and out of approximately 23 million people in these areas in which pilot projects were carried out, 14.4 million were contacted and over 12 million vaccinated up to 31 March 1961 (see Map I). Liquid lymph vaccine, after proper transport and storage, was used in the pilot projects in all States except for Orissa (where freeze-dried vaccine donated by the Netherlands Government and made available by WHO was used).

Details of the percentage of population covered in pilot projects, along with the success rate for primary vaccinations and revaccinations and the number of vaccinations given per vaccinator per day are contained in Appendix I. A statement of the incidence of smallpox in pilot project districts before the programme was launched and in subsequent years is given in Appendix II.

The Government of India accepted the recommendations of the Central Expert Committee and those contained in the Pilot Project Committee's report (submitted after the termination of the pilot projects in October 1961), and decided to embark on the national smallpox eradication programme during the Third Five-Year Plan period.

In January 1962, the Ministry of Health sanctioned a sum of 6.89 million rupees for launching a nation-wide programme, and indicated in their instructions to all State Governments that the implementation of this programme would necessitate:

(1) Setting up a central organization at Delhi in the Directorate General of Health Services under the overall charge of a Deputy Director General of Health Services, for co-ordination, etc., of the programme;

(2) Setting up a headquarters organization in each State, under an Assistant Director of Health Services, to be in full charge of operations at the State level;

(3) Setting up district organizations in each State for the execution of mass vaccination campaigns, e.g., the appointment of supervising medical officers, health educators, vaccinators, inspectors and ancillary staff;

(4) Procurement of equipment such as vehicles, lancets, sterilizing sets, refrigerators, etc.;

(5) Provision of adequate supplies of potent smallpox vaccine.

It was envisaged in these instructions that the mass vaccination campaign, if properly organized by the State Governments, could be completed in their respective States in two phases, viz.:

(i) First phase: Covering half the districts/areas in each State by mass vaccination;

(ii) Second phase: Covering the remaining districts/areas of each State by a mass vaccination campaign.

Thus the same staff and equipment could be utilized for the campaign in its two phases.

Simultaneously instructions were also conveyed that, for the implementation of this national smallpox eradication programme, a suitable organization should be immediately set up at each state headquarters for proper planning, supervision, co-ordination and evaluation of results. These organizations will have to be set up by the State Governments immediately and continued for a period of about three years.

The staffing pattern per unit, as per the recommendation of the Smallpox Pilot Project Committee, was also indicated to all State Governments along with the financial implications. The pattern of central assistance to State Governments for the execution of the national smallpox eradication programme was given as being 100 per cent assistance for all

non-recurring items of expenditure and 75 per cent for all expenditures of a recurring nature. (For details of staff along with financial implications of one unit, originally expected to cover three million people in the space of two years, see Appendix III). With these detailed instructions conveyed in January 1962 to each State Government, it was also suggested in connection with the launching and implementation of the programme, that:

(1) They should select areas for the execution of the mass vaccination campaign in each of two phases of the national smallpox eradication programme period;

(2) Each State should aim at a target of 100 vaccinations per vaccinator per day, except in hilly areas, where a lower figure might be adopted;

(3) Complete units should be raised before sending them out into the field, and a quarterly report of the progress of the programme should be sent to the Ministry.

2. Launching of the Programme and Progress to Date

The national smallpox eradication programme was actually launched in a majority of the States, with the full number of sanctioned units, in October/November 1962, with the exception of Mysore State, which started to implement the obligations of the programme from February 1962, and Punjab and Gujarat States, which embarked on the programme in May and July 1962, respectively. Two States, viz., Rajasthan and Madras, due to late sanction by the respective State Governments, started the programme only in the middle of January and March 1963, respectively. The total number of units working in the whole country is 150, and out of a total population of 438 million people (according to the 1961 census), nearly 171.71 million have been protected, that is, 39.2 per cent of the total population stands vaccinated. Details of primary vaccinations and re-vaccinations, along with the percentage of population vaccinated in each State and Union Territory are contained in Appendix IV. For details of the total number of primary vaccinations and revaccinations carried out in each State, the number inspected and their success rate, see bar diagram, Appendix V.

The progress of the programme in each State has not been uniform. Jammu and Kashmir, Punjab and Mysore have covered, by now, 77.3 per cent, 76 per cent and 67 per cent of their populations respectively. The coverage in other States varies between 27 and 46 per cent.

2.1 Potency Testing of Vaccines

Col. S.L. Kalra, Professor of Microbiology at the All-India Institute of Medical Sciences, New Delhi, has been entrusted with the testing of vaccines (both freeze-dried and liquid lymph) for microbial purity and also for potency on fertile eggs.

2.2 Targets

Our targets are that the attack phase of the programme, including mopping-up operations, to achieve more than 90 per cent coverage of all sections of population in each State, should be completed by March 1965. After this is achieved, the obligations of the maintenance phase will be taken up (i.e. vaccination of all newborns, revaccination at the ages of 5, 10 and 15, and mass vaccination of all contacts on the occurrence of sporadic cases of smallpox).

It is proposed to entrust the obligations of the maintenance phase to the existing normal health services operating in the country by suitably augmenting their present inadequate staff. (For progress of each State, see attached Map No.II)

2.3 Three Essential Fundamentals

For the ultimate success of the eradication programme, three basic factors have been kept in view, viz.:

(1) The availability of a potent and heat stable vaccine for use in the field. (For success rate both in primary vaccinations and revaccinations, see bar diagram Appendix V).

(2) The existence of a devoted public health organization with staff trained to vaccinate the people entrusted to their care and to exercise constant supervision over the vaccinators' work so that no lacunae may remain in either the enumeration of population or the recording of results.

(3) The co-operation of the people: For the success of such a gigantic public health programme, it is necessary that all sections of the public should realize that vaccination is for their own good and that untold suffering and misery can be avoided if everyone gets himself or herself vaccinated. To make people accept vaccination, health education work, properly conducted, should precede the mass vaccination drive and should be continued, if possible, even during the mopping-up and maintenance phase.

2.4 Observance of Smallpox Eradication Day in 1962 and Smallpox Week in 1963

To arouse the consciousness of the problem amongst the people and persuade them to accept vaccination, a "Smallpox Day" was observed on 25 September 1962, just before launching the nation-wide programme. Also, during the year 1963, a whole week, beginning on 25 September, was observed with the object of carrying the conviction to the people that:

(1) Smallpox is a perfectly preventible disease;

(2) Untold suffering and misery can be avoided if everyone gets himself vaccinated;

(3) We can eradicate this scourge from our country by successfully carrying out mass vaccination drives among the entire population, and

(4) We should increase the tempo of the smallpox eradication programme, with the help and co-operation of official, non-official and voluntary agencies.

Co-operation from the independent medical profession particularly has been sought, and a free supply of freeze-dried smallpox vaccine has been assured to them.(For details see Appendix VI.)

2.5 Incidence of Smallpox in the Country

The following figures are given:

Year	Attacks	Deaths
1950)*	127 633	75 364
1951)	167 406	147 694
1952	67 049	35 757
1953	33 834	21 856
1954	39 916	25 602
1955	26 282	23 485
1956	24 334	17 227
1957)*	104 058	42 482
1958)	106 501	32 174
1959	45 115	11 595
1960	31 052	7 876
1961	39 537	12 313
1962	43 000	11 757
1963* upto 30.11.1963	59 126	18 141

*Years of periodic cyclicity of the disease.

For details of cases per 100 000 in each State, see enclosed Map No. III.

2.6 Investigation of Epidemics

Madras City, Calcutta and Delhi recorded the largest number of cases in 1963, as revealed by the following figures:

	Cases	Deaths	Investigation revealed that:
Madras	2 053	488	53 per cent of cases occurred among the unvaccinated group, out of which 24 per cent were children
Calcutta	1 326	527	91.6 per cent of cases occurred among the unvaccinated group
Delhi	507	102	72.3 per cent of cases occurred among the unvaccinated group, most of whom were children

During 1962, in the city of Jubbalpur (Madhya Pradesh), following a severe epidemic of smallpox, a detailed epidemiological investigation was carried out. This revealed that there were 700 cases, with 187 deaths. On further breakdown, it was found that the incidence amongst the children from six months to ten years of age was 91 per cent, indicating a larger proportion of the accumulation of susceptibles, due to escape from primary vaccination and revaccination against smallpox. Two more investigations were carried out at Meerut and Bulandshahr Districts in Uttar Pradesh, where the findings were identical, viz. a large number of children had escaped primary vaccination, resulting in a flare-up of epidemic conditions.

Epidemic intelligence is given fortnightly to the State Governments about the occurrence of smallpox cases in different parts of their States, after information is collected from the Central Bureau of Health Intelligence so that remedial measures may be taken immediately.

2.7 Complications Reported during the Mass Vaccination Campaign

We have by now vaccinated 170 million people, but the complications with symptomology simulating post-vaccinial encephalitis, including the meningenial syndrome, have only been reported in twelve cases in different parts of the country; five of these were fatal. A few cases of generalized vaccinia were reported, as well some cases of tetanus, due probably to the application of extraneous matter at the vaccination site by relatives. (For details see Appendix VII.)

2.8 Repetition of Mass Vaccination Programmes

Although Madras city, along with Chingleput District, had been included in the pilot project, and nearly 61 per cent of the population there was reported to have been covered in 1961, there were 1 571 cases with 306 deaths reported from this area during 1962, and during 1963 up to 31 October as many as 2 053 with 488 deaths. Liquid lymph vaccine from the King Institute, Guindy, was used in the city of Madras, both during and following the pilot project. It was noted that 53 per cent of the cases occurred among the unvaccinated group.

The whole mass vaccination programme is being repeated this time with freeze-dried smallpox vaccine. Similarly, a mass vaccination programme in Calcutta has been undertaken, at the insistence of the Centre, with freeze-dried smallpox vaccine.

2.9 Simultaneous Independent Assessment and Evaluation of the Programme

The smallpox eradication programme carried out in the Union Territory of Delhi was subjected to an independent assessment and evaluation by a special committee in March 1963. Representatives from the World Health Organization and the USAID were associated with the work of this Committee. The Committee brought out its report in May 1963, highlighting the lacunae responsible for the continuance of the epidemic conditions in Delhi, and the recommendations of that Committee are under implementation. In September 1963 the National Institute of Communicable Diseases at Delhi was entrusted with the assessment and evaluation of the programme in eight districts in different parts of the country, where, by then, more than 80 per cent coverage of the population in those respective areas had been attained. By now, the assessment has been carried out in three districts in different States (Mysore District in Mysore State, Palghat District in Kerala State, and Chingleput District in Madras State). Two of the reports received so far have revealed that a large percentage of smallpox cases occurred among the unvaccinated population, particularly those belonging to the vulnerable age-group, i.e. under five years of age. Some other important findings as a result of these independent assessments serve as good pointers for remedying the defects in the programme to achieve the ultimate objective of eradication.

2.10 Co-ordination of the Programme in all the States and Territories

The Deputy Director General of Health Services in charge of the smallpox eradication programme at the Centre regularly visits the States and Union Territories to acquaint himself first-hand with the progress of the programme. He also goes out into the field to see the vaccination teams in actual operation, checks the vaccinial status of the population covered and sends out regular tour notes after visiting the States so that the deficiencies noted may be remedied by the respective State Governments. The Union Health Minister and the Secretary of the Ministry of Health, Government of India, during their visits to different States, are supplied with detailed information about the progress of the programme in each State so that they may take up at the Government level any deficiencies and lacunae, with a view to remedying them without delay.

The Regional Deputy Directors in charge of the national malaria eradication programme, during their visits to areas where malaria eradication operations are going on, also collect information on the progress of the national smallpox eradication programme and give this to Centre. Also if the surveillance workers in malaria organization, find cases of smallpox during their house-to-house visits, they immediately report them to the nearest health authority of the area.

2.11 Advisory Committee

To advise the Government of India on all technical and administrative matters pertaining to the implementation of the national smallpox eradication programme, an Advisory Committee, consisting of technical experts drawn from Indian Council of Medical Research, health administrators, epidemiologists and those entrusted with vaccine manufacture, was constituted by the Ministry of Health on 8 June 1962, with the Director-General of Health Services as ex-officio Chairman. All technical difficulties arising in States during the implementation of the programme are referred by the Ministry of Health to this advisory committee, for expert advice and guidance. This committee has met three times so far and has given necessary advice after full deliberations at which representatives of international agencies (WHO, USAID and UNICEF, who attend the Advisory Committee's meetings as observers), have made a notable contribution.

2.12 Help from International Agencies

The Government of the U.S.S.R. has given an initial free gift of 250 million doses of freeze-dried smallpox vaccine, which started arriving in quarterly instalments from February 1962, and, at the request of the Government of India, has agreed to give a further donation of 200 million doses in monthly instalments of 10 to 11 million doses beginning in January 1964. The World Health Organization and UNICEF are assisting in the production of freeze-dried vaccine in the country: two institutes, viz. the State Vaccine Institute, Patwadangar (Uttar Pradesh) and the King Institute, Guindy (Madras), have already been supplied with the necessary equipment for the manufacture of freeze-dried vaccine, and personnel from both institutes have been trained at the Lister Institute in the manufacturing techniques and in the maintenance of refrigeration equipment. Two more institutes, viz. the Vaccine Institute, Belgaum, and

the Institute of Preventive Medicine, Hyderabad, have similarly been selected for the production of freeze-dried vaccine, and personnel from them will be proceeding in March 1964 for necessary training. The Vaccine Institute, Patwadangar, has already produced trial batches conforming in potency to WHO standards.

Our ultimate aim is for each of these four institutes to be in a position to produce 25 to 30 million doses annually, to meet our needs of 100 to 120 million doses for the maintenance phase of the programme. The Government of India has received a sum of 10 million rupees under P.L. 480 Funds, for the implementation of this national programme.

3. Synchronization of Smallpox Eradication Programmes in Adjoining Countries

The aim of eradicating smallpox makes it desirable for all adjoining countries to launch synchronized mass vaccination campaign. If the danger of importation of the disease to other countries where it has been eradicated it is to be removed, there should be no reservoirs of infection in either our country or in adjoining ones.

References

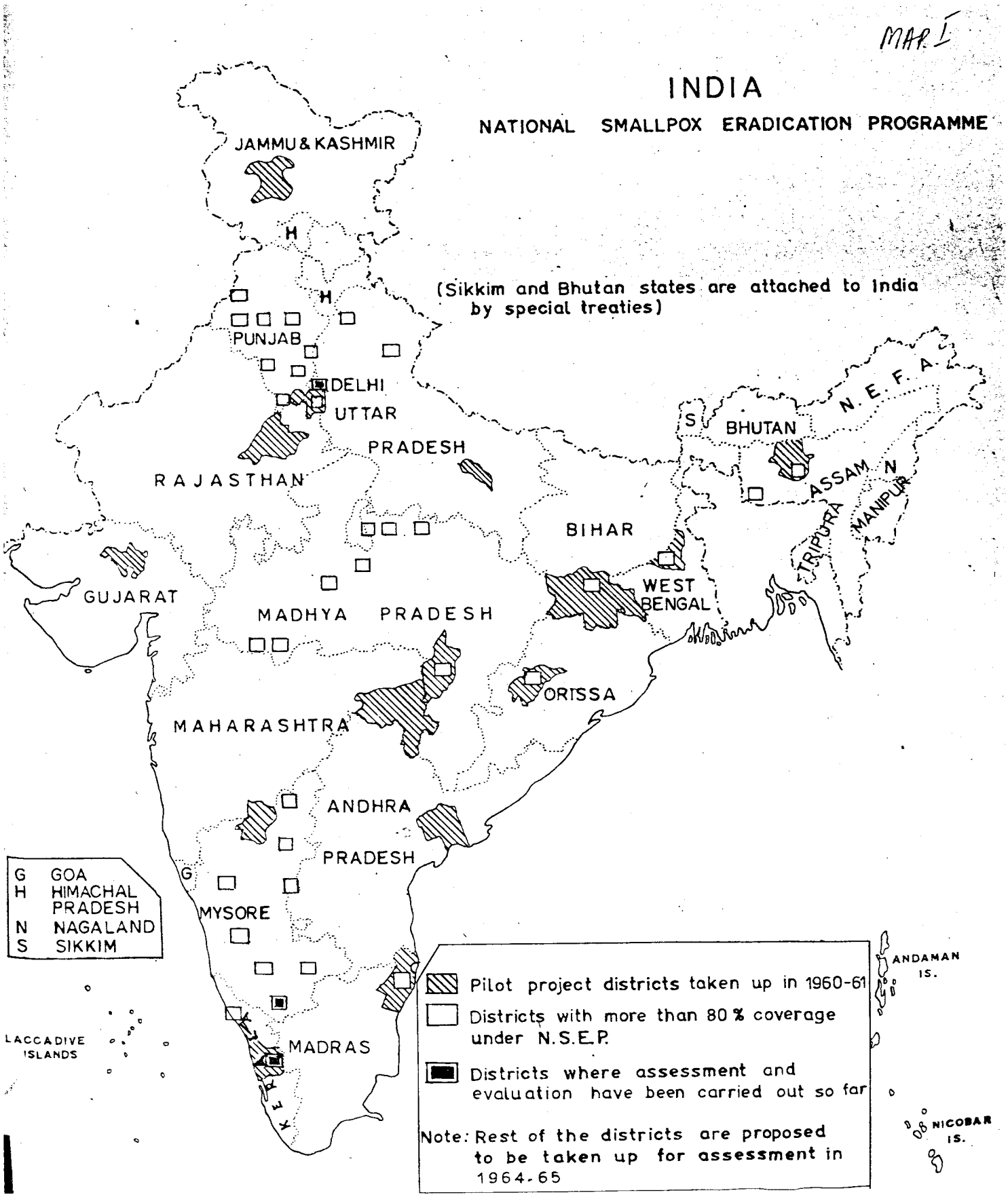
(1) Report of Central Expert Committee of Indian Council of Medical Research on Smallpox, Government of India, 1959.

(2) Report of the Smallpox Pilot Project Committee, Government of India, 1961.

MAP I

INDIA

NATIONAL SMALLPOX ERADICATION PROGRAMME



APPENDIX I

TABLE GIVING PRECISE INFORMATION ABOUT THE WORK OF THE PILOT PROJECTS

State	Name and total population of the project area	Total number of vaccinations	Percentage of population covered	No. of vaccinators	No. of inspectors	No. of vaccinations done by a vaccinator per day	Average number of working days per month	Successful rates	
								% P.V.	% R.V.
1	2	3	4	5	6	7	8	9	10
Andhra Pradesh	West Godavari, 17 lakhs	7,63,879	45	70	14	71.8	23	N.A.	N.A.
Assam	Kamrup, 17 lakhs	3,01,539	18	70	13	45	N.A.	93.2	68.2
Bihar	Ranchi, 10 "	3,37,443	33.7	75	15	52	N.A.	N.A.	N.A.
Delhi	Delhi, 25 "	11,00,802	27.5	170	34	50	N.A.	98	40
Gujarat	Mehsana, 15 "	11,33,677	66.6	70	14	85	N.A.	N.A.	N.A.
Himachal Pradesh	Bilaspur, 95,000	53,394	55	6	-	109	N.A.	91.7	88
Jammu & Kashmir	Srinagar & Anantnag, 12 lakhs	5,17,963	43.2	69	14	66	N.A.	88.6	65.8
Kerala	Kozhikode, 12 lakhs	7,67,027	64	70	14	95	N.A.	99.6	69
Madras	Chingleput, 17 lakhs	10,55,230	62.1	140	28	80	N.A.	95	30 to 50
Madhya Pradesh	Durg, 15 lakhs	7,43,733	49.6	105	21	70	24	N.A.	N.A.
Maharashtra	Chanda, 6 "	5,62,613	93.8	70	14	42	N.A.	90	47
Mysore	Bijapur, 15 "	10,37,000	66.7	105	21	64	N.A.	91	10.5
Orissa	Bolangir, 10 "	7,63,536	76.4	70	14	84	N.A.	93.6	80
Punjab	Gurgaon, 10 "	8,68,875	86.9	70	14	85	24	92.3	53.2

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1	2	3	4	5	6	7	8	9	10
Rajasthan	Jaipur, 13 lakhs	3,36,437	25.9	.70	14	27	N.A.	N.A.	N.A.
Utter Pradesh	Sultanpur, 15 "	9,59,548	64	100	20	94	22	94	65 to 70
East Bengal	Birbhum, 12 "	10,32,337	86	94	23	77	N.A.	96.6	50.6

P.V. - Primary Vaccinations; R.V. - Revaccinations; N.A. - Not available

N.B. 1. The number of persons vaccinated, in relation to the population of the project areas, is noticeably low in most States. Maharashtra, Punjab and West Bengal, however, have done well in this regard. The main reason for the low achievement level has been the late start of the projects in most instances, the closing date of the projects has been same in all the States. Approximately 20 per cent of the population approached refused or evaded vaccination for various reasons.

2. The output of work of an average vaccinator per working day shows great variation from State to State.

3. Success rates of primary vaccinations are satisfactory on the whole, but revaccination success rate figures are erratic.

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Appendix II

REPORTED CASES OF SMALLPOX IN PILOT PROJECT DISTRICTS
BEFORE AND AFTER THE PROJECT

Name of the State	1958		1961		1962		1963 upto 30.11.63	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Andhra Pradesh (W.Godavari)	1 357	275	260	59	107	27	109	20
Assam (Kamrup)	88	9	75	5	30	8	-	-
Bihar (Ranchi)	904	215	1	-	-	-	-	-
Gujarat (Mahasana)	302	96	2	-	3	-	95	13
Kerala (Kozhikode)	39	9	317	62	109	44	98	22
Madras (Chingleput)	1 234	357	113	34	78	22	68	10
Madhya Pradesh (Durg)	353	44	220	18	40	10	170	3
Maharashtra (Chanda)	2 560	174	35	7	46	7	25	1
Mysore (Bijapur)	241	26	26	5	78	20	77	21
Orissa (Bolangir)	1 462	358	9	-	30	-	-	-
Punjab (Gurgaon)	1	-	92	4	1	-	68	10
Rajasthan (Jaipur)	865	107	543	145	450	79	394	68
Uttar Pradesh (Sultanpur)	51	9	20	8	72	26	177	85
West Bengal (Birbhum)	1 579	492	33	5	5	1	59	20
Delhi	357	137	914	217	175	39	474	95
Himachal Pradesh (Bilaspur)	5	1	6	-	-	-	-	1

- No information

COST OF ONE SMALLPOX ERADICATION UNIT COVERING, IN TWO YEARS, THREE DISTRICTS/AREAS EACH WITH A POPULATION OF NOT LESS THAN 10 LAKHS

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1. NON-RECURRING

		Rs.
(1)	One van with Public Address equipment	14 200
(2)	One jeep at the rate of Rs.13,200	13 200
(3)	One truck (one ton)	20 000
(4)	72 cycles at the rate of 200 each	14 400
(5)	60 vaccination kits at the rate of Rs. 80 each	4 800
(6)	3 refrigerators at the rate of Rs.2 000 each	6 000
(7)	60 Thermos-flasks at the rate of Rs.5 each	300
	Total	Rs.72 900 for one Unit.

2. RECURRING

		Total for 12 months Rs.
(1)	One supervising medical officer at district headquarters with a consolidated pay and allowances of Rs.350/- p.m.	4 200
(2)	One steno-typist/clerk at the rate of Rs.150/-p.m.	1 800
(3)	One para-medical assistant at the rate of Rs.200/-	2 400
(4)	3 drivers at the rate of Rs.100/- p.m.	3 600
(5)	60 vaccinators at the rate of Rs.130/- p.m. (12 teams of 5 vaccinators)	93 600
(6)	12 sanitary inspectors at the rate of Rs.175/- p.m. (One sanitary inspector for a team of five vaccinators)	25 200
(7)	12 enumerators at the rate of Rs.130/- each	18 720
(8)	2 health educators at the rate of Rs.200/- p.m.	4 800
(9)	12 Class IV staff at the rate of Rs.60 p.m. each. (One for each team of five vaccinators and one sanitary inspector).	8 640

		Rs.
(10)	Vaccine at the rate of 10 nP per dose for 2 50 000 additional doses	25 000
(11)	Contingencies and T.A.	20 000
	Total	207 960

Rs.2 08 000 for one unit.

i.e. Rs.4 16 000 for one unit for two years.

N.B. i) The personnel mentioned above will draw pay and allowances on the scales applicable to them under the State Government rules.

ii) The provision for vaccine (Rs.25 000 per year) has been made on ad-hoc basis in view of expected free supply of freeze dried vaccine from the U.S.S.R.

iii) Subject to the financial limits indicated in this annexure, cycles may be substituted by animal driven transport necessitated by local conditions.

3. NATIONAL SMALLPOX ERADICATION PROGRAMME

Headquarters Organization in Each State

		Total for 12 months Rs.
(1)	One assistant Director of Health Services Rs.1 000/- (consolidated)=Rs.1 000/- x 12	12 000
(2)	One statistical officer at the rate of Rs.350/- (consolidated)=Rs.350/- x 12	4 800
(3)	One P.A. for A.D.G.H.S. at the rate of Rs.300/- (consolidated)=Rs.300/- x 12	3 600
(4)	One clerk at the rate of Rs.100/- (consolidated) = Rs.100/- x 12	1 200
(5)	One Class IV staff at the rate of Rs.80/- p.m. (consolidated) = Rs.80/- x 12	960
(6)	T.A. and contingencies, etc.	13 040
	Total	Rs.35 000

OR

Rs.1 05 000 for three years

APPENDIX IV

NATIONAL SMALLPOX ERADICATION PROGRAMME

STATEMENT INDICATING VACCINATIONS PERFORMED AS PER INFORMATION AVAILABLE UPTO 2ND JANUARY 1964

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Sl.No.	Name of State/ territory	Population in lakhs according to 1961 Census	Vaccinations performed			Upto what date	Percentage of population covered so far taking population of State as a whole.
			Primary vaccination	Revaccination	Total vaccinations		
1	2	3	4	5	6	7	8
1.	Andhra Pradesh	359.78	10,14,676	86,84,505	96,99,181	30.11.63	26.9 %
2.	Assam	118.60	10,58,862	38,78,783	49,37,645	15.11.63	41.6 %
3.	Bihar	464.57	7,55,364	119,22,234	126,77,598	16.11.63	27.3 %
4.	Gujrat	206.21	7,36,496	68,05,699	75,42,195	31.10.63	36.5 %
5.	Jammu & Kashmir	35.83	2,66,947	25,03,397	27,70,344	30.11.63	77.3 %
6.	Kerala	168.75	8,78,607	70,16,524	78,95,131	30.11.63	46.7 %
7.	Madhya Pradesh	323.94	25,57,723	124,57,080	150,14,803	31.10.63	46.3 %
8.	Madras	336.50	7,29,620	131,51,817	138,81,437	26.10.63	41.2 %
9.	Maharashtra	395.05	12,33,832	116,31,806	128,65,638	15.10.63	32.5 %
10.	Mysore	235.47	11,48,915	146,45,801	157,94,716	30.11.63	67.0 %
11.	Orissa	175.66	8,57,576	49,34,396	57,91,972	31.10.63	32.9 %
12.	Punjab	202.98	13,95,132	141,51,903	155,47,035	30.11.63	76.5 %
13.	Rajasthan	201.46	6,90,258	46,28,733	53,18,991	31.10.63	26.4 %
14.	Uttar Pradesh	737.52	29,56,073	192,38,829	221,94,902	31.10.63	30.0 %
15.	West Bengal	349.68	13,97,805	122,95,183	136,92,988	31.10.63	39.1 %
16.	Himachal Pradesh	13.50	52,804	4,91,543	5,44,347	30.9.63	40.3 %

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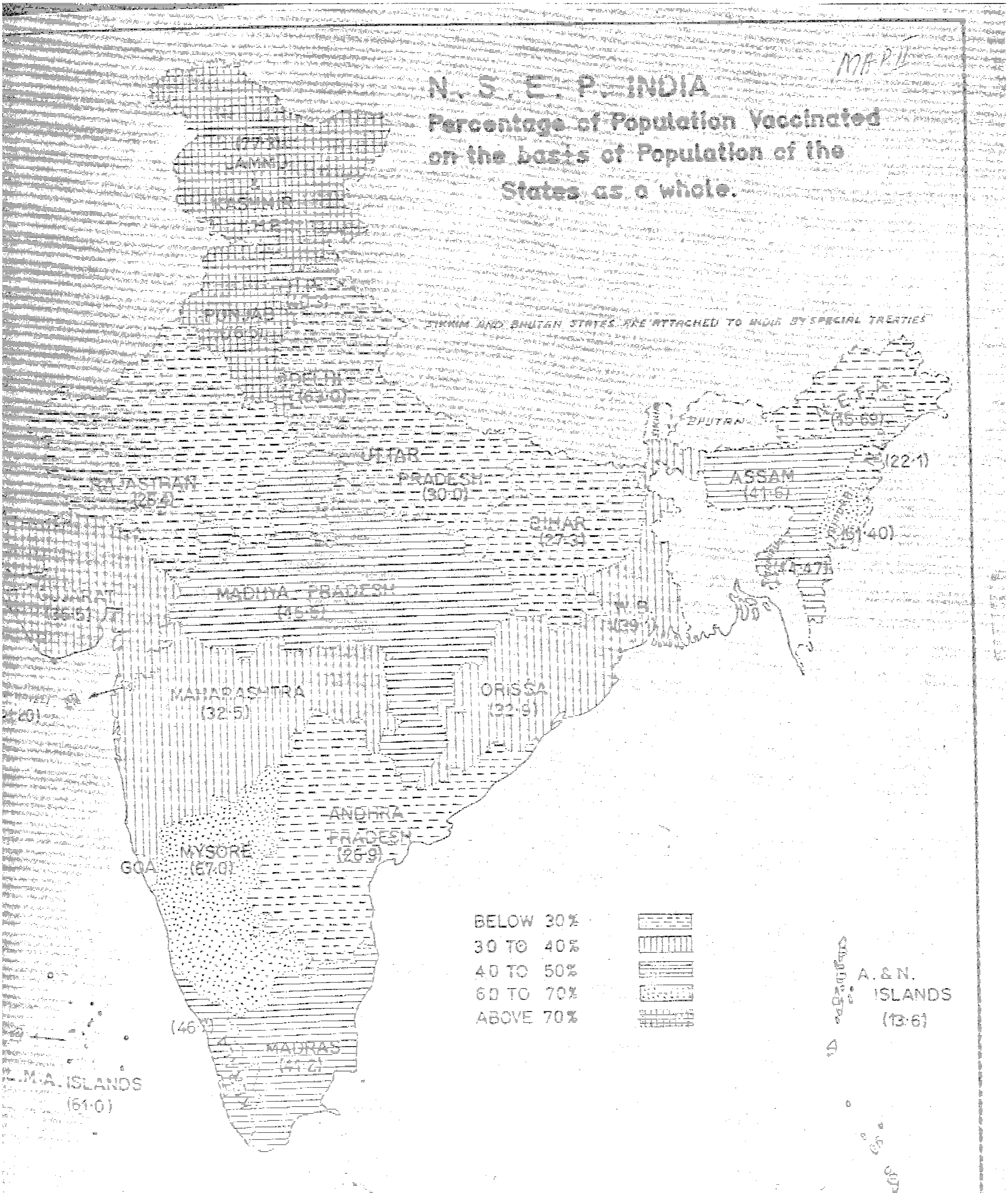
1	2	3	4	5	6	7	8
17.	Delhi	26.44	3,78,739	39,30,114	43,08,853	30.11.63	*63.00 %
18.	Manipur	7.78	60,370	2,85,818	3,46,188	30. 6.63	44.47 %
19.	Tripura	11.41	1,12,499	5,88,512	7,01,011	31.10.63	61.40 %
20.	A & N Islands	0.63	1,044	7,552	8,596	31.10.63	13.6 %
21.	L.M.A. Islands	0.24	2,504	12,143	14,647	30. 9.63	61.00 %
22.	N.E.F.A.	3.30	24,151	27,667	51,818	30. 9.63	15.69 %
23.	Dadra & Nagar Haveli	0.58	2,377	33,608	35,985	30. 9.63	61.20 %
24.	Nagaland	3.69	8,447	73,231	81,678	31.10.63	22.1 %
		437.50	18,320,821	153,396,878	171,717,699	Upto 2.1.64	39.2 %

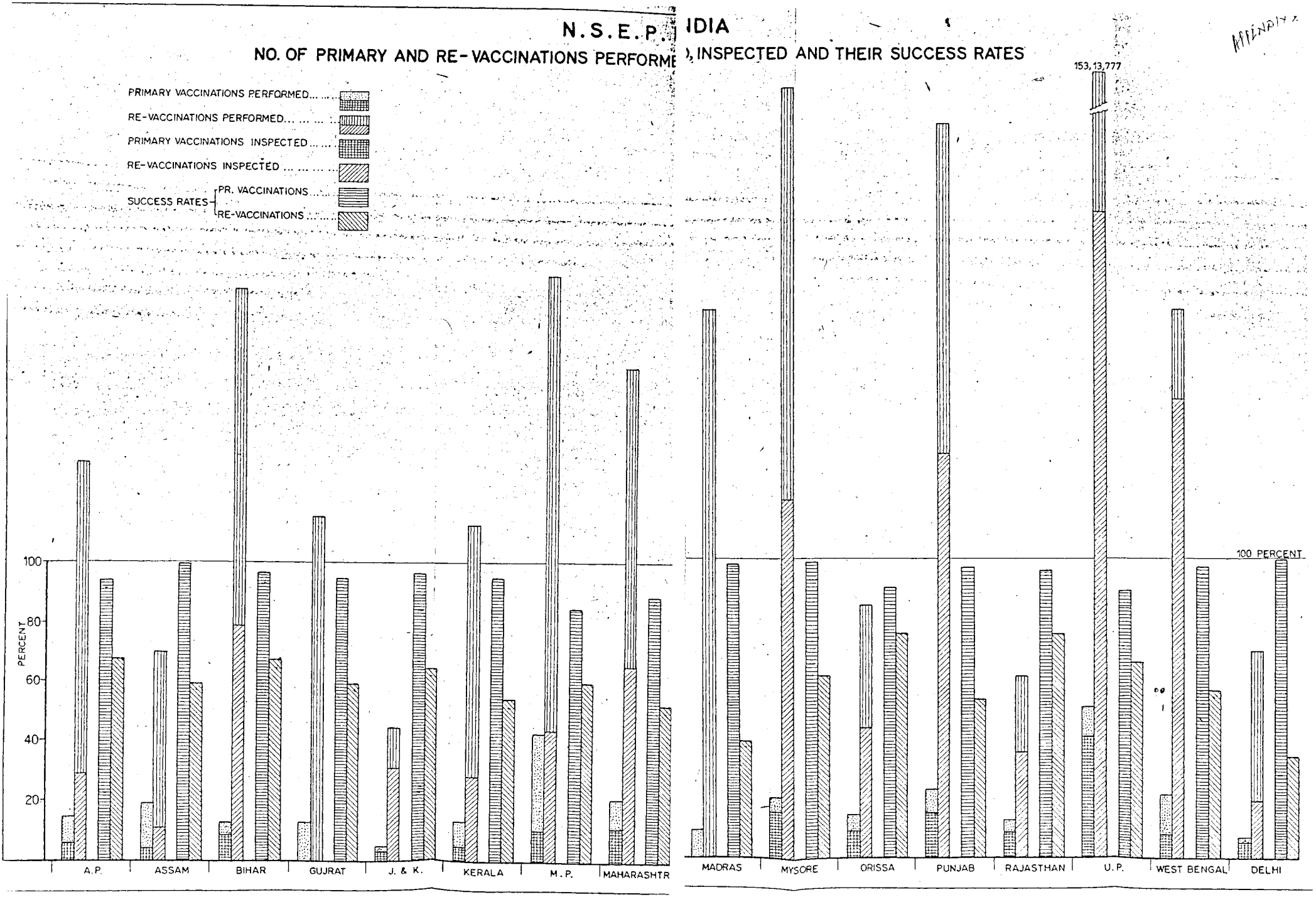
These figures also include the vaccination performed during the Pilot Project Period.

*According to Assessment Committee Report.


MAP II
N. S. E. P. INDIA
Percentage of Population Vaccinated on the basis of Population of the States as a whole.
SIKKIM AND BHUTAN STATES ARE ATTACHED TO INDIA BY SPECIAL TREATIES
JAMMU
KASHMIR
PUNJAB
BHUTAN
UTTAR PRADESH (30·0)
RAJASTHAN
ASSAM (41·6)
(22·1)
BIHAR (27·3)
GUJARAT
MADHYA PRADESH
MAHARASHTRA (32·5)
ORISSA (32·9)
ANDHRA PRADESH (26·9)
GOA
MYSORE (67·0)
MADRAS
(46)
L.M.A. ISLANDS (61·0)
A. & N. ISLANDS (13·6)
BELOW 30%
30 TO 40%
40 TO 50%
60 TO 70%
ABOVE 70%

N.S.E.P. IDIA

NO. OF PRIMARY AND RE-VACCINATIONS PERFORME), INSPECTED AND THEIR SUCCESS RATES



Appendix VI

TEXT OF LETTER FROM DR K.M. LAL, DEPUTY DIRECTOR GENERAL OF HEALTH SERVICES (SP), GOVERNMENT OF INDIA TO THE GENERAL SECRETARY OF THE INDIAN MEDICAL ASSOCIATION, DELHI, DATED 16 JUNE 1963

Subject: Observance of 'Smallpox Eradication Week' beginning 25 September 1963

"I had the privilege of addressing you last year on 10 of September on the subject of observance of 25th September, 1962 as 'Smallpox Eradication Day' by all branches of the Indian Medical Association and had sought your assistance by apprising members of all your branches about the problem of smallpox in our country and the launching of National Smallpox Eradication Programme to rid our country of this scourge and the cooperation extended in this connection is gratefully acknowledged.

"This year a whole week beginning 25th September, 1963 is being observed as 'Smallpox Eradication Week' to focus more concerted attention on this perfectly preventible disease and to make members of the public appreciate and realise that vaccination against smallpox is for their own good and that untold suffering, misery and disfigurement can be avoided, if everyone gets every member of the household vaccinated.

"Members of the Indian Medical Association have a vital part to play in the successful implementation of this national programme. If every member of the profession were to take on himself/herself to get every member of the family of which he/she is a treating physician, successfully vaccinated against smallpox, we would achieve the much-needed coverage which will help us ultimately in stopping the transmission of this disease.

"It is all the more important that in 1963, which happens to be the year of periodical cyclicity of the disease, we achieve maximum coverage of the population and ensure in future years that all new borns are vaccinated; there is regular revaccination of children at ages 5, 10 and 15 and all contacts of cases of smallpox.

"Members of the Association, if they wish to vaccinate themselves and are fully conversant with the technique of vaccination and with the re-constitution of freeze-dried vaccine, can get free supplies of vaccine from the Medical Officer in charge of the eradication unit in his district and in return, necessary record about people successfully vaccinated, with their names, age, sex, etc. has to be provided. Members of profession, who wish to get families under their care vaccinated under their supervision, are requested to come in touch with Medical Officers in charge of eradication units nearest to them and vaccinators with vaccine will be sent to afford necessary protection at a time and date convenient to both.

"For the information of the members of the profession, a copy of the revised instructions that have been issued concerning the reduction in the number of insertions is also enclosed.

"It is requested that all branches may please be requested to give their whole-hearted cooperation in the observance of 'Smallpox Eradication Week' this year and make an all out effort to get maximum coverage of their patients during this week and also subsequent to it by either vaccinating themselves or by getting them vaccinated with the help of the staff of the eradication units working in their districts.

"Copies of this letter are being endorsed to the Administrative Medical Officers/Directors of Public Health/Deputy Directors and Assistant Directors in charge of the National Smallpox Eradication Programme and Health Officers of Corporations with a request that instructions contained therein be circulated for the guidance and observance of all Medical Officers in charge of the eradication units and their staff."

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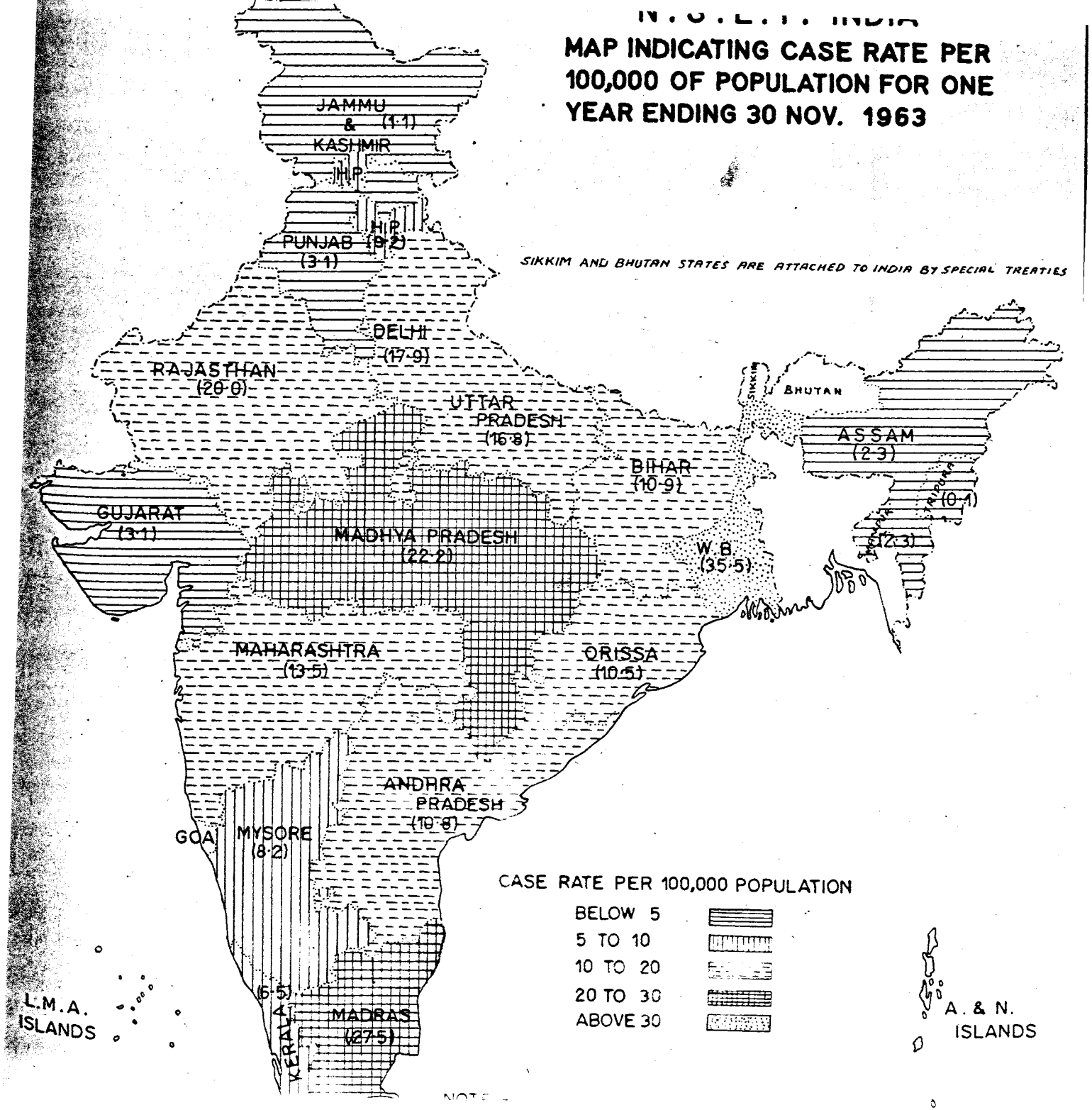
Copies sent to the Administrative Medical Officers/Directors of Public Health/Deputy Directors and Assistant Directors in charge of the National Smallpox Eradication Programme with a request that the instructions contained in the above letter addressed to the Indian Medical Association may kindly be circulated to all District Medical Officers of Health and Medical Officers in charge of the Smallpox Eradication Programme requests arising after the receipt of this circular from members of the Indian Medical Association may kindly be met to the fullest possible extent.


MAP INDICATING CASE RATE PER 100,000 OF POPULATION FOR ONE YEAR ENDING 30 NOV. 1963
SIKKIM AND BHUTAN STATES ARE ATTACHED TO INDIA BY SPECIAL TREATIES
JAMMU & KASHMIR (1·1)
H.P.
PUNJAB (9·2)
HP (3·1)
DELHI (17·9)
RAJASTHAN (20·0)
UTTAR PRADESH (16·8)
BIHAR (10·9)
SIKKIM
BHUTAN
ASSAM (2·3)
(0·1)
(12·3)
GUJARAT (3·1)
MADHYA PRADESH (22·2)
W.B. (35·5)
MAHARASHTRA (13·5)
ORISSA (10·5)
ANDHRA PRADESH (10·8)
GOA
MYSORE (8·2)
(6·5)
KERALA
MADRAS (27·5)
L.M.A. ISLANDS
A. & N. ISLANDS
CASE RATE PER 100,000 POPULATION
BELOW 5
5 TO 10
10 TO 20
20 TO 30
ABOVE 30

Appendix VII

COMPLICATIONS FOLLOWING VACCINATION WITH FREEZE DRIED VACCINE

S.No.	State	Symptomology simulating post-vaccinial encephalitis, including meningenial syndrome		Severe constitutional symptom accepted by swelling of auxiliary glands	Generalized vaccinia	Tatanus following vaccination
(1)	(2)	(3)		(4)	(5)	(6)
		Cases	Deaths			
(1)	Andhra Pradesh	4	4	-	Nil	Nil
(2)	Assam	Nil		Yes	Few cases with both vaccines	
(3)	Bihar	Nil		Yes	No	
(4)	Gujarat	1 (only sequale of foot drop reported)	Nil		Allergic rash reported in 0.1% of cases	3 cases of tatanus reported
(5)	Madras	Nil		Nothing particular to report	Stray cases reported with both vaccines	-
	(a) Madras Corporation	Nil		Yes, cases with a very successful take	one case	-
(6)	Mahrashtra (Bombay Corporation)	3	Nil	-	-	-
(7)	Madhya Pradesh	3	Nil	Yes	No	-
(8)	Orissa	Nil		Yes, but identical with both vaccines	-	5 cases of tetanus reported
(9)	Punjab	1	1	Yes	-	-
(10)	Rajasthan	Nil		Yes	-	-
(11)	U.P.	Nil		Yes	4 cases	-
(12)	West Bengal	Nil		-		Yes, few cases of tetanus and cellutites reported where cow dung was applied.

(1)	(2)	(3)	(4)	(5)	(6)
(13)	(a)New Delhi Municipal Committee	Nil	Yes	6 or 7 cases	Nil
	(b)Municipal Corporation of Delhi	Nil	Yes	17 cases	3 cases of tetanus following application of cow dung
(14)	N.E.F.A.	Nil	Yes	Nil	-