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No. 152

NINETEENTH WORLD HEALTH ASSEMBLY

GENEVA, 3-20 MAY 1966

PART II

PLENARY MEETINGS

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Minutes and Reports

WORLD HEALTH ORGANIZATION

GENEVA

November 1966

MEMBERSHIP OF THE HEALTH ASSEMBLY

LIST OF DELEGATES AND OTHER PARTICIPANTS

DELEGATIONS OF MEMBER STATES

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Delegates:

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Dr G. A. WAHID, First Secretary, Ministry of Public Health

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Delegates:

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Mr S. DEDEI, Deputy Director, Central Microbiological Laboratory, Tirana

ALGERIA

Delegates:

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Dr DAW YIN MYA, Health Statistician, Directorate of Health Services

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CENTRAL AFRICAN REPUBLIC

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Delegates:

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Mr H. GUADEY, Director-General, Ministry of Public Health

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Delegates:

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Mr J. THORS, Deputy Chief of Division, Ministry of Health

INDIA

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[1] Chief Delegate from 9 May.

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MOROCCO

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Alternate:

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NEPAL

Delegate:

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NETHERLANDS

Delegates:

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Dr J. H. W. HOOGWATER, Director-General for International Affairs, Ministry of Social Affairs and Public Health (*Deputy Chief Delegate*)

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Alternates:

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Mr N. H. S. JUDD, Second Secretary, Permanent Mission of New Zealand to the United Nations Office at Geneva

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[2] Delegate from 7 May.

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Dr S. MAHFUZ ALI, Assistant Director-General of Health

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Delegate:

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PERU

Delegate:

Dr C. QUIRÓS, Director-General of Health, Ministry of Public Health and Welfare

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Mr A. LANDE, Secretary, Permanent Central Narcotics Board and Drug Supervisory Body

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2. Smallpox Eradication Programme

Agenda, 2.4

The CHAIRMAN invited the Chairman of the Executive Board to comment on the smallpox eradication programme.

Dr EVANG, representative of the Executive Board, said that the views of the Executive Board on the smallpox eradication programme were reflected in resolution EB37.R16. During their discussions on the subject,[1] the members of the Board had stressed that smallpox constituted a health problem for both developed and developing countries. They had also referred to the fact that, because of post-vaccinal complications, in some highly developed countries smallpox vaccination in itself sometimes cost more in lives and health than diseases such as poliomyelitis and diphtheria together. The Board had also stressed that the synchronization of smallpox eradication programmes in all countries was an essential condition for the success of the programme as a whole. Sufficient attention had to be paid to planning if the efforts of one country were not to be nullified by the failure of other countries to implement the programme satisfactorily.

Bilateral and multilateral agencies should also continue to strengthen their contributions to the smallpox programmes. Five possible sources for the financing of such programmes had been mentioned: funds provided by the governments themselves; funds provided out of the WHO regular budget, if the World Health Assembly so decided; contributions by countries to the Special Account for Smallpox Eradication; funds provided under bilateral arrangements; and funds from international bodies such as UNICEF and the United Nations under technical assistance programmes. Several members had emphasized that the partial failure of some eradication programmes was due to the lack of equipment and supplies. In that connexion he drew the attention of the Committee to operative paragraph 4 of resolution EB37.R16.

As the Committee was aware, there were three main aspects of the problem—the technical aspect, certain principles regarding the financing of co-operation with Member countries, and details of the financing itself. The Committee would wish to consider the first two aspects he had mentioned, and would have an opportunity for a more detailed discussion of the matter when it discussed the budget estimates for 1967. In view of the rather strong wording of operative paragraph 1 of resolution WHA18.38, the Executive Board felt that the time had come to find out whether countries really meant to implement the smallpox eradication programme.

Dr KAUL, Assistant Director-General, said that the information gathered by the Director-General in compliance with resolution WHA18.38 and presented in his report [2], was by no means complete but was sufficient to enable the Director-General to review and assess activities in all parts of the world and prepare a programme for accelerating the eradication of smallpox from all endemic areas. At their 1965 sessions, all the regional committees had passed resolutions on the subject, generally indicating support for an intensified global smallpox eradication programme and drawing attention to the supplies and services that countries where the disease was endemic would need from outside to supplement their own resources, if the programme was to be successfully launched and completed.

Smallpox lent itself uniquely to an eradication effort: it could be quickly detected in an area, a victim of the disease was generally incapable of transmitting

[1] See *Off. Rec. Wld Hlth Org.* **149**, 75-79.

[2] *Off. Rec. Wld Hlth Org.* **151**, Annex 15.

the virus for more than two weeks and was rendered permanently immune against a subsequent attack. Eradication could be accomplished in a comparatively simple and straightforward manner by rendering immune, through vaccination, a sufficiently large proportion of the population so that transmission was interrupted. The review undertaken had revealed that many of the eradication programmes lacked adequate surveillance machinery. There was a need to strengthen surveillance activities in the programmes of individual countries. Regional surveillance programmes were also important, as increasing travel facilities and continuing population migration across national boundaries meant that infection spread easily from country to country.

The report dealt with the methodology of vaccine programmes and the feasibility of using jet-injection techniques in suitable areas. The advantages and disadvantages of the different approaches had been analysed. Careful advance planning was necessary and, for a fully effective programme, continuing adaptation was important. Provision had to be made for the continuing assessment of the completeness of the vaccination coverage at local and national levels.

Methods for the conduct of maintenance programmes were expected to vary widely from country to country. Whatever the approach, it was most important to reach rural populations, particularly groups such as young children, migrants, and urban populations in densely crowded, lower socio-economic areas. Whenever possible, programmes should be carried out in close co-operation with the general health services. The experience those services gained through such participation would be of benefit particularly in the surveillance of other communicable diseases.

The development of the production of freeze-dried smallpox vaccine was an important component of the eradication programme. The infinitely greater stability of freeze-dried vaccine recommended that preparation over the glycerinated form for field vaccine programmes, particularly in tropical areas. The production of freeze-dried vaccine demanded well-equipped production facilities and high standards of skill and responsibility in the professional and technical staff employed. Those considerations dictated the need to limit vaccine production facilities to a few comparatively large, efficient institutions capable of supplying several countries.

Tables 1-4 in Chapter 3 of the report [1] showed the incidence of smallpox in the world. During 1959, when the global eradication programme was initiated, some 81 000 cases of smallpox had been reported. The number of cases reported since that time had fluctuated, reaching a maximum of some 99 000 cases in 1963 but decreasing to half that number in 1964 and in 1965. Eradication of the disease appeared to have been achieved in north and central America, Europe, North Africa, the Eastern Mediterranean and Western Pacific countries, as well as in some countries of South America. Endemic areas included six countries in Asia, all African countries in the region south of the Sahara, and three countries in South America. Transmission of the disease from the endemic countries to smallpox-free areas remained a difficulty. Table 5 in Chapter 3 showed the incidence of cases in Europe as a result of the importation of smallpox. Chapter 3 also described the stages of development of the eradication programme, region by region and country by country.

The development of an eradication programme in all endemic countries at an early date was of the utmost importance and urgency. The initiation and execution of programmes called for maximum effort on the part of the individual countries, aided by technical assistance, equipment, vaccine and other supplies. WHO staff at headquarters, regional and country level would have to be strengthened to provide the necessary impetus, direction, co-ordination and supervision required for a unified global effort. Details of the proposed 1967 programme were given in *Official Records* No. 146, Annex 3, Part VI.

Supplies of freeze-dried vaccine were obtained from local production, donation through WHO, and contributions to countries under bilateral arrangements. It was estimated that approximately 55 million doses of vaccine would be necessary in 1967. Other supplies and equipment, including transport, refrigerators and other field equipment, for 1967 programmes had been estimated on the basis of communications from a number of countries.

In a number of West African countries the development of a smallpox eradication programme on a large-area basis was being proposed by means of a United States bilateral programme. A country in East Africa had received similar assistance through bilateral aid from the USSR. WHO would help the endemic countries to plan national eradication programmes and would co-ordinate and promote inter-country collaboration on a regional basis. As bilateral assistance became available for the endemic countries, an acceleration of the proposed global eradication programme could be envisaged. The World Food Program and the League of Red Cross Societies had offered to assist the WHO in its smallpox eradication programme.

[1] See *Off. Rec. Wld Hlth Org.* **151**, 110.

Chapter 5 provided information on the long-term programme.[1] A tentative plan for the next ten years had been prepared, based on information relating to the plans of the individual countries and on technical considerations laid down by the Expert Committee on Smallpox. It was hoped that the plan would supply Member States with information on how to prepare and proceed with the smallpox eradication programme.

Tables 6-10 showed the probable phasing of the programmes of individual countries, by Region. Table 11 gave a broad estimate of the population it was proposed to vaccinate, with international assistance, during the long-term programme. Available information confirmed original estimates that the cost of the programme could be broadly calculated as US $0.10 per vaccination, and that the general cost of each national campaign would be met approximately as follows: 70 per cent. of the expenditure from national resources and 30 per cent. from technical assistance for vaccine, transport, supplies and equipment. Table 12 showed the estimated costs of the programme in each year. It was expected that 1790 million vaccinations would be carried out, covering the entire population of endemic countries, from the attack to the maintenance phase of the campaign. The over-all cost was estimated at US $180 000 000, the share of international assistance amounting to some 30 per cent. of the over-all cost.

Without a greatly intensified and well co-ordinated effort, and substantial additional resources, global eradication was not a realistic goal in the foreseeable future. Eradication could, however, be accomplished if the plan submitted in the report was endorsed, if additional resources were provided, and if the endemic countries took urgent steps to plan and support the eradication programme, as a phased long-term programme.

Professor LIBOV (League of Red Cross Societies) said that the Red Cross was one of the greatest humanitarian forces in the world today. The League of Red Cross Societies considered it one of its duties to extend its role as an auxiliary to health authorities in the field of preventive medicine, primarily against infectious diseases, and was ready to take its part in the smallpox eradication programme.

National Red Cross societies, with a total membership of 16 million, at present existed in forty-three countries where there were periodic or constant cases of smallpox. The League had requested information from them concerning their participation in the smallpox eradication programme; some had replied that they had taken part in 1965 and were continuing to do so.

The contribution to the programme that could be made by the Red Cross was as follows:

(1) the League could prepare recommendations concerning health education regarding vaccination;

(2) all Red Cross societies could take part in popularizing vaccination;

(3) Red Cross members and juniors could take part in mass vaccination campaigns and, in some societies in endemic areas, could be trained as vaccinators.

Health authorities should thus be able to count on the very effective co-operation of Red Cross volunteers and auxiliary personnel in mass vaccination campaigns.

The activity was one that could be of great benefit to the future of mankind.

Dr GONZÁLEZ (Venezuela) said that his delegation has listened with interest to the statements by the Chairman of the Executive Board and by the Assistant Director-General concerning smallpox eradication.

Venezuela had begun an eradication programme in 1949 and the last indigenous case had occurred in 1954. A small outbreak of imported smallpox had occurred in 1962 in the frontier zone. The country would have run the grave risk of an extensive outbreak but for the existence of an effective basic health service.

His delegation commended the efforts made by the Organization to eradicate smallpox, but reserved its opinion on the financial implications of the programme.

With regard to the technical aspects, he agreed with the general considerations in section 2.1 of the report with regard to the importance of rural areas with a scattered population in maintaining a reservoir of the disease and facilitating its spread to the towns. Such areas were the most important foci of reinfection.

He emphasized the decisive role of the general health services in smallpox eradication programmes. Although in the attack phase it was useful to undertake specific campaigns with personnel who could cover the whole population in a short time, it was very important to integrate smallpox activities as soon as possible in the general health services, thus avoiding difficulties for the future.

He agreed with the recommendation in the report concerning the necessity for an evaluation of programmes while they were proceeding. Such an evaluation, to be objective, should be carried out independently.

Eradication, although feasible, was not easy. It was not enough to carry out an attack phase without

[1] See *Off. Rec. Wld Hlth Org.* **151**, 117.

following it up by maintenance activities, which should continue until the disease had been eradicated over a wide area and if possible throughout the world.

Dr ADEMOLA (Nigeria) thanked the Organizatiou for the help it had given to Nigeria in its efforts to eradicate smallpox, a disease which was a major concern to his Government.

It could be seen from the report that, of the world total of 50 550 cases in 1965, 15 875 had occurred in Africa, and 4566 in Nigeria alone. During the past four years Nigeria had been attempting to build up a reserve of vaccine in order to undertake an eradication programme. Major difficulties had been encountered with regard to financing such a programme, which had to cover a vast area with a population of about 60 million. In November 1965, however, the United States Agency for International Development had offered assistance for a West African eradication programme, of which the programme in Nigeria would form the major part. He expressed gratitude on behalf of his Government for the possibility thus offered of eradicating the disease.

The programme envisaged covered a five-year period and was planned in three phases: preparatory, attack and maintenance. Specialized teams would undertake intense vaccination campaigns from one area to another. Local teams of health workers would be engaged in mopping-up operations and in vaccinating the newborn. It was planned to use jet injectors, by which means at least half a million people a year could be vaccinated. A team of four vaccinators would use the jet injectors not only against smallpox but also against measles, which was a major killing disease in the area. Approximately seventy teams would be required to cover Nigeria. It was hoped that the operation would be synchronized with those of the other West African countries, and that the activities would be co-ordinated by USAID and WHO.

The nation-wide programme could not, however, succeed without the co-operation of the people; obstacles to such co-operation were ignorance, superstition, laziness, lack of notification of births, wrong values and different cultural patterns. Health education must therefore form a major part of a smallpox eradication programme, particularly in developing countries, and not enough emphasis had hitherto been placed upon it. Research was needed into people's attitudes and beliefs as well as into the etiology, diagnosis, treatment and prevention of the disease. A great deal of research would also be required with regard to the pre-testing of materials to be used for health education. Training of medical and paramedical personnel was also very necessary, and adequate financial provision would be needed.

It did not appear that the full implications of the programme had yet been realized. It would be disastrous if, after the expenditure of so much time, money, material and effort, the programme should fail owing to lack of participation by the people. He urged WHO to make adequate provision for health educators in each of its major public health projects, and particularly in the smallpox eradication and malaria programmes; to provide a team of consultants (anthropologists, applied psychologists and statisticians) to determine what social, cultural and educational problems must be overcome before such programmes could be carried out; and to provide experts in communications media to test and to produce relevant audio-visual materials and to advise on the evaluation of programmes, and to train local personnel. Experts in the behavioural sciences were in short supply all over the world, but particularly in the developing countries, which would need to draw upon a WHO pool for that purpose. It was vital that their services should be made available from the pre-planning stage. WHO's help would be needed in planning and budgeting for such aspects of the programme.

Professor SCORZELLI (Brazil) said that Brazil was one of the countries where smallpox still existed, even though the situation there was not as grave as in some other regions. The existence of the disease was not only an important factor in itself, but had repercussions on the problem of eradication in South America as a whole, since Brazil had close relations with several countries that adjoined its frontiers. It was therefore preparing to undertake an eradication programme with a view to avoiding reintroduction of the disease into neighbouring countries. He emphasized the effort required to carry out vaccination and other measures in the vast area bordering the Peruvian frontier, in which there was a very scattered Brazilian population of no more than 15 000 persons. In co-operation with Paraguay, Uruguay and Argentina, Brazil hoped to take part in launching a combined eradication programme during 1966.

Although vaccination had been carried out in Brazil since 1804, it had not been practised with the necessary continuity, chiefly for administrative and psychological reasons. One reason was the benign form of the disease, which caused people to underestimate the importance of vaccination and revaccination. Moreover, there was an enormous territory of 8 500 000 square kilometres to be covered. Over the greater part of Brazil the population density was very low and the resources of the population small. Many parts of the territory were difficult of access and could only be reached by river. That state of affairs had its favourable side, however, in that the disease

did not spread as easily as in areas with a more concentrated population. By carrying out an intensive campaign against smallpox in regions of greater population density it was possible that the disease might disappear from the country more quickly than it would have done through eradication carried out within the framework of a rigorous epidemiological concept.

For Brazil, which had a long tradition and much experience in campaigns against various diseases, no technical difficulties existed. There were some material and administrative problems and important modifications were being made in the programme to overcome them.

Strategic planning had been instituted to give priority to those regions which, because of internal migration, might be responsible for the reintroduction of the disease into other regions. The legislation had been modified to give flexibility and to enable the best use to be made of available resources in the campaign against smallpox and other diseases. Vaccination had been intensified thanks to the use of jet injectors, and it was hoped to have 150 of them available within one or two months. In that connexion, an important pilot project had been carried out in Brazil in collaboration with specialists from the Communicable Diseases Center, Atlanta, United States of America. It had shown that with such equipment the duration of the operation could be made considerably shorter, while the cost could be reduced to approximately one quarter of that of the usual method. Of the 150 injectors mentioned, eighty had been provided to the north-eastern area by the Pan American Health Organization, thirty had been given by the Government of the United States of America for mass vaccination against typhoid fever in the States of Guanabara and Rio de Janeiro, and forty had been purchased by the Ministry of Health. They would be used in the more densely populated areas, while the usual methods would be followed in others. Mass vaccination against typhoid fever had furnished experience in the jet injector method, 5 500 000 injections having been given. From an epidemiological point of view excellent results had been obtained. It was possible for experienced personnel to give a thousand injections in an hour.

Brazil was producing good quality vaccine which conformed to WHO standards. Most of it was freeze-dried vaccine produced in three laboratories, set up with the assistance of the Pan American Health Organization and capable of producing up to 53 million doses a year. Production was thus sufficient not only to meet the needs of Brazil but also for use in other countries.

Because of the inadequacy of the health infrastructure in many regions of the country, the smallpox eradication campaign employed its own personnel, but efforts were being made to improve the health infra-structure.

Owing to the characteristics of the country and the need for rapid action, too great an importance would not be given in the attack phase to epidemiological case-finding. Efforts would be concentrated on mass vaccination and revaccination, with the object of covering 80 to 90 per cent. of the population of each region. Action of a more technical nature could be taken later, during the maintenance phase.

It would thus be possible to intensify the results that had been obtained with the eradication campaign started in the middle of 1963. In some parts of the country about 80 per cent. of the inhabitants had already been vaccinated. The number of known cases was decreasing, having fallen from 7745 in 1961 to 2120 in 1965. More than 24 million people, out of a total of 90 million, had been vaccinated since 1963. It was obvious that the greater the available resources the more rapid eradication would be. The attack phase was expected to end by 1968, while the maintenance phase would take a further three years. The time required would be shorter in proportion to the co-operation forthcoming from international organizations and the help of those countries that were willing to give their assistance. In exchange, Brazil was in a position to offer supplies of vaccine. The cost of the operation was estimated at ten US cents per person, which, though it might appear small, nevertheless represented an appreciable outlay for a country faced by numerous problems and a variety of endemic diseases.

Dr BADDOO (Ghana) congratulated the Director-General on his programme for smallpox eradication on a global scale. The incidence of smallpox in Ghana had been declining since 1963, and his country was satisfied that smallpox was one of the diseases that could easily be eradicated. For that reason, Ghana welcomed the proposed scheme for launching an eradication campaign in West Africa and was grateful to WHO and the United States of America, which were collaborating in that scheme. Strict vigilance and surveillance was required and that would be fruitless without adequate supplies of vaccine, equipment, transport and means of storage. His country therefore requested WHO to intensify its efforts in assistance, so that freeze-dried smallpox vaccine, equipment and vehicles could be made available to carry out the programme.

Dr EL-KADI (United Arab Republic) said that smallpox had for a long time been completely eradicated from his country. The seven cases that had been

reported—one in 1961, four in 1962 and two in 1963—had been detected on board vessels coming from the Far East and passing through the Suez Canal, and had been isolated in quarantine at Suez.

Eradication had been achieved by means of compulsory vaccination in the first two months of life, and through a quarterly vaccination programme.

Vaccine production in the United Arab Republic, amounting to about 21 million doses a year, 2 million of which were in the dry form, enabled the country not only to continue its own programme but also to supply other countries on request. The dry-lymph vaccine had proved of very great benefit in hot and isolated areas, particularly in summer.

Dr DOUBEK (Czechoslovakia) said that, as mentioned in the introduction to the report, the problem had already formed the subject of resolutions by the Eleventh and Eighteenth World Health Assemblies (resolutions WHA11.54 and WHA18.38).

Although not a single case of smallpox had been reported in Czechoslovakia since 1926, it was nevertheless concerned that the decision regarding the smallpox eradication programme should be given effect rapidly. Czechoslovakia—a small republic with only 14 million inhabitants—spent each year more than US $1 000 000 on smallpox vaccination and revaccination. It would be very useful if the medical personnel and material resources at present being employed in vaccination activities could be freed for other health work.

He had noted that in some countries eradication campaigns were planned to cover a prolonged period. His delegation considered that the attack phase of campaigns should be shortened as much as possible using experienced vaccination teams.

His delegation supported the proposal in the Director-General's report for a world-wide intensified smallpox vaccination programme. By that means the disease could be eradicated from a number of countries within a few years, and the continued expenditure of large sums of money for revaccination each year could be avoided. The necessary funds would represent a mere fraction of the sum spent every year by a number of countries on revaccination.

Professor GOOSSENS (Belgium) said that smallpox eradication—together with malaria eradication—represented the most ambitious objective that the Organization had set itself. That should be a cause for rejoicing when account was taken of the ravages of the disease in areas where it remained endemic. No one would question the primary importance of the action that the Organization had proposed: it was only necessary to refer to the principles on which the Organization was founded to find justification for it.

There was no need to seek justification in the financial savings that would accrue to countries that had succeeded in eliminating the disease from their territory. He wondered, in fact, whether administrators would ever be willing to give up a method of protection as effective as vaccination against so formidable and contagious a disease. If they did, it would only be when science and technology had completely changed their approach to the problem.

The excellent report, and the minutes of the thirty-seventh session of the Executive Board, had done nothing to change his estimate of the time that would be needed before the last case of smallpox could be eradicated from the earth, despite the simplicity of technique available. It was stated that, regardless of the assistance being given by WHO, certain countries were hampered by lack of funds and personnel, by mistakes in the conduct of operations, and by weaknesses in their administrative structure. It should not be forgotten that the means put at the disposal of countries by WHO represented but a small part of the effort to be made by the countries themselves, which in many cases exceeded their resources, even despite the bilateral or multilateral aid sometimes offered.

The fight against smallpox must be one of the major preoccupations of the Organization. Multilateral and bilateral assistance, particularly in the form of supplies of freeze-dried vaccine, was indispensable, and should be given generously. The effectiveness of assistance would be increased if it could be adapted to the possibilities of the countries receiving it without compromising other aspects of their health policy.

Dr EL-KAMAL (Algeria) said that the massive population movements that had followed Algeria's independence had given rise to anxiety concerning the possibility of grave repercussions upon the country's health situation. The migration of rural population to the towns, and of those from mountainous regions (who during the seven years of their exile had received no preventive medical attention) to the plains, could have been expected to provoke outbreaks of epidemic diseases. The risk was aggravated by the fact that numerous endemic foci existed in the country.

That alarming situation had stimulated the Government and those responsible for the public health services to undertake a countrywide programme of mass vaccination. Thus the control of smallpox was naturally placed in the front rank of preventive action.

A study of the statistics would give an idea of the importance of the action undertaken. During the period from 1 January 1963 to 31 October 1965, the number of vaccinations carried out had reached almost 6 400 000, more than half the Algerian population having thus been vaccinated or revaccinated.

Those mass campaigns were realized in spite of great difficulties due to lack of medical and paramedical staff, and the efforts made had been crowned with success. During the years 1963, 1964 and 1965 not a single case of smallpox had been reported throughout Algeria. Only glycerinated vaccine had been used throughout, and the campaigns had thus only been able to proceed in spring and autumn. Freeze-dried vaccine was needed for complete eradication of the disease, and the public health authorities had just furnished the Pasteur Institute of Algeria with the necessary equipment and material for the production of such vaccine, which would begin in September 1966. His country could therefore pursue its programme of vaccination and revaccination in a rational way and look calmly to the future. Finally, by developing its production of freeze-dried vaccine, Algeria would be able to respond to the Organization's appeal and contribute according to its means to the worldwide eradication of smallpox.

Mr TSHISHIMBI (Democratic Republic of the Congo) said that his was one of the countries most affected by endemic smallpox; the victims of the disease were counted in hundreds, and occasional epidemics flared up. Although in theory smallpox was easier to eradicate than malaria, the disease remained endemic because of difficulties in the practical implementation of projects.

His delegation was somewhat alarmed at the recommendation contained in the report on the smallpox eradication programme before the Committee that the number of centres producing freeze-dried vaccines should be limited, since in the Democratic Republic of the Congo, where a substantial part of the equipment for such production was already installed, and where control and eradication required large quantities of vaccines, it was felt that the only solution lay in intensifying and improving national vaccine production. Furthermore, his country was counting on WHO to provide fellowships to train specialized national personnel for that purpose.

Although the Democratic Republic of the Congo had only some 500 doctors for a population of 15 million, a fair number could be kept for smallpox control. But the necessary vehicles were not available. He therefore wished to see the draft resolution proposed in resolution EB37.R16 of the Executive Board interpreted, whatever the traditional policy of WHO, in such a way as to include the supply of transport, without which serious reservations would have to be made as to the outcome of the programme.

Dr HAMDI (Iraq) said that the last case of smallpox reported in his country had occurred in 1957. Because of the places of pilgrimage in Iraq, however, there was a possibility that the disease would be imported into the country. In order to maintain the immunity of the population, mass vaccination campaigns were carried out every fourth year. The last campaign had taken place in 1962-63 and the next one would be in October 1966. Both lymph vaccines and locally produced freeze-dried vaccines were used. Six jet injectors had been purchased and would be used during the next vaccination campaign.

A global effort to eradicate smallpox was very necessary. The statement in the report [1] that the balance of $4 000 000 was expected to be covered on a bilateral basis or by other international agencies required further clarification.

(For continuation of discussion, see minutes of the eighth meeting, section 1.)

[1] *Off. Rec. Wld Hlth Org.* **151**, 121.

EIGHTH MEETING

Thursday, 12 May 1966, at 4 p.m.

Chairman: Dr A. NABULSI (Jordan)

1. Smallpox Eradication Programme (continued from the fifth meeting, section 2)

Agenda, 2.4

Dr JURICIC (Chile) said that, since the doubts concerning the financing of the smallpox eradication programme in 1967 had been dispelled by the resolution adopted that day by the Health Assembly, he wished to refer to a few technical aspects of the project presented.

[1] Transmitted to the Health Assembly in the Committee's second report and adopted as resolution WHA19.15.

He would like to know the basis for saying that it would be necessary to vaccinate almost 100 per cent. of the population in areas of high endemicity. Eradication had been achieved in Colombia and Ecuador by covering uniformly, on a country-wide basis, a little over 80 per cent. of the population. The question was an important one, since expenditure increased not in arithmetical but in geometrical progression in proportion to the number of population covered.

The concept of basing evaluation on effective " takes " and not only on the vaccination itself was very important. Permanent supervision was necessary to ensure that the techniques used were correct and the vaccine of high quality. He knew of two occasions on which it had been found that batches of freeze-dried vaccine that had fulfilled the conditions of potency in the laboratory had lost their potency from two to three months afterwards. Without permanent supervision of vaccination in the field, hundreds of thousands of people might be vaccinated with an ineffective vaccine.

He emphasized the need for maintaining laboratories for the virological diagnosis of smallpox. It was possible for cases of smallpox to be mistaken for chickenpox, and *vice versa*.

He expressed his confidence in the results of the programme and hoped that the project presented by the Director-General would enable the countries concerned to achieve eradication.

Dr BAHRI (Tunisia) said that smallpox had presented no problem in Tunisia for more than twenty years, and since 1945 not a single case had been reported. That did not, however, prevent his country from continuing to apply a strict programme of compulsory mass vaccination every five years and annual vaccination for the new-born. The programme had been integrated into the basic health services. It was carried out from door to door in rural areas, and in the basic health units in urban and suburban areas. In primary schools, mobile teams carried out BCG and smallpox vaccination simultaneously. Preference was given to liquid glycerinated vaccine from the Pasteur Institute at Tunis.

His delegation wished to emphasize the importance of evaluating the proportion of " takes ", which Tunisia had found to be 85 to 90 per cent. for primary vaccination. It also wished to draw attention to the need for adequate legislation to ensure compulsory vaccination during the first year of life, at the time of entry to primary and secondary school, and every five years thereafter.

The population of Tunisia was aware of the importance of vaccination, which had become a tradition. Smallpox vaccination was a long-term, never-ending task that must be constantly repeated; in that lay the conditions for its success.

Dr VENEDIKTOV (Union of Soviet Socialist Republics) said that the programme under discussion was one of considerable importance. It had been discussed on previous occasions, and the decision on smallpox eradication had been taken in 1958 on the initiative of the delegation of the Soviet Union, whose position had not changed. His delegation had noted with great interest the report [1] on the subject, which showed that much work had been accomplished; the problem had been well presented, and the method envisaged appeared practicable.

The Soviet Union was giving considerable assistance for smallpox eradication to a series of countries on a bilateral basis, and the results obtained spoke for themselves. That being so, he might perhaps be excused if he offered a little friendly criticism concerning the proposals before the Committee.

Any plan of campaign, particularly for the world-wide eradication of a disease, should be not only precise but realistic and understood by all participating countries, and it must be based upon firm financial, economic and social considerations, in accordance with which the detailed operating programme should be worked out. The Organization still had a heavy task before it. The eradication programme could only be carried out if the countries in which smallpox existed themselves made substantial national efforts towards the eradication of the disease, if all sources of bilateral and multilateral aid were taken into account and co-ordinated, and if WHO's role of leadership and co-ordination was well thought out.

The report gave the following calculations: during the ten years of the programme $180 000 000 would be needed, 70 per cent. of which was to be provided by the countries that would undertake eradication campaigns. The Organization's budget, taken even at its maximum figure, could supply only 30 per cent., or $48 000 000, at the rate of about $5 000 000 a year.

If, in such a complex structure, any economic, social or other factor had been overlooked, or any mistake made, it would menace not only a regional programme but the world-wide eradication programme. At the end of ten years, for example, it might not be possible to reduce or suspend vaccination; it might not even be possible to complete the eradication campaign in ten years. Man was not infallible and mistakes could be made in the calculation of resources, the assessment of difficulties, the choice of methods. It was necessary, therefore, to review in an objective and detailed manner all the

[1] *Off. Rec. Wld. Hlth Org.* **151**, Annex 15.

aspects of that vast campaign—national, bilateral, multilateral, and all those connected with the activities of the Organization. It would be regrettable if, in undertaking the campaign, the errors were to be repeated that had attended the execution of the malaria eradication programme.

Now that the budget for 1967 had been virtually approved, the most effective measures for carrying out the campaign should be taken within the budget estimates.

It would be useful to have a conference on smallpox eradication under the aegis of WHO, with the participation of experts, representatives of ministries of health and representatives of financial or planning bodies, to study carefully the resources available and determine which countries and services were prepared to offer financial and practical help. Any time given to a new review of the technical and organizational difficulties, and of ways of collaboration, would be time well spent, and it was better to consider the means of solving the difficulties in advance than to wait until the campaign was well under way.

As the leader of his delegation had stated, the Soviet Union had made provision for a voluntary contribution of 75 000 000 doses of vaccine. It was prepared to provide specialists required for the training of personnel, to set up in its country a WHO reference laboratory or a centre, to organize training courses and to take any other measures that might be useful.

At the present phase of the eradication campaign, maximum use should be made of the experience gained by all countries in that field; all possibilities of co-ordinating efforts should be studied; and, after careful examination of all aspects, the campaign should be set in motion. By proceeding in that way eradication should be a practical possibility.

Dr JALLOUL (Lebanon) said that Lebanon had been freed from smallpox in 1957, not a single case having been registered since then. Great efforts had been made to arrive at that situation. A law had been passed making vaccination compulsory every four years. The first mass vaccination campaign had been carried out in 1957, the second in 1960, the third in 1964 and the fourth was to be in 1968; each campaign had covered more than 80 per cent. of the population. Between one mass campaign and the next all infants were vaccinated before the age of six months, and all those people who for any reason had missed vaccination during the mass campaign were followed up and vaccinated.

Public health education had been one of the main tools used to induce people to submit to vaccination, and both fixed and mobile vaccination units had been set up. Every vaccinated person was registered and given a certificate that he was required to carry with his identity card and to show upon request.

The mass campaigns in his country were well planned and were fully financed a year in advance. Their time limit did not usually exceed one month. It was very important to keep to as short a period as possible: people were thus more easily attracted, the vaccinators more enthusiastic and energetic, and the cost was lower. There should be a continuous follow-up of those people who had missed vaccination, and for that purpose the campaign should be continued through fixed and mobile units. Smallpox having been eradicated in Lebanon, he expressed the hope that other countries, with the help of WHO, would arrive at the same goal.

Dr SHAHGHOLI (Iran) said that, although smallpox vaccination had been started in his country many years before, up to eight years ago there had still been epidemics causing a great number of deaths, particularly among children.

Vigorous methods had been introduced in 1950, and about 90 per cent. of the population had now been immunized. In 1961 the eradication campaign had been decentralized, each of the provinces being made responsible for vaccination in its area. Those measures had been very effective, and no new danger of epidemic had arisen. Routine prevention was to be continued through that countrywide network.

The experience of Iran in its mass vaccination programme might be useful for countries with endemic foci. Ordinary sewing needles had been used, each needle being used only once. The site of vaccination was not cleaned with any antiseptic. Millions of vaccinations had been carried out in a short time without any complication or problems. The method was very practical and simple for developing countries.

Although there was at present a high level of immunity in Iran, no country could be regarded as protected unless early measures were taken to carry out a world-wide campaign, particularly in endemic countries. To that end bilateral and international assistance should be continued and intensified. WHO should co-ordinate the programme and provide the necessary leadership and guidance to make global eradication possible.

Dr SAYCOCIE (Laos) said that his country had no smallpox eradication programme as such, but was continuing the routine work started by the French authorities. This consisted of an annual vaccination campaign, as a result of which no case of smallpox had been diagnosed in Laos for some years, and it could be claimed that the disease had been eradicated. The low population density and the isolated situation

of the territory, which protected it from outside contamination, was a contributing factor.

Since independence, dry vaccine produced at the Pasteur Institutes of Saigon, Phnom-Penh and Bangkok had been used. Annual vaccinations had been carried out in each of the sixteen provinces, by two or three teams in each province composed of two or three experienced vaccinators. They had each covered a selected part of the province, including even the most remote villages, in a methodical and systematic way, so that no village had to be visited more than once every two or three years. In that way practically the whole of the population of the country had been covered.

The vaccination statistics were as follows: 1961—160 000; 1962—260 000; 1963—327 000; 1964—330 000. Analysis would show that the proportion of the total population vaccinated had grown over the years, to reach over 25 per cent. in 1964; the whole population had thus been vaccinated or revaccinated over a period of four years. Moreover, the provincial health services carried out a permanent programme of vaccination in the schools and among the population, who themselves sought vaccination. The situation was not known with regard to the population under the Pathet Lao, but it was thought that it was still protected.

The main difficulties with which the Government was faced were the political situation, which made it unsafe for vaccinators to visit certain areas, the lack of experienced personnel, and the financial situation due to the civil war.

Dr RAO (India) said that the national smallpox eradication campaign in India had begun in the last quarter of 1962. So far about 434 000 000 vaccinations had been performed. In 1962/1963 there had been 85 496 cases with 26 000 deaths, and in 1964/1965, 25 000 cases with 7000 deaths. Those figures spoke of the value of the campaign now in operation. It was expected that the attack phase could be completed in 1966, that mopping-up operations would be carried out in 1967, and that the programmes would enter the maintenance phase in 1968.

The freeze-dried vaccine at present in use was supplied by the Soviet Union, through bilateral agreement. Six hundred and fifty million doses had been received, and he expressed his Government's gratitude for that assistance. Attempts were being made to produce vaccine locally in four centres, but it appeared that production would be much less than originally anticipated: 180 000 000 doses annually were needed, of which only 60 000 000 could be produced locally. It was hoped that the WHO consultant would arrange for the supply of the balance.

In the light of the experience of the campaign in India, his delegation was in complete agreement with the delegate of the United Kingdom that unless developing countries thought in terms of establishing good basic health services it would be very difficult indeed to maintain the immunological status temporarily reached. When countries had reached the maintenance phase of a malaria eradication programme, there should be multipurpose workers available and a nucleus of basic health services for maintaining communicable disease control; where that programme was still in the attack or consolidation phase, separate workers were required for smallpox eradication; and where smallpox eradication alone was taken up, it was necessary to keep in mind that those workers would ultimately form the nucleus of the future health services. In that case, it was very necessary for those countries where the disease was endemic to have the proper technical advice with regard to planning, organization, and implementation of the eradication programme, with a view ultimately to merging it with the basic health services. As funds were likely to be very meagre for the developing countries, it was WHO's responsibility to give proper advice so that the money spent was used economically. It was necessary to ensure that the developing countries learned from the experience of countries that had already carried out campaigns.

He emphasized the importance of health education. In several countries where programmes had been undertaken, there was a health education programme for each specific disease programme. It would probably be more economical to have broadly based health education in communicable disease control and to see that the smallpox programme was integrated with it.

Dr KADEVA HAN (Cambodia) said that his country had been free of smallpox since 1960. Vaccination of new-born and school-age children was obligatory. Maintenance activities were carried on in connexion with the yaws campaign that was receiving WHO assistance in the three northern and north-eastern provinces. Locally produced vaccines were sufficient for the country's needs. With a vaccination rate covering 80 per cent. of the population, the reintroduction of smallpox was considered impossible. The campaign continued, and control work was particularly vigilant along the country's frontiers.

Dr CVAHTE (Yugoslavia) said that, although his delegation was very satisfied with the programme as presented by the Director-General and had approved the budgetary proposals, it considered that an appeal for voluntary funds and for bilateral and multilateral aid in connexion with smallpox eradication would

be very valuable. The greater the success of the Organization's work, the more its financial and technical possibilities would increase.

Dr ALDEA (Romania) said that the study of smallpox had shown the feasibility of world-wide eradication. Unlike methods used to combat other diseases, the method of immunizing a sufficient proportion of the population in order to interrupt transmission was relatively simple and controllable. The problem was essentially one of organization, and the success of operations depended upon the staff carrying out many vaccinations in a short time. He therefore considered that the methods indicated in the Director-General's report to the thirty-seventh session of the Executive Board were inadequate; the ways of achieving maximum vaccination varied from country to country and with local conditions. There were three essentials for the preparatory and attack phases of smallpox eradication: firstly, training of staff, using where possible local personnel having easy access to local populations; secondly, a preliminary health education campaign to ensure co-operation of the population (he had appreciated the delegate of Lebanon's remark on the attention to be given to that subject); thirdly, measures to guarantee the necessary vaccine supplies. To provide those essentials should be the special concern of national health administrations.

WHO had launched its smallpox eradication programme in 1959, and the figures showed that, in comparison with some 80 000 cases registered in that year, over 98 000 had been registered in 1963.

It was indicated on page 300 of *Official Records* No. 119 that $10 million had been considered necessary for the programme in 1962; the sum for 1967 had become $48.5 million. The estimated cost of $0.11 per immunization under the new programme seemed to him excessive, since everything but the vaccine was to be paid for by the countries concerned; even the price of the vaccine might be reduced by agreement and collaboration between producing countries. He therefore considered it necessary to re-examine the estimates of the cost of the programme, taking into account the possibility of using local staff for vaccination and surveillance activities. Courses on the methodology of smallpox eradication might be arranged for national health staff, thus enabling WHO to reduce expenses for consultants who would not be familiar with local conditions.

Considering the importance of the programme, the possibility should also be studied of allocating more voluntary funds to smallpox eradication, even at the expense of other less urgent activities, and of calling at the same time upon the United Nations and other international organizations for financial assistance.

Dr BLOOD (United States of America) said that his delegation recognized the need for strong leadership by WHO in smallpox eradication activities at all levels, backed up by the assurance that the programme would be continued until completed. The incorporation of funds for smallpox eradication in the regular budget was an important step towards guaranteeing its continuity.

President Johnson had pledged United States support for world smallpox eradication by 1975. Within the world programme the United States was providing assistance to a group of national vaccination programmes in West Africa: the plans for smallpox eradication in West Africa, assisted by the United States Agency for International Development, had been prepared in close consultation with WHO. The Organization's co-ordinating role was essential.

In spite of costly activities over the past fifteen years, the susceptibility of populations to smallpox continually increased with new births and natural losses of immunity. It was essential that there should be no delay in completing the eradication work, but that the programme should proceed steadily, in proportion to the possibilities of the countries concerned.

Dr SOW (Mali) thanked the Director-General for having so faithfully represented the situation and the views of the African States in the report on the smallpox eradication programme, in particular with regard to their needs in personnel, equipment, vaccine and other supplies. He commended the Director-General's defence of the budget proposals for 1967.

His delegation expressed thanks to WHO for the expert sent to Mali in connexion with its smallpox eradication campaign and for the supplies that had been promised; to the United States Agency for International Development for its assistance in providing vaccine and transport for a five-year combined smallpox and measles vaccination programme in eighteen African countries; and to the Union of Soviet Socialist Republics, Switzerland and the Netherlands for supplies of vaccine.

With regard to co-ordination—which, as had been stressed by the United States delegation, was an essential function of WHO—he wished to know whether smallpox eradication could not be further combined with preventive activities, against yellow fever, for example.

The draft resolution recommended to the Health Assembly in resolution EB37.R16 was a source of great satisfaction to his delegation; he only hoped that the " supplies and equipment " to which reference was made in operative paragraph 4 (*a*) of that resolution could be taken to include the vaccine, transport and refrigeration equipment badly needed in his

country; and that the services referred to in operative paragraph 4 (*b*) could be taken to include the regional co-operation for which the Regional Director for Africa was striving. He was confident that the Executive Board had been fully aware of such needs in drafting the resolution, which would receive the full approval of the Mali delegation.

Professor BABUDIERI (Italy) said that his delegation agreed in principle with the proposed intensification of the fight against smallpox, which might be the only communicable disease that could be eradicated in a reasonable period; but it did so on the understanding that in areas where mass vaccination was to be carried out, sufficient equipment, basic health services and adequate trained personnel would be made available.

In the Director-General's report on the programme, he did not find any mention of the possibility of employing, in certain conditions, drug prophylaxis using a new antiviral drug, the efficacy of which had been confirmed at the International Congress on Infectious Diseases in Munich earlier in the year. The method had been found to be effective in protecting unvaccinated persons accidentally exposed to infection, and in stopping the transmission of infection among non-immunized persons in whom protection given by the vaccine would take effect too late.

Dr GJEBIN (Israel) said it must be emphasized that a smallpox eradication campaign should not be an isolated activity; whatever the state of development of the basic health services in a country, the campaign must be made a part of an over-all health scheme. Personnel and transport could, and often must, be used also in the control of other diseases.

Dr BENGHEZAL (Algeria) said that to compare smallpox and malaria eradication, as some earlier speakers had done, was misleading. Malaria eradication was a much more complicated task. Given vaccine and other supplies, a smallpox campaign could be carried out by less qualified personnel, as had been the case in his country. It had been possible, with the co-operation of the population, and especially of school staff, to vaccinate two million of the population of Algeria on World Health Day, 1965. To train vaccinators was a matter of a few hours.

The Director-General's smallpox eradication programme was within the possibilities of Member countries. Algeria, a country which had eradicated smallpox, would defend that programme warmly, from a feeling of solidarity with the developing countries. The more developed countries should join in eradicating an age-old disease which, in the days of increased communications and air traffic, might make its appearance in the most developed of them.

Dr KRUISINGA (Netherlands) said that his delegation endorsed the statements in plenary session of the delegations of Chile, India, the Union of Soviet Socialist Republics and the United States of America on the significance of the smallpox eradication programme. He recalled that at the Eighteenth World Health Assembly, the delegation of Czechoslovakia had drawn attention to the very important problem of vaccination programmes which were only needed because of the frequency with which smallpox still spasmodically occurred.

The intensification of WHO's work on smallpox was much appreciated. However, the programme as described in the report before the Committee was hardly as simple and straightforward as it was claimed. In view of the shortage of trained personnel, it would be necessary to concentrate on densely populated areas where the disease existed. In Europe, eighteen cases had already been identified in 1966, compared with only one in 1965. Importation of the disease to areas free from endemic smallpox remained a constant menace to the programme.

It was essential for the success of a campaign that the vaccine used be of the high quality specified by WHO: that applied especially in the case of revaccination, and was also of great importance where jet injectors were in use.

The delegation of the Netherlands had four questions to raise on the item under discussion. Firstly, while underlining the conclusions of the report in regard to vaccine supplies (paragraph 2.2),[1] it was curious to know how WHO would promote the suggested limitation of the number of vaccine production facilities to a few comparatively large, efficient institutions capable of supplying several countries.

Secondly, what steps were being considered by WHO to promote more widespread use of jet injectors (paragraph 2.4.3 and Chapter 3, under "Africa")[2]?

Thirdly, a more detailed explanation was requested of the statement in the report[3] that if the implementation of the programme were delayed or prolonged it would result in a further increase of the over-all cost of the programme. Could the Secretariat prepare alternative Tables 11 and 12 showing a rough estimate of the higher cost of a prolonged programme or the lower cost of a shorter one? To what extent were the figures in Tables 11 and 12 rough estimates?

Finally, attention was drawn to the chapter on chemotherapy in the First Report of the Expert Committee on Smallpox[4] where it was recommended,

[1] See *Off. Rec. Wld Hlth Org.* **151**, 108.

[2] See *Off. Rec. Wld Hlth Org.* **151**, 109 and 112.

[3] See *Off. Rec. Wld Hlth Org.* **151**, 120-121.

[4] *Wld Hlth Org. techn. Rep. Ser.*, 1964, **283.**

on pages 23 and 31, that comparative field studies be made in endemic areas of the new drugs concerned. Had that conclusion of the Expert Committee on Smallpox led to any steps being taken by WHO? What policy was followed in that matter at the present time, and was the position still unchanged?

Dr ALAN (Turkey) said that Turkey was preparing to commemorate the two hundredth anniversary of the date on which Lady Mary Wortley Montagu, wife of the British Ambassador to Turkey at the time, had sent a letter to an acquaintance in which she described how, in travelling through Turkey, she had observed that the pus of smallpox victims had been used in a primitive attempt to vaccinate children. Turkey, after two centuries of vaccination, was free from endemic smallpox although it had suffered certain setbacks through a major outbreak in 1943 and a local outbreak in 1957. Turkey's long experience of smallpox led it to attach very great importance to the Organization's smallpox eradication programme, on which he congratulated the Director-General and his assistants. Nevertheless, he wished to be associated with the speakers who had asked the Director-General and his assistants to be careful in implementing the programme. Turkey knew the difficulties and would be pleased to pass on its experience.

The Turkish delegation would vote in favour of the draft resolution.

Dr HAQUE (Pakistan) said that while Pakistan was a smallpox endemic area, fewer cases occurred in the western part of the country, where there was a population of fifty million and where transport and communication facilities were relatively good. The investigators carrying out the tuberculosis survey in West Pakistan had found that 80 per cent. of the people bore the smallpox vaccination mark. Despite that high percentage, some 2000-3000 cases of the disease occurred in the western part of the country.

The eastern part of the country, with a population of fifty-five million, was a highly endemic area, 80 000 cases having been reported in 1958. Because of lack of funds, the eradication programme had been confined to the eastern part of the country. It had been started in 1961 with the assistance of WHO and UNICEF and in accordance with the WHO eradication plan. Every house had been visited, family cards and cards for the floating population had been introduced, and the whole population of fifty-five million had been vaccinated. In 1964, only forty-three cases of the disease, with eighteen deaths, had occurred and the Government had hoped that the disease had been eradicated. Its hopes were, however, short-lived because in 1965 400 cases had been reported in East Pakistan. That had led to the conviction that, unless vaccination coverage was complete, the disease could not be eradicated. In East Pakistan, therefore, a twelve-year plan had been introduced; there would be complete vaccination every three years and assessment every three years. The Government was also convinced that the house-to-house method of vaccination was the only one that would ensure complete eradication. His delegation did not agree that towns should be given priority in vaccination; Pakistan's experience was that smallpox was a rural disease. It would be essential, once eradication had been, or was about to be, achieved, to set up virus laboratories so as to differentiate between the chickenpox and smallpox viruses. Assessment teams should be composed of epidemiologists and virologists, and persons with experience in smallpox eradication. The progress made in East Pakistan was satisfactory. There was, however, a lack of sealed glass tubes and transport vehicles. Provided the necessary equipment was received from WHO and countries providing bilateral assistance, it should be possible to complete the programme successfully.

Dr CONOMBO (Upper Volta) said that the health of the peoples of the world would benefit greatly from the Organization's decision to introduce a ten-year smallpox eradication programme. In addition to vaccination campaigns, steps should be taken to ensure that all the countries within an area embarked on the programme simultaneously, thus obviating the danger of the disease being transmitted from an endemic to a smallpox-free country. Adequate control should also be enforced at airports.

In Upper Volta, 1554 cases, with 123 deaths, had been reported in 1962; 335 cases, with nineteen deaths, in 1963; eight cases, with no deaths, in 1964; and fourteen cases, with no deaths, in 1965. The following numbers of smallpox-only vaccinations had been given: 1 411 748 in 1962; 1 583 184 in 1963; 1 516 877 in 1964; and 1 353 608 in 1965. In addition, the following numbers of combined smallpox and yellow fever vaccinations had been given: 366 572 in 1962; 271 057 in 1963; and 488 397 in 1964.

Despite the assistance provided by the Governments of the Federal Republic of Germany, France and the United States of America and by UNICEF, for which his Government was extremely grateful, his country—as were many developing countries—was in dire need of laboratories, equipment and transport. The substantial increase in WHO's budget should, as recommended by the Executive Board, be used to supply those needs. The Organization should also endeavour to supply countries with jet injectors. His delegation would vote in favour of the resolution recommended for adoption in resolution EB37.R16.

Dr KEITA (Chad) said that smallpox was endemic in Chad. Vaccination programmes prepared by the service for the major endemic diseases had been carried out for some years. Unfortunately, despite its six sectors of activity, the service did not cover the whole country. Infants were vaccinated at maternity centres, and altogether 60 per cent. of the population had been vaccinated. Much remained to be done but it was hoped that great progress would be made in the future with the assistance of the Fund for Aid and Co-operation of the French Community, WHO, UNICEF and the United States Agency for International Development. The last-mentioned organization had already carried out an anti-measles campaign. The fact that the service for the major endemic diseases did not extend throughout the whole country, the lack of financial means for the purchase of vaccine and transport, and the fact that unvaccinated foreigners came into the country were causes of outbreaks of the disease in Chad. It was hoped that with the application of resolution EB17.R16, together with the eradication efforts started by neighbouring countries, Chad would soon be freed from the scourge of smallpox.

Mr HAJI BASHIR ISMAIL (Somalia) said that the fact that his country was not listed in Table 2 of the report before the Committee did not mean that it was completely free from smallpox. The disease occurred in seven-year cycles, and there had been outbreaks in 1944/1945, in 1952 and 1959. There had also been one case in 1966, which had not been reported because of differences of opinion regarding diagnosis. Twenty-six cases of smallpox had been reported in French Somaliland in January 1966 but, thanks to the efforts of that country, the disease had not spread into Somalia. Aware that the disease was endemic in Ethiopia and Kenya, Somalia was always on the lookout for cases of smallpox, and mass vaccination programmes were carried out every five or six years.

Dr LELIGDOWICZ (Poland) said that his delegation agreed with those speakers who had said it was high time that smallpox was eradicated from the world. No other organization had the same facilities as WHO for carrying out a world eradication campaign. In the opinion of his delegation, WHO's role should consist in co-ordinating and concentrating eradication efforts. Voluntary contributions should be greater than they were at present. His delegation had noted with satisfaction the offer of the delegation of the Soviet Union to supply WHO with seventy-five million doses of vaccine and with qualified staff. The offer of the United States delegation to collaborate with certain countries was also greatly appreciated. He was sure that many other countries would be able to join in such voluntary action. His country would like to contribute by making trained staff available to WHO.

Mr MAGALÉ (Central African Republic) said that, with the exception of a small outbreak in 1962, his country had been free from smallpox for a number of years. That success was attributable to the mass vaccination campaigns carried out by the service for the major endemic diseases. The service covered the entire country and, with some ten mobile medical teams, systematically visited the whole population each year. Under a law passed in 1963 those attempting to avoid inspection were subject to punishment. There was a three-year vaccination plan. Each sector of the service was divided into three sub-sections and all the inhabitants of one sub-section were vaccinated on the regular annual visit by the mobile team. Constant surveillance was exercised throughout the country, and whenever a case of smallpox was reported a team was dispatched to the area involved and the whole population of that area vaccinated. The systematic vaccination system did, however, impose a heavy burden on countries. That was why his country was glad to note the proposal that the Organization should increase its assistance to countries by supplying vaccine, equipment and means of transport.

Dr WONE (Senegal) said that thanks to assistance from WHO, his country had operated an effective anti-smallpox programme. He wished to suggest, however, that the Organization's assistance to reference laboratories, such as the laboratory of the Pasteur Institute at Dakar, should be greater, thus permitting a reduction in the price of locally-produced vaccine. He was interested to read in the report that smallpox was practically non-existent in Portuguese Guinea. Paradoxically, the few cases of smallpox in Senegal occurred in a region very near the frontier and the national health services had been strengthened there because Senegal feared that smallpox was imported from a region in which, according to the Director-General's report, the disease was non-existent.

Dr KAUL, Assistant Director-General, said that the Secretariat had noted delegates' comments, particularly the emphasis placed on the need to implement the programme at the earliest opportunity. The suggestion that the Secretariat should avail itself of the experience of various national administrations and make use of the experience it had gained in operating the malaria eradication programme had also been noted. It was felt that the technical lines for the development of the programme had been fairly clearly laid down. He drew attention to the report of the Expert Committee on Smallpox;[1] the situation with

[1] *Wld Hlth Org. techn. Rep. Ser.*, 1964, **283**.

respect to antiviral drugs was described in the section entitled " Chemoprophylaxis and chemotherapy ". Attention should also be given to the Report of the Study Group on the Integration of Mass Campaigns against Specific Diseases into General Health Services.[1] At the previous meeting, the Director-General had pointed out that although the methodology was simple it would not be simple to achieve ultimate eradication. Costs would increase unless the programme was implemented quickly; vaccination campaigns would have to be repeated if they were not carried out within the time-limit for total coverage of three or four years.

The offer by the Soviet Union of a further seventy-five million doses of vaccine had been received with great satisfaction. The fact that the Assembly had agreed that the programme could be financed out of the regular budget meant that the Organization could open negotiations, through the regional offices and in consultation with the regional committees, with a view to implementing the programme in all endemic areas. The planning of the programme and the estimates of its costs in the report were based on the assumption that existing arrangements for bilateral assistance would at least be continued, if not increased. The offers of freeze-dried vaccine were very welcome and any other types of assistance would be greatly appreciated. Operative paragraph 4 of the resolution contained in resolution EB37.R16 showed that the Executive Board was aware, as a result of the experience gained in operating a malaria eradication programme, of the need to supply countries with equipment and transport. Questions concerning jet injectors, laboratories for the production of freeze-dried vaccine and the establishment of regional rather than national production centres would require further discussion. WHO had, with the help of UNICEF, already supplied a number of countries with vaccine production facilities.

He invited the Committee's attention to the resolution presented by the Executive Board in resolution EB37.R16.

Dr BENGHEZAL (Algeria) proposed that a subparagraph (*c*), stating that WHO should ensure strict control of vaccines, should be added to operative paragraph 4 of the resolution.

Dr KAUL informed the Committee that the Organization had already, through its Expert Committee on Biological Standardization, established certain requirements for smallpox vaccine, which had been made known to all production laboratories. All vaccines donated to the Organization were examined with a view to ensuring that they conformed with those requirements. The Organization also provided facilities whereby countries producing vaccine could have the vaccine tested. The amendment suggested therefore seemed unnecessary.

Dr BENGHEZAL (Algeria) withdrew his proposed amendment.

Decision: The resolution recommended for adoption in resolution EB37.R16 was approved.[2]

The meeting rose at 5.55 p.m.

[1] *Wld Hlth Org. techn. Rep. Ser.*, 1965, **294**.

[2] Transmitted to the Health Assembly in the Committee's third report and adopted as resolution WHA19.16.