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CHAIRMAN: Dr W. D. REFSHAUGE (Australia)

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1. REPORT ON DEVELOPMENT OF THE MALARIA ERADICATION PROGRAMME: Item 2.3 of the Agenda (Documents A15/P&B/2, parts I and II, and A15/P&B/19) (continued)

The CHAIRMAN recalled that in introducing the item, Dr Kaul, Assistant Director-General, Secretary, had said that a further document, relating to the acceleration of the programme, was being prepared. That document had now been distributed and he called on Dr Kaul to introduce it.

Dr KAUL reminded the Committee that at its first meeting he had called attention to the delays and difficulties which were being experienced by countries in malaria eradication programmes and which were related to administrative and operational problems, as well as to lack of financing at the national level. He had also referred to the development of the technique of "pre-eradication programmes" in some of the newly independent countries, particularly in Africa.

The Director-General had been considering how the programme might be accelerated, with particular reference to resolution WHA14.27, in which the Fourteenth World Health Assembly had stressed the need for continued voluntary contributions to the Malaria Eradication Special Account to permit "more rapid and broader prosecution of the programme". The proposals in document A15/P&B/19 were the result of that consideration.

It should be noted that those proposals did not constitute budgetary estimates for 1963 or any subsequent year, but were put forward for implementation as and when voluntary contributions became available. It should also be borne in mind that the document was concerned with programme aspects only: the financial implications would be discussed in the Committee on Administration, Finance and Legal Matters under item 3.10.1 of the agenda, as pointed out in section 3 of document A15/P&B/19.

The proposals related to three main fields of expansion, of which the first was "pre-eradication programmes", mainly in the African Region. Now that the feasibility of interrupting transmission in tropical Africa had been demonstrated, the main delaying factor was the difficulty of launching programmes in certain countries because of deficiencies in basic public health organization and rural health infrastructure. To stimulate the development of such structures was one of the functions of pre-eradication programmes. They would include "pilot operation areas" serving as demonstration and training areas. The cost was estimated at roughly \$ 53 000 a year for supplies, salary subsidies and fellowships. In addition, international advisory services would have to be provided where needed.

At the previous meeting he had indicated that only a few malaria eradication programmes were in operation or being planned in Africa. As a result of discussions and negotiations with newly independent African countries, it appeared that some twenty-two governments were interested in seeking WHO assistance for the development of pre-eradication programmes during the next few years. That left some twenty further countries with a malaria problem and which would eventually require assistance and, as indicated in the document, it was estimated that about \$ 87 000 a year would be required for each such country.

In view of the shortage of health personnel in the emerging countries, assistance in providing operational staff for key positions in malaria eradication services had to be envisaged. It was estimated that about twenty professional officers would be required for that purpose.

Finally, the training programme would have to be accelerated to provide national staff with proper instruction in eradication techniques and also, in view of the shortage of experienced malariologists for international advisory services, to provide supplementary training for international staff.

Professor CORRADETTI (Italy) observed that until recently the prevailing over-simplified view seemed to have been that malaria eradication was a mechanical operation depending for success only on adequate supplies of insecticides and the availability of spray-pumps and transport. At the Twelfth World Health Assembly, his delegation had drawn attention to the fact that malaria eradication was not progressing throughout the world as fast as might have been expected following the previous claims, and had stressed: firstly, the necessity of ascertaining the feasibility of eradication in any area before undertaking any plan; secondly, the need to provide governments with assistance in organizing their national staff, and thirdly, the importance of continuing fundamental research. It was therefore gratifying to note from the introduction to document A15/P&B/2 that a more realistic view of the problems involved now prevailed.

What seemed to him of particular importance was the reference in the fourth paragraph of the introduction to "a new line of approach towards malaria eradication in the newly independent countries: the planning of pre-eradication programmes with the objective of helping governments to build up gradually the necessary operational services and facilities for an eradication campaign, as well as an adequate supporting rural health infrastructure". It amounted to a

recognition that adequate general health services were a prerequisite for malaria eradication, and indeed that the first criterion of "feasibility" was a sufficiently developed national health organization extended to all the areas from which malaria was to be eradicated.

The evidence for that view was clearly shown in the two maps facing page 12 of document A15/P&B/2 Part I and which showed the epidemiological assessment of the status of malaria in December 1960 and December 1961 respectively. It would be noted that either eradication or the consolidation phase had been attained in most of the temperate areas and a few spots of the tropical and subtropical zones, while the remainder of the malarious countries were still in the attack or the preparatory phase. In the temperate areas, that difference in results was partly due to the short transmission season, but in the tropical areas it was no accident that the only countries where eradication had already been achieved were those with highly developed national health services.

The new policy outlined in the introduction to the document was likely to have important consequences. When the Eighth World Health Assembly had adopted the principle of malaria eradication, the implication of that decision had been that all the countries of the world would give their utmost possible support. Now that the full extent of requirements was better understood, a higher standard of collaboration was called for. An analysis of the figures given in Table A of Part I of the document (page 7) showed that out of 1420 million people living in malarious or formerly malarious areas, 390 million were in the maintenance or consolidation phase, 634 million were in the attack or

preparatory phase, and 393 million were still without any eradication programme, giving a total of 1027 million not yet liberated from malaria. If one considered where those 1027 million people lived, it was obvious that a vast amount of help would be required if the world was to be finally rid of malaria.

In conclusion, to have a rural health infrastructure covering the entire territory, in other words to have an efficient national health service, which was the necessary basis for any plan of malaria eradication, was the main problem in many countries, including a large proportion of the newly independent nations. In most of those countries the shortage of experienced staff was very acute in every field of health, including malaria. It was therefore the duty of WHO to assist those countries in solving the basic problems of training and staffing both for their general health services and for malaria eradication. A first step might be, first, to help provide for the training, in institutions abroad if necessary, of national staff for malaria eradication and other branches of health work; and secondly, to help governments to establish national institutes and schools for training in both general health and malariology, with internationally recruited teachers gradually replaced by national ones.

Another field where action was called for was the intensification of training programmes for national personnel to deal with the numerous problems arising in the different countries in relation to epidemiology, entomology, parasitology, drug resistance of the malaria parasite, insecticide resistance of the vectors, etc.

Finally, there was fundamental research, a field in which the collaboration of institutes and individual workers in the highly developed countries was of great importance. There was still a number of scientific problems whose solution might be the key to a more rapid and less expensive eradication of malaria from the world. Scientists in different fields could collaborate for that purpose: pharmacologists to develop a drug really able to kill all the plasmodia existing in the organism, or a drug capable of sterilizing the sexual forms of the parasite; chemists to discover new insecticides effective against mosquitos resistant to chlorinated hydrocarbons; pathologists and immunologists to work out more sensitive laboratory methods for detecting the asymptomatic carriers of parasites; biologists, entomologists and ecologists to discover ways of overcoming the adverse effect on the results of eradication operations produced by the phenomena of exophilism and irritability in some of the most dangerous vector species.

It was the opinion of his delegation that only a united effort using all available resources could achieve the eradication of malaria from the world.

Dr KHABIR (Iran) congratulated the Chairman on his election and the Director-General on the excellent reports submitted under the present item.

The Government of Iran had begun operations against the country's most serious public health problem, malaria, some thirteen years previously and had adopted the goal of eradication in 1956.

Iran had an area of 1 648 000 km² and was situated between the latitudes of 30 and 34° north. The vast extent of the country resulted in widely differing geographical conditions which affected requirements for malaria eradication. The northern part had a damp, Mediterranean-type climate and was thickly forested. The central plateau had a temperate climate and some parts were cold. The eastern and central parts were dry and warm.

The main malaria vectors so far identified were Anopheles sacharovi, A. maculipennis, A. stephensi, A. fluviatilis, and A. culicifacies.

In most of the northern and central areas malaria eradication operations had either reached or would shortly reach the consolidation phase. In the southern area, on the other hand, difficulties connected with nomadism, resistance to DDT and dieldrin, and exophilism had prevented the effective interruption of transmission. To overcome those difficulties and safeguard the success already achieved in the rest of the country, more attention was being paid to the development of rural sanitation through the establishment of a basic health network throughout the country.

The timetable for the eradication programme required that in the present year operations should be carried out in all the villages of the country. That development called for certain changes from the previous year's programme. They were as follows:

- (1) an area amounting to one-quarter of the country and including 10 000 villages, in which no eradication operations had so far been carried out, would be included for the first time in the attack programme;

- (2) to prevent epidemic outbreaks and the possible reinfection of areas already freed of the disease, antimalaria activities in 7500 villages of the south where the vector was the insecticide-resistant A. stephensi would be carried on for a period of nine months as against only four, over a smaller area, the previous year;
- (3) on the southern part of the Iran/Iraq border, where A. stephensi was also the vector, it was believed that transmission no longer existed, but to consolidate those gains full-scale surveillance, accompanied by curative work, would be carried on;
- (4) the few entomological posts established in 1961 for anopheles density and resistance studies would be considerably extended, so that about 400 villages throughout the country would come under the survey;
- (5) a pilot programme for the study of problems arising from tribal ways of life would be conducted in a number of areas containing about 700 villages;
- (6) a curative programme for malaria cases, using primaquine, would be implemented in all areas in the consolidation phase - 22 000 villages;
- (7) blood samples from fever cases and suspected malaria cases would be examined in 35 000 villages and positive cases would receive radical cure treatment (it was expected that about one-and-a-half million slides would have to be taken and examined).

The current year's programme called for a minimum expenditure of \$ 8 800 000 from the government's regular budget.

It would be seen that serious efforts were being made to render his government's eradication programme as effective as possible and resolve the difficulties that inevitably arose. It was appropriate that those efforts should be matched by continued support from international sources so that the final success of the campaign could be assured.

Dr ALAN (Turkey) congratulated the Director-General on the very comprehensive report he had submitted. His delegation particularly welcomed the insecticide studies that had been carried out and was looking forward to the forthcoming publication of a monograph on malaria eradication terminology.

Turkey had been taking part in a large eradication programme since 1957, when it had already had more than a quarter of a century's experience in the control of malaria; but the eradication of a disease was never easy and considerable efforts had to be made to overcome the various problems that arose. In that regard his government was grateful to UNICEF and WHO for all the assistance it had received. Turkey had been happy to give hospitality to WHO fellows who had come to study operations there, and it had now joined in the malaria eradication stamp campaign. Thus his country warmly supported the malaria eradication programme and was ready at any time to give any assistance in its power.

Dr TCHOUNGUI (Cameroun) thought it might be useful to the other members of the Committee if he gave some indications of the cost of a malaria eradication campaign and the technical difficulties that arose. Cameroun had been one of the first central African territories to undertake intensive malaria control but today, after nearly ten years, it was not yet possible to claim total eradication in the pilot area of Yaoundé.

That pilot area had been set up in 1952, with assistance from UNICEF and WHO, and the objective had been to discover the cheapest and most effective methods of malaria control in a forest area. The pilot area had been surrounded by a protection zone which had later been extended to become the control programme for South Cameroun. Furthermore, in order not to confine operations to the forest areas, the joint UNICEF/WHO mission had planned a simultaneous control programme in the savannah area of North Cameroun.

At that time the concept of eradication had not yet been adopted and the purpose of the two control programmes, as well as of the pilot area in Yaoundé, was to provide guidance for future operations. From the administrative and financial point of view, the programmes had helped to show that malaria control as then practised had no foreseeable end and that the expenditure involved must be renewed year after year. They had also proved that the interruption of transmission in a limited area could not be achieved without active measures to prevent reinfection from neighbouring areas. Such lessons had helped malariologists to revise their ideas on the problem of malaria control and to codify methods of eradication and the conditions prerequisite for eradication operations in any country. Those methods were admirably set out in document A15/P&B/2, parts I and II, now before the Committee.

The present situation in Cameroun was as follows. Insecticide spraying had been carried out in the pilot area of Yaoundé between 1954 and February 1960, when a system of surveillance had been put into operation. During that period the plasmodium index had been reduced from 36.8 per cent. to zero for babies and from 40.6 per cent. to zero for children from two to nine years of

age. However, eradication had not been obtained because, with the cessation of spraying, 325 cases of malaria had been identified in 1960 and 2274 in 1961, while at the same time A. gambiae, in some cases infective, had reappeared in several villages of the pilot area.

The pilot area was supposed to be in the consolidation phase, but number five of the minimum criteria provided that consolidation should not begin in any area unless neighbouring areas were at least in the second year of the attack phase: the cause of the recrudescence in the pilot area was apparently the fact that in the South Cameroun programme total coverage had not been obtained. It would be necessary to resume mass spraying in order to get back to the level reached in 1960.

A new plan signed by his government and WHO provided, firstly, for the reinforcement of surveillance in the Yaoundé area, with the elimination of residual foci; and secondly, for the building up of the recently created national malaria eradication service with a view to undertaking, in the southern part of eastern Cameroun and the forest area of western Cameroun, malaria eradication activities which would eventually be extended to the entire country. In the south the programme would for the time being be limited to pre-eradication operations. The cost to WHO would be \$ 65 800 under the Malaria Eradication Special Account and \$ 27 600 under Technical Assistance funds, while the government contribution would amount to \$ 208 000 in the first year (1962) and at least as much in the second.

In the light of the situation he had described, the question arose whether pre-eradication operations should be considered only in relation to the programme of malaria eradication at the world level, or whether malaria should not be considered as a public health problem at the local level. Whereas that problem was practically solved in the pilot area of Yaoundé, the position was quite different in the Southern Cameroun area, where the population had come to appreciate the benefits of regular insecticide spraying and were disturbed by its interruption, which was leading to an increase in cases of malaria and in infant mortality. The pre-eradication phase would probably last for several years, and even when all the necessary conditions for eradication existed it could not be undertaken until neighbouring countries reached the same stage.

The problem would no doubt be discussed at the malaria conference that was to be held at Yaoundé in July 1962, but he had felt that he should also draw it to the attention of the present committee, which was responsible for approving WHO's programme and budget for 1962.

Dr EL-BORAI (Kuwait) after congratulating the Chairman on his election, said that malaria was not a health problem in his country and transmission did not apparently occur. The species of anopheles collected in the area were not considered dangerous. However, conditions in certain of the inland marshes in Kuwait Bay were similar to those in marshes lower down the Arabian Gulf where intensive breeding of Anopheles multicolor, a suspected malaria vector, occurred. Furthermore, it was believed, since mosquitos seemed to be more prevalent after a period of sustained northerly wind, that Kuwait was perhaps invaded periodically by vector mosquitos from the northern shores of the

bay; for, while it might seem unlikely that mosquitos could be carried by wind for a distance of twelve miles, the experience of a ship anchored fifteen miles from the nearest land at the head of the Gulf, and which was invaded by large numbers of anopheles, showed that it was by no means impossible.

In the absence of a reservoir of infection, such an invasion would entail no immediate risk of fresh cases of malaria; but favourable conditions for transmission might in the future be created through the importation of foreign labour, necessarily drawn in part from endemic areas. Further information about the marshes of the northern shores of the bay was therefore required, and it was suggested that three or four spaced visits be paid to the district by an entomological team between June and October.

Long-term development plans for Kuwait included the provision of water for cultivation around the town, and that might involve some risk of creating further breeding places for mosquitos.

The reference in the Director-General's report to the possible invasion of Kuwait by Anopheles stephensi was appreciated by his Government as it indicated an awareness of the need to remain alert to the possibility of the introduction of malaria into a country where it had never existed.

Mr DIA (Senegal) stated that malaria was a very serious public health problem in his country, as indeed in most of the countries of Africa. That fact was recognized by the Director-General in Part I of the Second Report on the World Health Situation (document A15/P&B/3) where it was made clear that most of the populations still not covered by malaria eradication programmes lived on the African continent. That fact, coupled with the disappointing results of the operations so far undertaken, contrasted with the positive results achieved elsewhere, particularly in Europe and

the Americas. The reasons for those unsatisfactory results were fully and objectively analysed by the Director-General, so he would not dwell on them but refer to the positive conclusion drawn, which was the need to plan and implement national pre-eradication programmes with a view to the eventual complete eradication of the disease. If the different elements of the plan outlined were applied diligently, the future could be faced more optimistically.

The remarks he was about to make were designed to relate the Director-General's conclusions to a particular case, that of his own country. Since 1953, Senegal, like a number of African countries, had been conducting malaria control operations, under a plan of operations signed jointly with UNICEF and WHO, with the objective of eradicating the disease in a clearly delimited area. At one time interruption of transmission had almost been achieved, but owing to a number of factors, technical, administrative and financial, the point of eradication had not been reached and UNICEF and WHO assistance had been withdrawn. Thus, his Government was now faced with the problem of a former pilot area where the reduction in endemicity had lowered the acquired immunity of the population, who were thus exposed to the danger of severe epidemic outbreaks.

In the light of that experience, his Government now considered that full-scale antimalaria operations should be preceded by a pre-eradication phase, which was precisely the conclusion reached by the Director-General. His Government proposed to establish a national antimalaria service, which would be responsible for pre-eradication operations with a view to establishing conditions for eventual eradication throughout the territory. Its responsibilities would be, firstly, to determine the exact extent of the problem; secondly, to determine the most suitable eradication techniques for each area; thirdly, to train the necessary specialized staff; and

fourthly, to take all the measures in the field of health education and of legislative arrangements necessary for the success of the programme. Meanwhile, a network of rural health services was to be established under Senegal's four-year plan and would be available for the organization of surveillance when the attack phase was completed.

For the successful implementation of this project, the methods outlined by the Director-General in his report seemed appropriate, provided that neighbouring countries were in a position to undertake simultaneous operations.

Until eradication plans could be put into operation, malaria would continue to take a heavy toll of the population; it was therefore proposed to undertake intensive control operations in the former pilot area, which would serve as a bridge-head for the subsequent expansion and conversion to eradication.

Professor NAUCK (Federal Republic of Germany) supported the views on the acceleration of the malaria eradication programme, as outlined in document A15/P&B/19.

Special attention should be paid to the planning of pre-eradication programmes, and in this connexion additional international advisory personnel would be required, especially in the African Region. More specialists would be needed until local personnel could be recruited and trained. There would continue to be an urgent need for the training of public health workers in malaria eradication techniques and for specialized training of auxiliary personnel. More special malaria courses or refresher courses should be organized, and additional fellowships provided for the training of workers for pre-eradication programmes.

If voluntary contributions could be obtained, carefully planned pre-eradication programmes might lead to more efficient eradication programmes. The Ministry of Health in Germany was making a strong recommendation to the Federal Government that a voluntary contribution be made to the Malaria Eradication Special Account, as in past years.

Particular attention should be given to measures to prevent the re-introduction of malaria infection into areas where eradication had already been achieved. One way of assisting governments would be to provide information, perhaps through the WHO Weekly Epidemiological Record, on the malaria situation in all areas where malaria existed and where the consolidation or maintenance phase had been reached. WHO might recommend measures for protection against the re-introduction of malaria infection, individual governments being left to formulate their own regulations in that respect. The prevention of re-introduction of malaria under the International Sanitary Regulations had been discussed in a study group and by the Committee on International Quarantine during 1956 and 1957. In view of developments during the past years, the measures applied for malaria in conformity with the principles of the International Sanitary Regulations - the maximum of security against spread of diseases, with the minimum of interference with international traffic - should be revised. A special technical group consisting of experts on malaria and on international quarantine should perhaps be convened to formulate recommendations regarding protection measures against parasite carriers and mosquito vectors.

Insecticides continued to be the basic weapon in eradication campaigns, but drug administration had proved useful or even essential during the consolidation phase when individuals or small groups were involved for a short period. Mass drug treatment by means of tablets and the use of medicated salt had proved very difficult for various reasons. Special attention should be paid in research programmes not only to the best methods of drug administration, but also to the development of new long-acting drugs, taking into account the increasing possibilities of the development of resistance to drugs by certain parasite strains. Research was being continued in that field in the Federal Republic of Germany.

Dr VASSILOPOULOS (Cyprus) stated that, before the malaria eradication campaign carried out in Cyprus between 1945 and 1950, malaria had been the greatest single enemy to the health and prosperity of the people of that country. Pre-eradication surveys had shown a parasitic rate of over 75 per cent. in some areas, and the number of cases per year had been estimated at 10 000. Infant mortality had been very high - though that might have been attributable in part to lowered resistance in infants.

In 1945, after thorough preparatory work had been done by the Rockefeller Foundation in co-operation with the national health services, a campaign had been launched in the Karpas peninsula, as a pilot area. All mosquito breeding-places and potential shelters had been regularly sprayed with DDT, which had also been used as a residual spray, and checking had been carried out continuously. A special laboratory had been set up for the identification of the anopheline species. Chemotherapy had not been used, thus making it possible to assess the effect of the spraying campaign. The results of annual surveys, consisting of spleen and blood examinations, mainly of children, had been as follows: 1944 - spleen index, 32.4 per cent., parasite index, 57.9 per cent.; 1948 - spleen index, 10.6 per cent., parasite index, 1.3 per cent.; 1950 - spleen index, 4.5 per cent., parasite index, 0.2 per cent. Since the conclusion of the campaign in 1950, no primary indigenous malaria infection had been reported, and the parasite rate had been at zero level. The total cost of the campaign from 1945 to 1950 had been approximately £ 350 000.

Cyprus had been one of the first countries to eradicate malaria. Immediately after the conclusion of the campaign a maintenance service had been organized, to prevent re-introduction of the vector from abroad. All ports and airports were carefully watched, potential breeding places checked, and residual spraying maintained. The annual cost of the maintenance service was approximately £ 80 000.

Dr DJUKANOVIC (Yugoslavia) said that malaria eradication campaigns had helped to solve an enormous and fundamental problem in Yugoslavia as a whole.

The eradication programme was progressing according to plan, and it was even hoped that it would be completed before 1965, earlier than planned. In this connexion, he stressed the value of the financial and technical help supplied by WHO where parallel efforts were made by the national health services. In Yugoslavia, some 500 000 cases had previously been recorded during epidemic years, but in the second year of the attack phase of the eradication programme only fifty-seven cases had been recorded, of which twenty-three had been primary.

Co-operation was also needed at the international level. At the recent Second European Conference on Malaria Eradication, stress had been laid on the problem of malaria importation. Information on immigrant malarious patients should be made available to national health services. With regard to the lack of experienced personnel in countries initiating eradication programmes, the newly established training centres would certainly prove useful, but closer international co-operation was necessary: in particular, experienced personnel from countries which had achieved eradication could be recruited to work in countries planning pre-eradication programmes.

Countries not having highly developed health services should prepare for eradication campaigns as soon as possible. Experience in many countries had shown that personnel engaged in malaria eradication campaigns could also be usefully employed in the general health services, and the eradication programme had proved to be a means of providing adequate medical care for the whole population, ensuring health protection in rural areas also.

The Government of Yugoslavia, in addition to making every effort to achieve total eradication, recognized the need for international co-operation: the training centre for malaria personnel, in Belgrade, bore witness to that recognition.

The results achieved in Yugoslavia provided an impressive example of what could be achieved through the close co-operation of national health administrations with WHO, and his country was grateful to the Organization for its additional financial support.

Professor ZHDANOV (Union of Soviet Socialist Republics) said that he had noted with interest the details given in the report on the development of the malaria eradication programme.

The situation varied considerably in the various countries, and in some parts there were still great difficulties to be overcome. The assistance of the Organization was particularly required in the African and South-East Asia Regions. During the coming years an increasingly large part of the malaria eradication budget should be devoted to antimalaria work in Africa.

In the Soviet Union, malaria had been eradicated in 1960, and the country was now passing from the control to the consolidation phase. During 1961, all the sixty-seven cases of malaria in Moscow had been new arrivals who had been infected before coming to the Soviet Union. There had been no malaria in Moscow itself for several decades, and even in certain small frontier areas of the Southern Caucasus and Soviet Central Asia only some 0.01 per cent. of the population was affected.

He emphasized the fact that countries which had achieved eradication should continue their efforts to prevent the importation of cases. The more the progress made, the greater the attention that should be paid to inter-regional collaboration. The Soviet Union had provided supplies to various countries, and in Moscow courses in both English and French were being given for malariologists.

One particular case of malaria in the Soviet Union was of interest: a child had contracted malaria as a result of a blood transfusion from her mother, who had had malaria during her childhood. The danger of injection would thus seem to continue for many years after the illness. That particular phenomenon might become important in the last stages of malaria eradication and should perhaps be studied.

As stressed by the delegate of the Federal Republic of Germany, it was important that new drugs be discovered. In the Soviet Union malaria had been eradicated fairly quickly as a result of the use of both insecticides and relatively new drugs.

Efforts should be intensified, and inter-regional co-ordination increased. Perhaps the day of final eradication was not quite as close as had been hoped, but certainly the work was progressing well.

Dr KLOSI (Albania) noted with pleasure the continuing success of the WHO eradication programme. In Albania, the programme had been continued with success during 1961, when the situation had been as follows: population in non-malarious areas, 206 000; in areas in the maintenance phase, 278 000; in areas in the consolidation phase, 786 000; in areas in the attack phase, 236 000. During the year, DDT spraying had been carried out in 21 758 houses, 10 764 of these being in areas in the attack phase, and the remainder in areas in the consolidation phase. Both active and passive detection had been carried out in the areas in the attack and consolidation phases, and limited passive detection had also been carried out in the areas in the maintenance phase. More than 125 000 blood examinations had been made during 1961, as compared with some 80 000 during 1960. During 1961, 77 cases of malaria had been registered, 72 of these with Plasmodium vivax, 5 with Plasmodium malariae. Of the total, 41 cases were indigenous, 26 recurrences, and 7 were imported from areas in the attack phase and subsequently gave rise to 3 more cases. All cases during 1961 had been hospitalized and received radical treatment with quinoceide.

Epidemiological investigation had been carried out for every case, and treatment followed by periodical haematological control would be continued during 1962. To achieve more rapid elimination of the residual foci, there had been mass distribution of quinocide during April 1962 in all the malaria foci, and by the end of 1962 the whole of Albania should be in the consolidation phase.

In the execution of the malaria eradication programme an important part had been played by environmental sanitation work and the network of health services, covering villages as well as towns. During 1961 a member of the WHO Malaria Eradication Division, along with a temporary WHO adviser, had visited Albania and noted the role played by the rural health network in the malaria eradication programme.

In reply to the appeal regarding postage stamps for the malaria eradication campaign, the Government of Albania had issued 111 100 sets of stamps, and had donated 1000 of these sets to WHO.

Professor GONZALEZ TORRES (Paraguay) stated that in Paraguay during 1961, after the fourth cycle of partial coverage, spraying had been suspended and the funds diverted to pre-eradication surveys. The use of dieldrin had been abandoned, and twice-yearly spraying with DDT started. Surveys had led to the conclusion that the whole country was affected, and that A. darlingi, the principal vector, was indigenous to Paraguay. During the last few months there had been epidemics in the eastern region of the country as a result of Plasmodium vivax and Plasmodium falciparum, which were controlled by a programme of "presumptive treatment".

Epidemiological information had been exchanged with Brazil and Argentina.

President Kennedy's "Alliance for Progress" plan included a request for the continuation of the financing of the eradication programme. Requests had likewise been made to the Agency for International Development.

Special eradication stamps had been issued on 7 April, and 100 000 stamps had been donated to WHO.

Dr AFRIDI (Pakistan) expressed his gratification at the Chairman's election.

He was gratified, also, at the achievements in the field of malaria eradication, although much work still remained to be done, as had been stressed by the delegates of Italy and Senegal. The success of the eradication programme was reflected not only in the statements of delegates but also in the fact that, for a number of countries, "nil" was shown for the first time in their proposed budgets against the entry "malaria eradication".

On the other hand, he was afraid that success might lead to some relaxation of effort at the very time when, as the delegate of the Union of Soviet Socialist Republics had said, impatience should be curbed and efforts redoubled. For that reason, the Pakistan delegation would recommend the recognition of the need for the continuation of voluntary contributions, as indicated in document A15/P&B/19.

At the same time, he was apprehensive with regard to the Special Account. He was conscious of the dangers of ill-conceived plans, but care should be taken not to go to the other extreme, particularly with regard to pre-eradication programmes, which were really intended to elicit information considered to be indispensable for starting the eradication programme. He stressed this, since it was his impression that aid-giving agencies were increasingly inclined to seek reasons to justify the withholding

of aid. If the functions of the Special Account were to be taken over by the regular budget, provision would have to be made for the supplies and equipment which had previously been provided with funds from the Special Account. The delegate of Norway had referred to this - a fundamental question of policy - during plenary meeting. Would it not be possible for a lump sum for equipment and materials to be transferred from the regular budget to the Special Account?

The adoption of an eradication policy on a world-wide scale had inadvertently led to a slowing down in fundamental research on the part of commercial firms. The part played by the Organization was therefore of immense value. With the improved technique of attack on anopheles and parasites and the easy application of the new vaporized insecticides, the outlook was very bright, and there was evidence that the mass distribution of drugs with prolonged action would soon become a reality. The campaign should now be continued with persistence.

The meeting rose at 12 noon.