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Saturday, 27 January 1968, at 9.30 a.m.

CHAIRMAN: Dr K. N. RAO

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<u>Present</u>	<u>Designating Country</u>
Dr K. N. RAO, <u>Chairman</u>	India
Professor P. MACÚCH, <u>Vice-Chairman</u>	Czechoslovakia
Dr P. D. MARTÍNEZ, <u>Vice-Chairman</u>	Mexico
Dr D. BADAROU, <u>Rapporteur</u>	Dahomey
Dr M. P. OTOLORIN, <u>Rapporteur</u>	Nigeria
Professor E. AUJALEU	France
Dr J. C. AZURIN	Philippines
Dr A. BENYAKHLEF	Morocco
Dr E. A. DUALEH	Somalia
Dr A. ENGEL	Sweden
Dr C. K. HASAN	Pakistan
Dr A. A. AL-HURAIABI	Yemen
Dr H. M. EL-KADI	United Arab Republic
Dr O. KEITA	Guinea
Dr I. KONE, (alternate to Dr B. N'Dia Koffi)	Ivory Coast
Dr L. von MANGER-KOENIG	Federal Republic of Germany
Professor I. MORARU	Romania
Dr R. A. MORENO	Panama
Dr V. V. OLGUÍN	Argentina
Dr PE KYIN	Burma
Sir William REFSHAUGE	Australia
Dr D. D. VENEDIKTOV	Union of Soviet Socialist Republics
Dr M. VILLA	Peru
Dr J. WATT	United States of America

Secretary: Dr M. G. CANDAU
Director-General

Representatives of Intergovernmental Organizations

United Nations Children's Fund

Sir Herbert BROADLEY

United Nations Relief and Works Agency for
Palestine Refugees in the Near East

Dr M. SHARIF

International Labour Organisation

Mr E. ARGIROFFO

Intergovernmental Committee for European
Migration

Dr C. SCHOU

Representatives of Non-governmental Organizations

Council for International Organizations of
Medical Sciences

Dr V. FATTORUSSO

International Committee of Catholic Nurses

Miss L. CHARLES-ROQUES

International Pharmaceutical Federation

Dr E. LANG

League of Red Cross Societies

Professor A. LIBOV

1. SMALLPOX ERADICATION PROGRAMME: Item 2.4 of the Agenda (Resolution WHA20.15; Document EB41/12 and Corr.1)

Dr RAŠKA, Director, Division of Communicable Diseases, said that information pertaining to the status and development of the smallpox eradication programme had been compiled by the Director-General in compliance with resolution WHA20.15 and was presented in document EB41/12.

The interest and response exhibited by both endemic and non-endemic countries during the first year of the intensified global programme had been gratifying. It was believed that twenty-nine countries currently experienced endemic smallpox. During 1967, planned programmes of eradication had been commenced in sixteen of them and at least six additional countries would commence programmes during 1968. Of the thirty-nine countries considered to be at special risk of smallpox reintroduction because of geography and population migration, almost half had initiated special programmes of vaccination and surveillance to ensure their continued status as smallpox-free areas. During 1969, it was hoped that eradication programmes might be fully operative in all the endemic countries.

Although the number of countries with endemic smallpox had not increased during 1967, reported cases of smallpox had risen sharply. That increase was accounted for almost solely by increased numbers of cases in India and Pakistan, both of which countries had experienced widespread severe outbreaks. The final total of cases would also show a slight increase in Brazil and in the countries of West Africa. Although that increase might reflect a greater incidence of disease, some of the increase could be accounted for by improved reporting, which had occurred concurrently with the development of eradication programmes in those areas.

The importance of smallpox to all countries of the world and the need for a co-ordinated eradication effort had been well illustrated during 1967. Eight smallpox-free countries geographically contiguous to endemic areas had experienced importations of disease, and an additional five countries, geographically more remote, had experienced introductions. Fortunately, active containment measures had succeeded, in each instance, in preventing the re-establishment of endemic smallpox.

Although significant progress was being made in all regions, it was the African Region which had recorded the best progress to date. Programmes had begun in twenty-one countries. In nineteen countries of West and Central Africa, over twenty-five million of the 110 million residents had been vaccinated in the past twelve months. Jet injectors had been extensively and successfully employed. Assessment of those programmes revealed coverage rates consistently exceeding eighty per cent. and, in many areas, reaching ninety to ninety-five per cent. Take-rates for primary vaccinations were consistently ninety-five per cent. or better. In addition to activities in those nineteen countries, programmes were beginning in the Democratic Republic of the Congo, Zambia and Tanzania.

In South America, data indicated that only Brazil was currently experiencing endemic smallpox, although both Argentina and Colombia had reported repeated introductions. The programme in Brazil had been developed as a national programme; since January, more than ten million persons had been vaccinated; the surveillance system had been materially strengthened and plans had been developed to intensify the programme during 1968.

In the Eastern Mediterranean Region, smallpox was confined principally to two countries, Pakistan and Ethiopia. Plans of operations had been developed for programmes in both East and West Pakistan and would begin in 1968. An intensified programme of vaccination and surveillance had begun in Sudan and it was hoped that in 1968 active programmes would be inaugurated in Ethiopia and other countries bordering the endemic areas.

In South-East Asia, programmes supported by WHO in Nepal and Afghanistan were being strengthened and a programme in Indonesia would begin early in 1968. Burma, which had initiated an eradication programme in 1965, had reported no cases in 1967. Of greatest concern was the programme in India. During 1967, India had recorded more cases of smallpox than for any year, save one, since 1959. That high incidence had been recorded at the end

of a three-year mass vaccination effort during which more than 500 million vaccinations were reported to have been performed. The World Health Organization and the Government of India had conducted an extensive assessment of the programme, the results of which were being studied.

During 1967, a variety of steps had been taken to develop a sound technical and operational strategy for the programme. A detailed handbook for smallpox eradication had been developed and printed; a scientific group on smallpox eradication had been convened and the regular publication of a quarterly surveillance report detailing the progress and development of the programme had been begun. During 1968, manuals dealing with vaccine production and laboratory diagnosis of smallpox would be developed. A seminar on smallpox eradication had been conducted in December 1967 in Bangkok for countries in Asia and seminars were planned for 1968 and 1969 for countries in the other regions.

Significant progress was being made with respect to the production and quality of freeze-dried vaccine. Virtually all endemic countries and many of the non-endemic countries had now abandoned the use of the unsatisfactory liquid vaccine; through provision of vaccine production equipment by WHO and UNICEF, vaccine production in the endemic countries was increasing. The quality of the vaccine was also improving. While in 1965, WHO had tested only twelve lots of vaccine, almost one hundred lots from eighteen countries had been tested in 1967. Consultation as well as fellowship training had been provided to many of the laboratories.

The need for donations of freeze-dried vaccine was still great and, although progress was being made in vaccine production in many countries, the needs for the programme were growing even more rapidly. As was shown in the table in section 2 of part III of document EB41/12, thirteen million doses of vaccine had been distributed by WHO to programmes during 1967 compared to three million doses in the preceding year. The anticipated needs for 1968 and 1969 were fifty-six and sixty million doses respectively. Those needs were in addition to requirements currently being met by the Soviet Union and the United States of America on a bilateral basis. The Soviet Union was providing annually on a bilateral basis over 110 million doses and the United States of America forty million doses to endemic countries.

The development of the jet injector and the bifurcated needle might help to alleviate certain of the acute needs for vaccine. The jet injectors, although requiring a product without bacterial contamination, could extend the coverage of a given supply of vaccine tenfold because of the smaller dose required. The bifurcated needle which permitted the removal from a vaccine vial of a smaller but still adequate quantity of vaccine for vaccination was to be introduced early in 1968. Use of that needle might extend vaccine supplies two to five times. Vaccination programmes, however, had to be planned carefully, in order to ensure that an adequate number of persons could be vaccinated each day by each team or vaccinator, if the savings made possible through use of the jet injector and the bifurcated needle were to be realized.

The last four pages of the document set forth in a concise manner the over-all strategy for the programme as proposed by the scientific group on smallpox eradication that had met in October 1967. That group had pointed out the need in the eradication programme to carry out systematic programmes of vaccination, but had stressed that a case detection and surveillance system must be established from the inception of the programme to permit prompt application of containment measures. Both components were regarded as being of importance. The group had further proposed that the programme proceed through the well-defined stages of attack, consolidation and maintenance, and had proposed guidelines with respect to the appropriate activities to be carried out during each stage and the criteria to be observed with respect to the terminology employed.

The intensified eradication programme had begun auspiciously in 1967 and there was every reason to be optimistic with respect to its future success. No technical obstacles had been discovered. The difficulties, however, must not be underestimated, especially with respect to the large endemic areas of India and Pakistan. The effort must be sustained and the task given due importance.

Dr HASAN said that the success of an eradication campaign depended on the existence of an efficient public health service; lack of such a service, and, consequently, of adequate detection and surveillance facilities, had been the reason for the failure of the campaign in Pakistan. No developing country could afford to ignore the fact that there was no short cut to the establishment of basic public health services. Unfortunately, in many instances the building up of such services, which lacked the glamour of a mass eradication campaign, was accorded low priority. A new smallpox eradication campaign had been started in East Pakistan and, in view of the fact that WHO was providing assistance in the development of adequate detection and surveillance methods and in the use of jet injectors, bifurcated needles and freeze-dried vaccine, it was hoped that better results would be achieved. A similar campaign would shortly be started in West Pakistan.

Dr EL-KADI said that much work in smallpox eradication still remained to be done in Asia and Africa. With well organized programmes, the Organization would succeed in ridding the world of the scourge of smallpox. In that connexion, it should be noted that not a single case of the disease had occurred in the United Arab Republic in the past sixteen years; there had, however, been four imported cases.

It was important that all supplies of freeze-dried vaccine donated to the Organization should be properly tested. The fact that the first batches received from a given source had proved effective should not cause the Organization to relax its test standards for subsequent batches from the same source.

Professor von MANGER-KOENIG said that international assistance was the key to the success of any eradication campaign. The gap between the demand for and supply of freeze-dried vaccine had to be bridged because the global programme would not succeed unless supplies of vaccine were adequate. In 1968, the Federal Republic of Germany would contribute 2.5 million doses of freeze-dried vaccine, which it was hoped would be suitable for use with jet injectors, to WHO's stockpile. The fact that there was a need for further research in vaccines should not be overlooked; knowledge concerning the effects and potency of vaccines was still inadequate. The Organization should stimulate and co-ordinate research work in that matter.

Dr BADAROU said that smallpox was prevalent in all Africa south of the Sahara, but its distribution in the continent was irregular. Dahomey, where the disease was endemic, was one of the nineteen African countries which, with WHO assistance, were co-ordinating activities under the auspices of USAID. In that connexion, he wished to stress again how much his country had benefited from that bilateral and international assistance. As a result of it the smallpox eradication campaign was being conducted efficiently, and progress recorded was such as to encourage the hope that successful results would be achieved. In any case, the authorities had no right to fail. Complete success was essential if only to show the African populations that successful results could be achieved in disease eradication. Correct methods should be used from the start and efforts continued until the final objective had been achieved. He had noted with satisfaction the efforts made by the Organization - seminars, meetings, expert committees, publications, research and field work - in its endeavours to ensure the success of the programme.

Dr WATT said that it would be helpful if the Secretariat could provide information concerning estimated needs for the years immediately succeeding the programme's termination date. Even after completion of the programme there would be areas where the risk of outbreaks of the disease remained and where there would be a need for assistance in the supply of vaccine, training and staff. It was essential that governments should know exactly how much assistance they would be required to supply and for how long.

Dr VILLA said that more order should be introduced into the procedure for the supply and distribution of vaccine. The countries of the Region of the Americas did their best to supply each other's needs for vaccine. It sometimes happened, however, that, for one or

another reason, the stocks of a country which normally supplied its neighbours failed, thus necessitating the despatch of urgent appeals to WHO or other countries. In many countries, programmes were held up because of a lack of vaccine. It might be advisable for the Organization to assume the leadership in organizing an international system for the supply, distribution and quality control of vaccine. It might, for instance, be possible to arrange for countries requiring supplies of vaccine over and above those they produced themselves to obtain those supplies from three or four recognized laboratories.

Dr OLGUIN emphasized the importance of an effective public health structure in the implementation and follow-up of an eradication campaign. In that connexion, experience demonstrated that the active participation of all sections of population, including medical personnel, teachers, advisory and social workers, was essential to the success of any campaign. Attention should also be paid to the difficulty of vaccinating nomad populations. It was essential as well that the recognized international health regulations should be strictly observed. Similarly, it was necessary to ensure that countries within a given region co-ordinated their programmes. Countries' tasks had been greatly facilitated by the methodology established by the Organization and by the use of jet injectors in mass campaigns. In that connexion, the importance of adequate supplies of good quality vaccine could not be over-emphasized. In the Region of the Americas, countries which until recently had produced only liquid vaccines now produced freeze-dried vaccines. Argentina, for instance, would produce 7.5 million doses of freeze-dried vaccine in 1968 and fifteen million doses in 1969 and 1970. The amount was considered adequate for the various stages of the campaign which had already started in 1968. Field activities implied not only the application of a methodology and the provision of vaccine in adequate supplies, but also the simultaneous conduct of operational investigation which would identify procedures, make them more economical and ensure the practicability and effectiveness of activities. As was stated in the document, importance should be attached to epidemiological vigilance and the critical assessment of operational plans.

Professor AUJALEU asked if the Secretariat was aware of any reason why campaigns succeeded in some areas and failed in others. Would awareness of the reason for failure be of assistance in improving control procedures?

Dr AZURIN said that the situation with respect to Indonesia was a matter of concern to South-East Asia and the Western Pacific Region. The little information that had emerged from Indonesia in recent years was incomplete and not very reliable. It would be interesting to know whether a basic health service existed in that country, whether supplies of vaccine were adequate, what percentage of the population had been vaccinated and how many cases of smallpox had been reported in 1967. The existence of foci of infection in Indonesia obliged neighbouring countries to exert great efforts on immunization.

It would also be interesting to know to what extent the bifurcated needle was available, where it was available and how much it cost.

A global picture of the results so far achieved would be useful. In that connexion, the importance of organizing campaigns in non-infected areas at risk as well as in infected areas should be recognized.

Dr OTOLORIN said he had noted that 1967 was the year in which the global eradication programme had started. The Organization ought to take note of the considerable amount of bilateral assistance rendered, particularly by the United States of America, in the execution of the campaign. United States assistance had been afforded on a very large scale and consisted of the supply of technical assistance, vehicles and staff as well as of vaccine. Similar assistance from other developed countries, in accordance with their means, would ensure the success of the programme. As Dr Badarou had said, the amount of assistance being received by Africa was such that failure was unthinkable; in the public health campaign which had preceded the smallpox eradication campaign, the public had been promised that if it participated fully with the officials smallpox would be eradicated for ever.

News of the failures recorded in India and Pakistan was not reassuring. It might be advisable to re-examine the whole strategy of global eradication and even, perhaps, confine the use of the word "eradication" to the very last phases of a campaign, using the word "control" in the initial stages. Whatever the type of vaccine used, a single vaccination would not suffice to ensure permanent immunization; currently, revaccination every three years was necessary. That meant that the public health services had to be in a position to carry out revaccination programmes. It had to be admitted, however, that the campaign had been started in the full knowledge that in many countries the public health services would not be able to perform the tasks required of it. A review of the strategy adopted might therefore be helpful.

Professor MACÚCH said that a global approach to the problem might be the only means of eradicating smallpox. Progress reports from India and Ethiopia on the smallpox campaign were causes for concern. Every effort should be made, even, if necessary, by a rational redistribution of financial resources, to eliminate the weak links in the chain. It would be interesting to know if the success of the smallpox campaign was threatened by the inadequate mobilization of the necessary means and resources in some regions.

Dr KEITA, referring to the question of bilateral assistance, said that having decided to help nineteen countries in central and west Africa, the United States of America had supplied those countries with equipment, vaccine, vehicles and control staff. It had, therefore, stimulated the mobilization of efforts in each country, which would permit the achievement of satisfactory results. Guinea was convinced that with that method it would, in a space of three years, succeed in eliminating smallpox. Professor Aujaleu had asked why some campaigns failed. One of the reasons for their failure was the lack of bilateral assistance. Although WHO could co-ordinate efforts it obviously could not supply everything that was needed in the campaign. The other developed countries should therefore follow the example of the United States of America and assist countries afflicted with various diseases.

The CHAIRMAN said the Director-General and his Secretariat were to be commended for having introduced a major programme in respect of smallpox during the United Nations Development Decade. However, despite the fact that it was nearly 150 years since Dr Jenner had discovered a vaccine against smallpox, the Organization was still helpless to prevent the disease. That was because, while methodology had been well-developed, there was still insufficient knowledge about its application.

The smallpox eradication programme in India had been going on for seven years but the situation there, to which reference was made in section 2.2 of part II of document EB41/12, was not encouraging. In seeking to ascertain the reasons for that failure, it should be remembered that India's population numbered some 550 million, spread over seventeen different States, which were responsible, in the main, for implementing the smallpox eradication programme. That fact, plus the recent elections in India, the different types of government in each State and the conditions caused by the drought, accounted for the lack of enthusiasm in implementing the smallpox eradication programme. Moreover, under the existing system of health services in India, both at the national and at the local level, supervision had proved ineffective. The public health services, however, could not be expected to be solely responsible for the success of such a programme, and the backing of the whole profession - which had been lacking in India - was needed, as well as help from the voluntary health organizations. At the same time, it was essential for the individual to participate, although the extent of such participation naturally depended upon the degree of education. In India, about seventy-five per cent. of the population was illiterate and eighty-two per cent. lived in rural areas into which health education had not permeated. Despite the recruitment of additional staff for the health services, there had been an absence of efficient co-ordination, in which connexion the Regional Director for South-East Asia had rightly emphasized the need for adequate basic health services and an integrated approach to the problem. The health of the people was primarily a local responsibility - a fact that had not been fully recognized in India. In his opinion, the success of a global programme would

ultimately depend upon the governments concerned, since WHO could only help by providing advice and information about methodology. Public health services had to set their own house in order, by securing the support of the profession, the voluntary organizations and the individual.

An examination of the incidence of smallpox revealed a differential in respect of the various age-groups. As was stated in document EB41/12, although large groups of people in India were being revaccinated repeatedly, many vulnerable groups, such as children of pre-school age and migrants, had been overlooked. Both WHO and the national health services should take cognizance of a fact which showed there was no cause for complacency. He was confident however that, owing to the arrangements made for adequate vaccine production, India would be self-sufficient in two or three years' time.

Lastly, referring to the recommendations on page 13 of document EB41/12 in respect of vaccination programmes, he said that in India, fifty per cent. of all deaths from communicable diseases occurred in the under-fourteen age-group. In view of the twenty-one million births every year, it was imperative for the health services to ascertain the causes of failure in the campaign. Immunization of the newborn was also a vital factor, particularly in countries engaged in large-scale family planning activities. In considering the smallpox and malaria eradication programmes, the Organization would be well advised to stress the need for adequate basic health services, for protection of children under the age of fourteen and for an effective immunization programme.

Sir William REFSHAUGE said it had often been alleged that in Australia - which had enjoyed freedom from smallpox for many years - a vaccination certificate was more important than a passport. The allegation was one in which he took pride. His Government remained alive to the dangers of smallpox, which was endemic in so many areas near Australia.

There had been references to the United States contribution of vaccine in the fight against smallpox. The Soviet Union had also provided large amounts of freeze-dried vaccine and he wished to pay tribute to both countries for their assistance in that respect.

He had understood the Chairman to say that the Organization was helpless to prevent smallpox. If that were really so, then WHO should never have embarked upon its world-wide campaign. WHO had entered into the world arena with two eradication campaigns, on the success of which its whole reputation rested. He, for his part, was sure that smallpox could be eradicated as a public health hazard.

Referring to terminology, he expressed a preference for the word "elimination" in place of "eradication", the former more adequately expressing the Organization's aim, in his opinion.

In assessing the reasons for any failures, the human factor should not be forgotten. The support of governments and of the general public was, of course, essential, but those who actually administered the campaigns had to ensure that everything possible had been done to guarantee success, and should not enter upon campaigns blindly without first properly organizing pre-eradication programmes and training.

Lastly, he expressed the view that the reference to the Organization's helplessness in the matter should be erased from the records if only because, had that been the case, the Organization should not have embarked on such a programme.

Dr OTOLORIN said it had been stated that WHO's role was to give advice to governments and that the ultimate success of smallpox eradication programmes was the governments' responsibility. In his opinion, if such a philosophy were applied, any smallpox programme would be doomed to failure. Without in any way infringing upon the sovereignty of States, he believed that the Organization, if its backing were to have any value, should draw up a detailed plan for the global programme, indicating to all the countries concerned their respective roles and pointing out the inherent difficulties. An assurance should also be obtained from each country that it would carry out its share of the programme and that it had the wherewithal to do so. To rely solely on WHO's advice would be to sow the very seeds of failure.

The Chairman had mentioned some of the reasons for the failure of the smallpox eradication programme in India. He himself considered that if eradication in any federal country was to succeed, some authority must guarantee the funds, because it was only through such financial sanctions that it could be ensured that each independent or semi-independent state would carry out its own share of the plan.

Dr VENEDIKTOV said the Board could be well satisfied with WHO's achievements thus far in the smallpox eradication campaign - a campaign of the greatest interest to all countries. It was important, however, to bear in mind the wide disparity between the needs of the programme and the resources available. Without an adequate supply of effective vaccine smallpox could not be eradicated, and the seminar to be held in March 1968 on freeze-dried vaccine was therefore of particular importance. The Soviet Union, for its part, had offered to supply twenty-five million doses of vaccine annually. Serious consideration should be given to the development of research in respect of the efficiency of vaccines.

After agreeing with Sir William Refshauge that it was somewhat of an exaggeration to refer to the Organization's helplessness in respect of smallpox, he said that the timetable for the eradication programme was an important factor. The promises made to Member States should be honoured and, as had already been said, mere slogans could be dangerous.

Those who had prepared the Standing Committee's report had been careful to avoid all references to the success of the Organization's programme, purposely adopting a cautious approach in order to protect the Secretariat. WHO would be placed in an embarrassing position if the cost of the programme were found to be higher than originally estimated.

It was not his intention to voice an opinion at that stage on the controversial question of bilateral assistance, to which some reference had been made, except to say that the policy of a country he knew well was to lend such assistance unconditionally and never to impose help where it was not wanted.

As the Soviet Union delegation had advocated during a discussion at the Health Assembly on malaria eradication, it was essential to study the progress made, not in a desire to find a scapegoat for any failures but rather to learn a lesson from the mistakes made.

On the question of vaccines, he agreed that any supplies received by the Organization should be very carefully checked. The Soviet Union exercised a very strict control in that respect.

In conclusion, he said that, judging from the first results of the Organization's smallpox eradication programme, the future could be viewed with optimism. He wished to place on record that he had been confident, from the outset, that WHO could be successful in such a programme, provided it really wanted to and Member countries did their part. To that end, he considered that the Board's discussion had been very helpful.

Dr WATT said he believed smallpox eradication campaigns could be successful provided that the governments concerned were thoroughly committed to their objective and were in a position to use the assistance available. To give an example, the countries in the African Region, where the situation was somewhat complex, had decided to act jointly, rather than individually, thus facilitating the rendering of bilateral assistance.

Sir William Refshauge had questioned the use of the word "eradication". He, for his part, considered that once "eradication" had been completed, it would mean there were no cases of the disease. Since it was scientifically possible to envisage such a situation, he saw no need to soften the language. He agreed, however, that to use the word as a slogan could place the Organization in a serious predicament. It was important to be quite clear that "eradication", when achieved, would mean that there were no more cases of the disease.

The DIRECTOR-GENERAL said he considered there had been some abuse of the word "eradication". It was essential, in speaking of an eradication programme, to add a rider, namely that it was envisaged in the light of present knowledge of the disease - a point he had stressed at the Health Assembly's meeting in 1966 when the ten-year programme had been approved and when it had been understood that, at the end of that period, the programme could, if necessary, be

revised. A similar type of discussion had also taken place in respect of the malaria eradication programme. Also, he would remind the Board that, many years ago, there had been much talk of the eradication of Aedes aegypti which, it had subsequently been discovered, was not so easy to achieve. There had likewise been a change in the knowledge of the epidemiology of yellow fever when in 1934 jungle yellow fever had been discovered. It was in the light of present knowledge, therefore, that the Organization believed it could eradicate smallpox in ten years' time but it could not, however, foresee what might happen even in the near future.

Another important aspect of the matter was the difficulty governments themselves had in carrying out their part, because of economic, social and political influences. In that connexion, he wished to mention, in reference to Dr Otolorin's point, that any transfer of authority in a federated State could be a very complicated matter requiring constitutional amendments. That was but one example of the problems with which governments were faced. Moreover, the governments represented at the Health Assembly were operating in a public forum where pride and prestige exercised an influence that could cause a great deal of embarrassment for all concerned.

Dr MARTÍNEZ said his personal view on the Health Assembly's decision to initiate a world-wide smallpox eradication campaign was that it had been extremely wise and had given positive results. To his recollection, not one Member State had expressed any doubts about participating in that common undertaking and no one who had analysed the activities to which the decision had given rise could question its efficacy. Obviously, it was not possible to achieve the optimum in respect of the objectives of the programme, nor to adhere exactly to its timetable. That was due to a number of reasons, to some of which the Director-General had already alluded.

In his opinion, it was more important to eradicate smallpox as quickly as possible than to protect the Organization's prestige - prestige which, in any event, he considered would not suffer if eradication were delayed since, in the final analysis, the responsibility rested with Member States. It would not have been possible to conceive a world undertaking of such a type in any other way.

He was confident that the Organization, in setting a goal for the eradication of smallpox, had removed the doubts of all countries - which, in itself, was enough to justify the Health Assembly's decision in the matter. He therefore viewed the future with optimism and saw no real obstacle in a road that would, in his opinion, inevitably lead to the eradication of the disease.

In America one of the best programmes was that concerned with the supply of biological products for all the different programmes, including smallpox, being carried out by Member States. In that connexion, he wished, in reference to a point raised by Dr Villa, to mention that the Pan American Health Organization, which had drawn up plans for the provision of biological products to the different campaigns, had always given due consideration to any requests in that respect, and that his own country, Mexico, had benefited from such assistance. He thought that worth mentioning as one example of efficient co-ordination.

Dr VENEDIKTOV said that, while he agreed with Dr Martínez that the results of the smallpox programme were more important than the Organization's prestige, he nevertheless considered it important, for the success not only of the Organization's work but also of public health services in general, for the Organization to maintain that prestige.

He fully concurred with the Director-General that the programme could only be envisaged in the light of current knowledge but considered that, if new elements appeared within the year, the Organization should not wait ten years to introduce them into the programme, but should do so as soon as feasible. That remark should not be construed as contradicting the Director-General's statement, but rather as complementing it.

Dr RAŠKA, Director, Division of Communicable Diseases, said that, before asking Dr Henderson to answer specific technical questions that had been raised during the discussion, he wished to make a few general comments. The Secretariat was particularly

grateful for any suggestions, since it was aware of the difficulties it faced in carrying out such a major task as smallpox eradication, and the suggestions made during the Board's discussion would of course be taken into account in developing the programme.

Several speakers had mentioned malaria. Those responsible in the Secretariat for the smallpox eradication programme had been learning from, and co-operating with, the malaria eradication programme - and also with all other major communicable disease control programmes - and the experience gained thus far in the malaria eradication programme had proved most instructive. However, the natural history of smallpox and malaria, as well as the tools and tactics used, were totally different. In the smallpox programme, there was no insect vector, the disease was visible and easily diagnosed and eradication, vaccination and containment were being practised, to a greater or lesser degree, in every endemic country. Unlike malaria, smallpox could not persist for years in remote and sparsely settled areas, being primarily a disease of the more densely populated and accessible areas where there was more frequent human contact. The prospects for success in smallpox eradication were also much greater, as was evidenced by the fact that many countries with no, or few, basic health services had freed themselves from smallpox.

A basic concept of the programme was that no one type of blueprint was valid for all countries and smallpox eradication activities were therefore geared to local needs and conditions. The character of the programme depended on a number of factors, including the stage of development of the health services, the nature of existing immunization activities, the ecological situation and the epidemiology of the disease. Although a fully developed basic health service helped in carrying out the programme, considerable success had been achieved in Africa, for example, by relying on mobile teams for vaccination. At the same time, surveillance had been carried out by relying on the reports received from aid posts, schools and hospitals. Programmes thus developed laid the groundwork for subsequent vaccination programmes. In some countries measles, BCG and yellow fever vaccine were administered at the same time as smallpox vaccine. The reporting and control procedures used in the surveillance programme provided a model for other diseases. Thus it was that efforts were being directed at the development of a framework which would strengthen a number of communicable disease control programmes.

Referring to Dr Otolorin's remark on the need for integrated programmes, he said that smallpox was a fast-spreading infection. Once the decision to eradicate the disease had been taken, the programme could not be delayed while the basic health services were developed, in which connexion he reminded the Board of the Director-General's statement on the programme's basic principles.

As the scientific group on smallpox eradication had emphasized, two components had to be developed from the beginning of every programme: first, a vaccination programme, over a three-year period, designed to raise immunity to a high level; and, secondly, a programme of case reporting and outbreak containment to eliminate the reservoir of smallpox in the shortest possible time. Failures of programmes were frequently due to a concern for vaccination alone, the surveillance-containment function being more or less disregarded.

In order to ensure maximum co-ordination between country programmes, it was, and would continue to be, necessary to have the full participation of every country. Because of the high degree of mobility of smallpox, the failure of even one country to participate actively jeopardized other programmes, forcing them to maintain a more highly immune population with the result that the costs for all were greater.

The assistance received in the form of donations to the Organization, as well as bilateral assistance, was becoming increasingly urgent as the programme gained momentum. The Soviet Union, the United States of America and other countries had already provided a substantial degree of assistance and he wished to take the opportunity of extending thanks, on behalf of the Organization, to the Federal Republic of Germany for the 2 500 000 doses of freeze-dried vaccine which they had just announced they would contribute in 1968. Additional help from other countries would be required in coming years.

Throughout WHO's history, there had been several examples of co-operation between nations. The Organization had never had a better opportunity than with the smallpox eradication programme to demonstrate that spirit of co-operation, for it was in the interest of all countries to complete that historic task as rapidly as possible.

In conclusion, he said that, at the end of the programme's first year, the interest and seriousness of purpose already demonstrated by most countries, as well as the progress made, had been gratifying. There were grounds for cautious optimism in respect of the goals that had been set but, despite the significant progress made, greater efforts would be needed in the years ahead.

Dr HENDERSON (Smallpox Eradication), replying to Dr El-Kadi's remark concerning the vaccine donated to WHO, said that the Organization tested all vaccine submitted, and, where the requisite standards had not been met, offered assistance in the form of fellowships or consultation to raise the quality to the acceptable level.

In response to Dr Villa's question with regard to planning of supplies, he said that such planning had been difficult during the first year. Efforts had been made to determine the vaccine requirements for each country for several years ahead, and there was now a much clearer view of how much was needed. Production had been carefully studied, with respect both to quantity and quality and with regard to the question whether additional production centres should be established. It had not been considered worthwhile establishing new laboratories that could not expect to have an output of at least ten million doses per year, since small production facilities had difficulty in retaining competent personnel and in establishing laboratories, and the cost per dose produced by them was very high. All countries with a potential need of ten million doses per year did have production facilities, but certain of them (India, Pakistan and Indonesia, for example) needed additional equipment to increase production, and such equipment was being supplied with the co-operation of UNICEF. Attention was also being paid to ensuring that vaccine was of the best quality for use in the field and met WHO standards. Total capacity in South American countries was expected soon to be sufficient. A great deal of work was being done with the laboratories there in consultation with the University of Toronto. Vaccine was exchanged between countries in the Americas, each country being willing to help the others when need arose.

In the African Region there were laboratories producing vaccine in Nigeria and Kenya; production would shortly begin in Guinea, a laboratory was proposed for Senegal and there were two other small ones that might also produce vaccine. Sufficient was available for all African needs, but the problem was that of supplying it from one country to another, and it was hoped that African countries would consider the possibility of making vaccine available to their neighbours, as had been done in the American Region.

In South-East Asia, the Indian laboratories were steadily increasing production and the quality in most was good. Production capacity in Indonesia was about half what was required. Additional equipment was being supplied by UNICEF. Thailand was producing well and capacity was being augmented. Burma was now beginning production. Considerable progress had been made in the region during the year.

With regard to Dr Watt's question regarding potential needs for vaccine, estimating was difficult. During the past year jet injectors had been used for the first time in field operations. Experience had been gained in West Africa and in the Americas. Evaluation would be needed during the coming year of how valuable the jet injectors would be for programmes in South-East Asia and East Africa. When jet injectors were used, the vaccine went approximately ten times further. With the use of bifurcated needles, .002 ml of vaccine was required for a single vaccination - only one-fifth the amount for vaccination by conventional techniques. With the conventional twenty-five dose ampoule of vaccine, the use of the bifurcated needle gave something of the order of 125 doses, which seemed to imply a great extension of supply. The matter was not, however, quite so simple, since once the dried vaccine was reconstituted, it had very poor stability, and any of it not used on the same day had to be discarded. In some countries, the output per vaccinator was as low as five vaccinations per day, so that the use of such needles by them would result in no saving whatsoever. If they were to change the strategy and tactics of their programmes, however, there could be considerable extension of use of their supplies. The Government of India was now testing the bifurcated needles on a pilot basis and would be

examining the possibility of changed techniques. If it were able fully to utilize the potential savings of the bifurcated needle it would become almost self-sufficient. To attempt to project even a year ahead posed enormous difficulties because of the introduction of the two new tools he had mentioned.

As Dr Venediktov had mentioned, no programme had been inhibited during the past year by the lack of available freeze-dried vaccine. Thirteen million doses had been distributed as against three million one year previously. It was estimated that the needs for 1968 would be fifty million doses, and those for following years even greater as programmes got under way. There continued to be a need therefore for freeze-dried vaccine, especially that suitable for use in jet injectors.

Dr Azurin had raised the question whether progress was being made when there was, in fact, an increase in the number of cases. It was anticipated that if programmes were successful during 1968 and 1969 there should be a further increase in reported cases. In certain countries reporting was of the order of ten per cent. As programmes progressed, there should be better reporting and therefore an increase in reported cases - as had happened during the past year in Brazil and West Africa - which was, paradoxically, an indication of progress rather than the reverse.

Dr Keita, Dr Olguin and others had mentioned the importance of co-ordination of programmes and the need for contacts between countries. In an effort to provide better exchange of information, the Organization had initiated a surveillance report, documenting the occurrence of smallpox, the progress being made and new findings. It was intended to continue such reporting quarterly and to distribute the information widely to the countries concerned. In addition, regional meetings, such as one recently concluded in Bangkok, had been held to discuss common problems. There were regional advisers dealing specifically with smallpox, who had travelled widely during the past year to plan programmes in the various countries and co-ordinate them with others - a practice that was expected to continue.

Dr Azurin had expressed particular concern with respect to the programme in Indonesia, which the Organization regarded as of high priority, since recent assessments had indicated that except in that country smallpox did not exist east of the East Pakistan/Burma border. Thus, as a long strip of land situated in an otherwise smallpox-free area, it placed a considerable number of other countries at risk. The Government of Indonesia had taken a serious view of the situation, a plan of operations had been drawn up and it was planned to begin a programme during the coming year. A WHO adviser was under recruitment, and recent discussions indicated that the Government intended to accelerate the programme originally drawn up. An appraisal had recently been made in Jakarta with regard to the completeness of reporting and of immunity levels. Both had been found to be better than anticipated. Reporting had been at a level of at least fifty per cent. The number of cases reported during the past year was approximately 7000. The number of personnel was considered sufficient to carry out the task effectively.

The assessment made in India had been carried out jointly by the Government of India and WHO. Four States had been visited, the frequency of vaccination scars at different age levels had been assessed, people had been examined for pock marks, which had been related to cases reported, and the completeness of reporting had been estimated. The greatest problem was that of supervision and planning. The most encouraging findings were in the State of Madras, which had begun an intensified programme about three years ago. Incidence had fallen precipitously, so that figures for 1967 were expected to show no more than about 300 cases out of a population of thirty-six million. That was a great contrast compared with the situation about two years ago, when the infectious diseases hospital in the city of Madras normally had at least a hundred patients, whereas it now went for months at a time with no cases whatsoever. Evaluation had revealed that reporting was complete, that vaccination coverage was good and that the State had done an exceptional job. During 1968 a special epidemiological team was being set up with assistance from WHO to investigate all cases, to determine the reason for them, the likelihood of their spread, their characteristics and a number of other features.

With regard to the maintenance programme to which Dr Otolorin had referred, the duration of immunity as measured by vaccination certificates was three years. The determination of that period had been established to provide a virtually one hundred per cent. guarantee that

an individual vaccinated successfully within the preceding three years would not transmit smallpox, and the occurrence of cases among individuals successfully vaccinated within that period was very small indeed. The duration of immunity was really considerably longer; in fact with primary vaccination and revaccination it appeared that a fair measure of immunity was even maintained as late as twenty to twenty-five years after vaccination. Thus it was not considered necessary in any maintenance programme to revaccinate the entire population every three years. Assessments and studies during the past year had revealed that in almost every area between eighty and eighty-five per cent. of cases had no vaccination scar, whether in well or poorly vaccinated populations. Primary vaccination was thus an extremely important procedure, since in most areas the majority of cases occurred in individuals who had never been vaccinated.

Countries, such as the Ivory Coast, that were smallpox-free but immediately adjacent to heavily endemic areas, had to maintain quite a high level of immunity in order to prevent introduction and spread, and also to maintain a very active surveillance containment mechanism to find cases, isolate them and undertake vaccination quickly. There were a number of countries in South-East Asia, including Malaysia, Laos and the Philippines, in which only about ten per cent. of the population was vaccinated per year, so that the immunity status was only moderate; yet they continued to be smallpox-free because of very active surveillance. A maintenance programme did not, therefore, require the extensive and elaborate programme necessary for the initial vaccination phase.

The definition of eradication was that given by the scientific group.

The Director-General had observed that there might be unknown elements with regard to smallpox that might hinder the programme. Research was being conducted to the greatest extent possible to explore them. There was no known animal reservoir for the disease, and studies were continuing to confirm the finding that there was in fact no problem in simian primate populations.

Dr Azurin had asked about the availability of the bifurcated needle. It had been developed about three years ago and had been used in the United States of America for the past two years or so on a routine basis. The Organization had worked with the company producing it to develop a simpler, cheaper method of production, which had now been adopted. The needle so produced had proved exceedingly effective for multiple-puncture vaccination. The company had agreed to charge no patent cost for manufacturers exclusively supplying WHO. Their cost was about US\$ 5 per thousand. It had originally been assumed that ten vaccinations with a single needle would be economically possible within the programme. Recent studies had shown, however, that the needles were still effective after having been used 170 times.

A number of operational and epidemiological studies were planned, most of them in the context of programmes as they were proceeding, in order to obtain additional knowledge and to make continual modifications to the programme.

Dr VILLA said that he had not wished in his earlier comments to criticize either the World Health Organization or the Pan American Health Organization. The latter was supplying his country with invaluable material aid. The difficulties he had referred to were world-wide and he had spoken of the way the countries in the American Region assisted each other in making use of vaccine supplied through PAHO as an example of mutual aid in overcoming those difficulties, and one that could be followed by other countries. He had perhaps been mistaken in thinking that similar co-ordination did not exist in other regions.

His suggestion that co-operation of the kind he had described could perhaps be systematized and promoted with the help of the Organization had not been a criticism but a proposal put forward with a view to improving on what had already been done and making it more readily applicable on a world-wide scale.

He had not recommended the establishment of new centres for the production of vaccine but only the adoption of measures to obtain a better distribution of the available supplies of vaccine.

The CHAIRMAN suggested that the Rapporteurs prepare a suitable draft resolution for submission to the Board.

It was so agreed. (See summary record of the eleventh meeting, section 3.)

EXECUTIVE BOARD

EB41/SR/11 Rev.1
29 February 1968

Forty-first Session

ORIGINAL: ENGLISH

SUMMARY RECORD OF THE ELEVENTH MEETING

WHO Headquarters, Geneva
Monday, 29 January 1968, at 2.30 p.m.

CHAIRMAN: Dr K. N. RAO

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Eleventh MeetingMonday, 29 January 1968, at 2.30 p.m.

<u>Present</u>	<u>Designating Country</u>
Dr K. N. RAO, <u>Chairman</u>	India
Professor P. MACÚCH, <u>Vice-Chairman</u>	Czechoslovakia
Dr P. D. MARTÍNEZ, <u>Vice-Chairman</u>	Mexico
Dr D. BADAROU, <u>Rapporteur</u>	Dahomey
Dr M. P. OTOLORIN, <u>Rapporteur</u>	Nigeria
Professor E. AUJALEU	France
Dr J. C. AZURIN	Philippines
Dr A. BENYAKHLEF	Morocco
Dr E. A. DUALEH	Somalia
Dr A. ENGEL	Sweden
Dr C. K. HASAN	Pakistan
Dr A. A. AL-HURAIABI	Yemen
Dr H. M. EL-KADI	United Arab Republic
Dr O. KEITA	Guinea
Dr I. KONE (alternate to Dr B. N'Dia Koffi)	Ivory Coast
Professor L. von MANGER-KOENIG	Federal Republic of Germany
Professor I. MORARU	Romania
Dr R. A. MORENO	Panama
Dr V. V. OLGUÍN	Argentina
Dr PE KYIN	Burma
Sir William REFSHAUGE	Australia
Dr D. D. VENEDIKTOV	Union of Soviet Socialist Republics
Dr M. VILLA	Peru
Dr J. WATT	United States of America

Secretary: Dr M. G. CANDAU
Director-General

Representatives of Intergovernmental Organizations

United Nations

Mr V. FISSENKO
Mrs W. J. E. de BOIS

United Nations Children's Fund

Sir Herbert BROADLEY

United Nations Relief and Works Agency for
Palestine Refugees in the Near East

Dr M. SHARIF

United Nations Educational, Scientific and
Cultural Organization

Professor A. TRAPERO-BALLESTERO
Mr A. PRAGER

International Atomic Energy Agency

Dr J. SERVANT

Intergovernmental Committee for European
Migration

Dr C. SCHOU

Representatives of Non-governmental Organizations

Council for International Organizations of
Medical Sciences

Dr V. FATTORUSSO

International Union of Local Authorities

Mr F. COTTIER

International Union of Pure and Applied
Chemistry

Dr R. MORF

3. SMALLPOX ERADICATION PROGRAMME: Item 2.4 of the Agenda (Resolution WHA20.15: Document EB41/12 and Corr.1) (continued from the ninth meeting, section 1)

The CHAIRMAN invited the Executive Board to adopt the following draft resolution presented by the Rapporteurs in respect of the smallpox eradication programme:

The Executive Board,

Having considered the report of the Director-General on the smallpox eradication programme submitted in accordance with paragraph 4 of resolution WHA20.15,

1. THANKS the Director-General for his report and invites him in conformity with resolution WHA20.15 to bring it up to date for presentation to the Twenty-first World Health Assembly; and
2. RECOMMENDS to the Twenty-first World Health Assembly the adoption of the following resolution:

"The Twenty-first World Health Assembly,

Having considered the report of the Director-General on the smallpox eradication programme submitted in accordance with paragraph 4 of resolution WHA20.15;

Noting that, while progress in the eradication effort is now being made, smallpox continues to represent a serious world health problem both to endemic and non-endemic countries; and

Recognizing the need for full and active participation by all endemic countries if eradication is to be achieved, and for the maximum of co-ordination in their efforts,

- "1. REITERATES that the world-wide eradication of smallpox is one of the major objectives of the Organization;
2. URGES again that:
 - (a) countries having smallpox, and no eradication programmes, give the highest possible priority to the provision of funds and personnel to achieve eradication; and
 - (b) those countries where eradication programmes are progressing slowly intensify their eradication efforts;
3. REQUESTS all Member States to give the programme greater support in the form of contributions, such as vaccine and transport, so that the programme may be executed as rapidly as possible;
4. REQUESTS countries providing bilateral aid in the health field to include in their activities assistance in the context of the global smallpox eradication programme;
5. REQUESTS all governments to place particular emphasis on:
 - (a) complete reporting of smallpox cases; and
 - (b) the institution of active containment measures for each outbreak;
6. REQUESTS all governments producing freeze-dried smallpox vaccine to take special care in its preparation so as to ensure that vaccine meets the potency and purity of requirements of WHO; and
7. REQUESTS the Director-General:
 - (a) to continue to take all necessary steps to assure the maximum co-ordination of national efforts and provision of contribution from international and bilateral agencies with the objective of achieving smallpox eradication as quickly as possible;
 - (b) to report further to the Executive Board and the World Health Assembly."

Dr MARTÍNEZ said he thought it desirable to add a sub-paragraph (c) to operative paragraph 2 to read as follows:

- (c) those countries where smallpox has now been eradicated should continue their vaccination programmes so as to maintain an adequate level of immunity;.

Professor AUJALEU agreed that such a clause was justified, but he did not consider that it would be appropriate to place it under a paragraph which began "URGES again that", since it would be the first time the Assembly had urged countries to continue their vaccination programmes.

The DEPUTY DIRECTOR-GENERAL suggested that the clause might be included in a new operative paragraph 3 starting with the word "REQUESTS", and all the remaining paragraphs renumbered.

It was so agreed.

Decision: The draft resolution, as amended, was adopted.¹

The meeting rose at 5.35 p.m.

¹ Resolution EB41.R18.