A job well done

Today, a new lease of life is at hand for one out of every ten children in West Africa who used to be either killed, left mentally retarded or blinded by smallpox

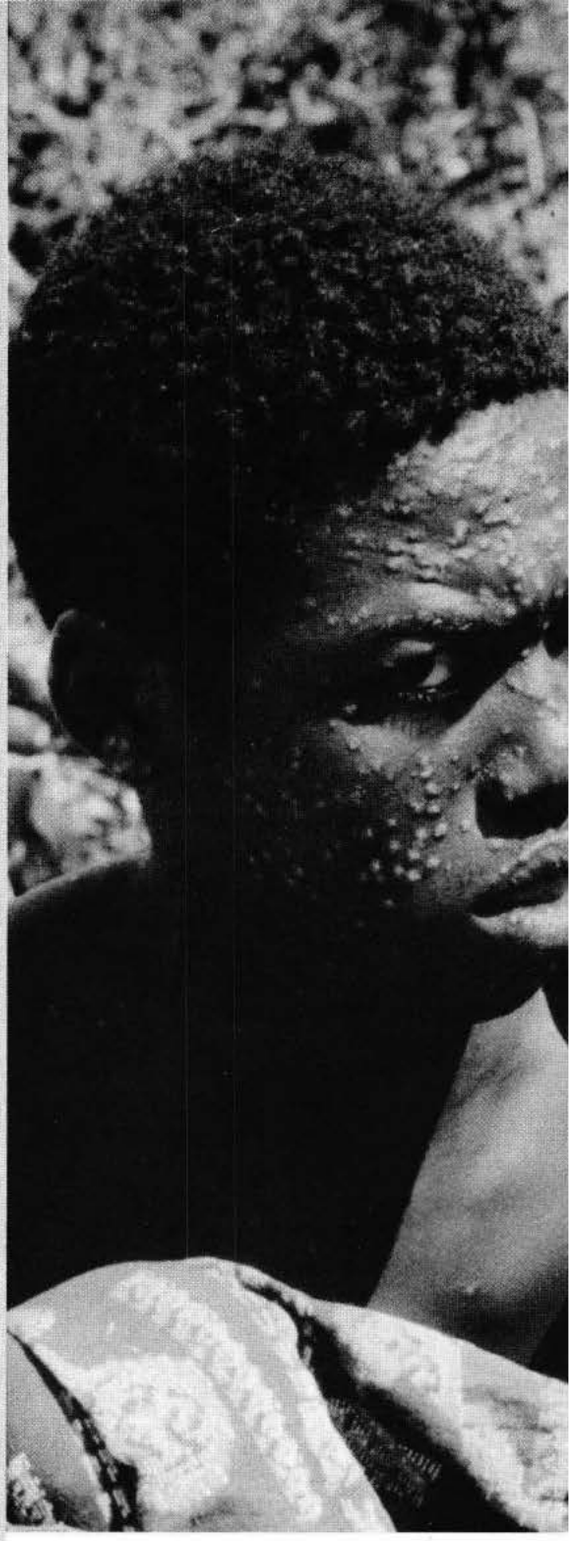
by Marcella Davies

In Sierra Leone, the WHO-sponsored smallpox eradication programme was unique not only because it was a joint venture between that country's Government and the United States, but because it was a major public health effort on the part of 20 West African countries closely coordinated with worldwide WHO efforts to rid the world of smallpox by 1975. This was a gruelling exercise demanding watchfulness and speed for its success, but all the same it was worth the effort.

Up to some 15 years ago, the whole country was virtually littered with cases of smallpox. All districts, with the possible exception of Kailahun, reported high attack rates. The last severe outbreak, documented for 1957, resulted in 4,246 reported cases with 228 deaths. This trend continued and the situation remained tense until 1965, when there were severe sporadic outbreaks. In November 1967, Sierra Leone experienced a high incidence of the disease in the aftermath of the previous year's epidemic. According to WHO figures, the whole country had more smallpox for its population in 1967—with 1,636 reported cases and 248 deaths—than any other place in the world.

Most of the victims were scattered in remote places with little or no medical facilities. Living conditions were generally poor and the teams had to trek for miles across hilly terrain, marshy swamps and ferryless rivers in order to reach some villages.

Although small-scale vaccination programmes were in progress all over the country, their impact had not been sufficient to change the trend of the infection rate nor the attitude of most people to vaccination. It was commonplace to see a whole village deserted whenever a vaccinator loomed in sight.



The four-year programme developed for Sierra Leone in collaboration with USAID (the United States Agency for International Development) had two aims: the complete eradication of smallpox, and the control of measles by immunizing all susceptible children aged between six months and two years. The first (attack) phase of the campaign for the fiscal years 1968/69 was devoted to mass immunization against smallpox, with a follow-up assessment to ensure 90 per cent coverage. An improved surveillance system was also instituted, with the immediate aims of detecting and containing any

In Africa, the eradication campaign was accomplished by a kind of cooperation that transcended all language barriers and local traditions. *(Photo WHO/J. Ryst)*

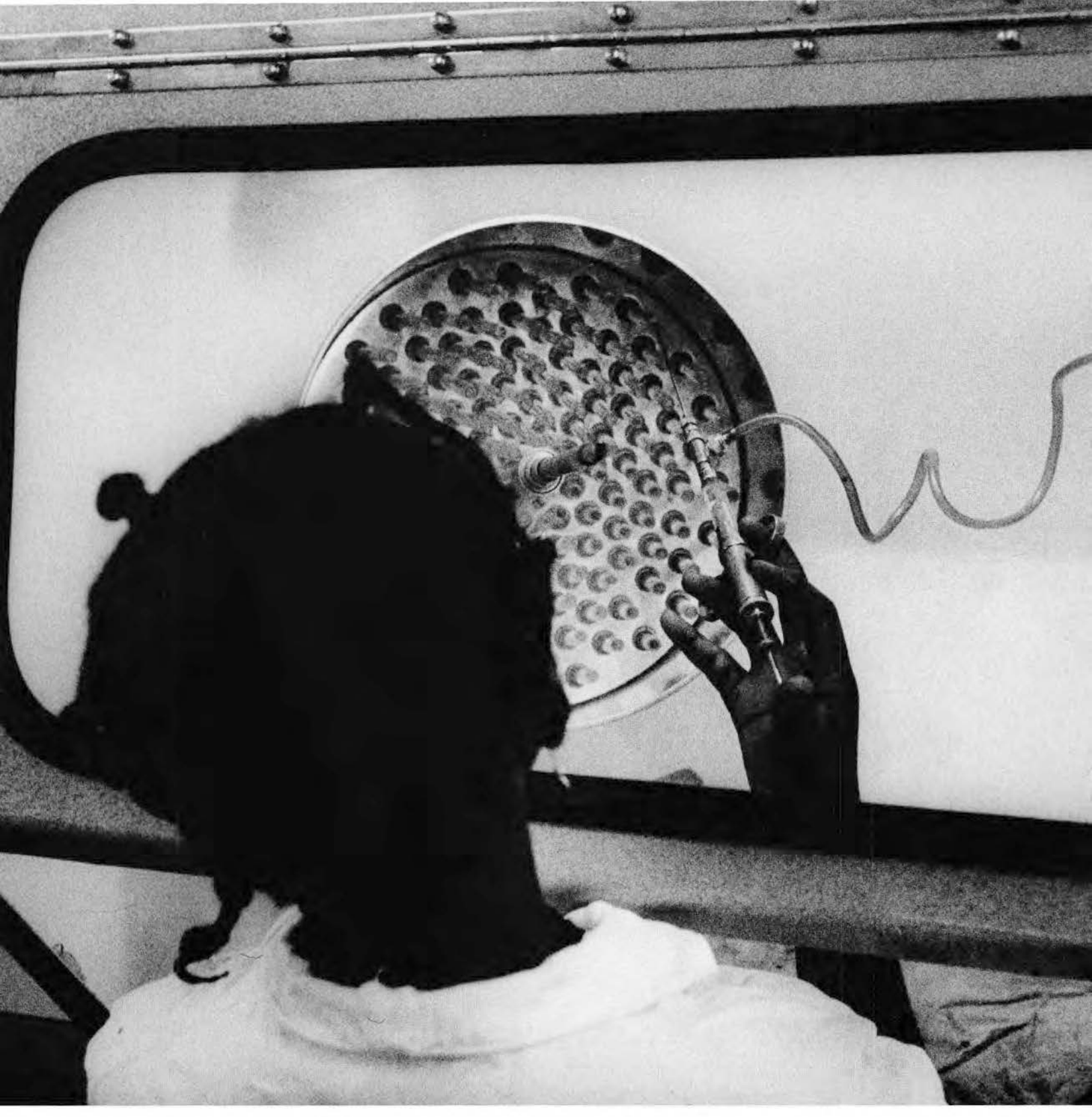
case of smallpox, and reducing measles morbidity and mortality.

The first step was to arrange meetings with local representatives of medical bodies, other government agencies and volunteer groups as well as influential personalities. Advance teams contacted local chiefs and village heads to establish the places and times of vaccinations and to motivate people to get themselves immunized. Radio broadcasts, mobile address systems, street banners, personal letters and placards were all part of the publicity machinery.

The teams generally used jet injectors to "blitz" major populations, while smaller roving teams using the multiple pressure method were reserved for mopping up as the crowds became thinner. Each person vaccinated was shown how to avoid infection, and had to dip the finger of the right hand in a harmless solution of silver nitrate to facilitate identification by the assessment teams.

To control outbreaks, a fire-fighting team was formed, to throw a vaccination cordon around smallpox cases in areas already vaccinated, or to mop up areas which had been poorly covered. A monthly bulletin, "The Eradicator", gave up-to-date information about the campaign's progress.

A pilot project to document the safety and efficacy of the simultaneous administration of smallpox, BCG and measles vaccine was carried out in Freetown between January and February 1968. The Endemic Disease Control Unit in itself was completely overhauled in an effort to develop team spirit and self-discipline.



Then followed a series of highly intensified training courses to qualify team members as experts in mass vaccination techniques, health education and the care and use of the jet injectors.

In the southern town of Bo, I was closely involved with the inaugural ceremony in my dual capacity as Principal Medical Officer, Southern Province, and Acting Senior Medical Officer, Endemic Diseases Control Unit, Bo. Held on 15 March 1968, the ceremony was a most impressive and colourful event. Shops and markets closed for the occasion and all the roads were choked. There were floats of every description, and most of the paramount chiefs were present resplendent in their native costumes. The vaccination team members wore their field uniforms and displayed their jet injector guns for the public to see. The merriment, dancing and feasting that accompanied this ceremony paid very good dividends. It gave the campaign a good start and acted as a stimulus for the team members.

In the subsequent months we noted that, time and again, explosive outbreaks followed funeral ceremonies of notable people in the villages. At such times large numbers of people converged on the home of a smallpox victim, to pay their last respects. Some took part in washing

Above:
In Ivory Coast, the hanged bird was a macabre warning to travellers: "We have smallpox in this village—stay away."

Left:
One phase in the local production of smallpox vaccine in West Africa.

(Photos WHO and WHO/D. Henrioud)

the body while others were in close contact with the victim's family. It was usually after they dispersed to their own homes that these contacts themselves became victims of the disease.

It is an accepted fact that field work of any kind, particularly in countries with a poor road system and difficult terrain, is most strenuous—and Sierra Leone was no exception. On the whole the working conditions were unpredictable and hazardous. Teams were sometimes called upon to perform burdensome and demanding tasks. In Kagboro Chiefdom, Moyamba District, team members narrowly escaped drowning and lost all their belongings when the boat in which they were sailing capsized. At Nomo Faama, terror-stricken campaigners fled for their lives when they sighted an elephant striding through the dark forests. To suit the convenience of peasant farmers during the farming season and to cover areas far from the nearest motorable road, vaccinators were willing to walk up to 35 miles.

Two factors helped to keep the team spirit and morale high; firstly, the feeling of the campaigners that their interests were well looked after by their immediate seniors, and secondly the sense of gratitude and cooperation demonstrated by villagers wherever they went. They were often accorded courtesies usually reserved for distinguished visitors, with entertainment in the form of big feasts and native dancing.

From the start we realized that this type of work could only succeed with good supervision, particularly in the field. We recruited four officers from the health inspector cadre who had received good formal training in public health, and they were given the necessary additional training. They turned out to be very dedicated field leaders. Throughout the campaign I made unannounced visits to the areas where teams were working, to see for myself how they performed and to boost their morale. It was quite rough going during those travels as Sierra Leone had just gained her independence and most of the roads were not motorable. When all is said and done, it was these young heroes who conquered smallpox, and they deserve recognition for a job well done.

Today, a new lease of life is at hand for one out of every ten children in West Africa who used to be either killed, left mentally retarded or blinded by smallpox. In Sierra Leone, the fear of vaccinations which formerly impeded the success of immunization programmes has given way to universal acceptance of the benefits to be derived from vaccines. The experience of the Endemic Disease Control Unit in that campaign has welded them into a strong unit which now forms a sound basis for future prevention and control of the more acute communicable diseases in the country. The successful eradication campaign has been accomplished by a kind of cooperation that transcended language barriers and traditions, working for the good of Africa in particular and all the nations of the world in general. ■