The malaria campaign – why not eradication?
M.A. Farid

In its first issue in 1980 World Health Forum carried a Round Table on malaria for which Dr M.A. Farid wrote the lead article, reviewing malaria “eradication” between the 1950s and the 1970s. He now gives his personal impressions of those early days of working with WHO to Dr Eilif Liisberg and Dr Socrates Litsios.

**Eilif Liisberg.** Dr Farid, in your article in World Health Forum in 1980 (1) you said that malaria is a political disease. What did you mean by that?

Sometimes Ministers of Health conceal malaria epidemics, then when they are exposed the whole Cabinet falls. For example, when *Anopheles gambiae* invaded Egypt in the 1940s the Minister of Health tried to minimize the fact that people were dying from malaria. Because the Wafd Party, hostile to the King, was in government at the time, the opposition tried to take advantage of the epidemic to bring the government down. This was during the Second World War and the Allies were worried about the health of their armies. The British doubted whether the Egyptians had the capacity to launch an anti-malaria offensive, but the Americans said it had been done in Brazil in the 1930s, which had been less developed than Egypt was at that time. With the ensuing rivalry the issue was postponed another year. As many as 180,000 died before Dr Fred Soper (who was to become Director of the Pan American Sanitary Bureau in 1947) arrived and took the reins. We were then able to do away with *A. gambiae* and do away with malaria in 11 months.

**EL.** Do you think politics has evolved since those days?

No, it is still the same. Malaria is political because it is tied up with socioeconomic development. It is an explosive disease, not a silent one. When epidemics cause too much suffering, the people revolt and can bring about governmental changes; that’s why it is politically explosive. Malaria can also be a political ally because it prevents social conflicts from occurring: when people have been weakened by repeated
bouts of malaria they need all their strength just to live.

**EL.** Do you think that is a real aim of certain politics, to keep the people weak?

Yes, it is, because they have seen what happens. Whenever they start to control malaria the people become healthy and prosperous, their hopes rise, and that leads to conflict. This was well known in colonial times and in countries with dictatorial regimes.

**EL.** But is there not a positive side? For example, in Sri Lanka a big malaria campaign came close to eradicating the disease.

Yes, it was a positive thing for the government certainly, but then what happened? When they got near the end of the campaign everything just dissolved. So actually the programme is eradicated and the disease remains, because human memory is short. When the authorities see that there are only a few cases left they no longer see the need for a big programme, so they stop. The same applies to the specialized agencies and the donor organizations. With Malthusian population theories in mind, and without the prospect of socio-economic development, they hesitate to produce another problem of over-population with its consequent difficulties of feeding and so on, which will cause a lot of trouble.

**Socrates Litsios.** But weren't some national politicians also worried about the same question?

Of course they were, and they all listened to each other, but most of all everybody listened to the United Nations.

**Dr Mohyeddin A. Farid** was born in Helwan, Egypt, in 1912 and graduated from the School of Medicine, Cairo University, in 1936. He spent ten years with the Ministry of Health working on the control of communicable diseases, including malaria; his last post there was as Sub-Director of the Gambie Eradication Service. He was awarded a Rockefeller Foundation fellowship to Johns Hopkins University, where he obtained his MPH in 1947 and Ph.D a year later. Dr Farid joined WHO in 1949, and was first a field epidemiologist with UNRWA. Between 1955 and 1969 he gained extensive regional and headquarters experience as, successively, EMRO Regional Malaria Adviser, Chief of the Malaria Epidemiology Unit in WHO’s Malaria Division, Dean of the WHO/USAID Malaria Training Centre in Manila, and WPRO Regional Malaria Adviser. In 1969 he became Chief of the Programme and Planning Unit in the Malaria Division, a post he held until his retirement in 1972. Dr Farid is author of many articles on malaria, and he was awarded the Darling Foundation Medal and Prize by the Thirty-third World Health Assembly in 1980 in recognition of his outstanding contribution to malaria control. His address is 7 chemin Taverney, 1218 Grand-Saconnex, Switzerland.

**EL.** So you think politics is still rife in health?

Politics is the main thing. After all, malaria eradication started as a political issue when the leading nations were short of raw materials after the War. They thought the best thing was to invest in malaria eradication so that workers would be more productive.

**EL.** You say memory is short. Do you mean that we haven't really learnt anything from history?

I'm a believer in evolution. We cannot go back to an earlier situation when conditions were very different. Evolution must
have a sort of vision, in order to learn from certain experiences and to see the trends. If we know where we’re going, then we can adjust in order to find a road there. And evolution doesn’t go in a straight line, it goes in a spiral so it takes time.

EL. What do you think we should have learned from the malaria programme?

Since my earlier Forum article I have continued to follow what is going on, and my views on events from 1981 to 1990 have been published (2). I was very critical of WHO when they started to disband the whole malaria programme around 1969–1970. I felt they were trying to trivialize malaria. The attitude was, well, malaria is a disease like all other diseases and there is a treatment, so the primary health worker can take care of it and also carry out some simple methods of vector control at the same time. They had no idea! They disbanded the whole structure, instead of keeping it for its epidemiological inputs in order to know more about the country situations. Malaria control was so weakened by failure to recognize that vector control is the main way to check the spread of the disease that we have now reached a stage where they are thinking about activating malaria programmes again.

EL. How do you think malaria control should be carried out?

Well, not on the same pattern; things would have to change. First of all, the idea of having malaria control activities integrated into primary health work in developing countries is anathema to me. To control malaria you have to have organized vector control, not just treatment of the disease. Treatment is not a problem – that can be done by primary health workers, drug distributors, etc. But what can the primary health workers do about vector control? They are not trained for it. Where there is a high load of diseases per capita, the doctors are trained to treat patients, to give vaccines and so on, but they have no idea about environmental health; the sanitary organizes spraying against the flies, but he doesn’t see the larger picture and he does not have the support to carry out wider activities.

I remember going to Singapore to assess their eradication programme, in 1981, and to me it is a model for the future. The Ministry of Health had been trying to eradicate malaria for a number of years, with very little success. So the Ministry of Environment took over, and saved the operation. All they asked for was an epidemiologist from the Ministry of Health to be attached to the Entomology Research Unit of the Ministry of Environment. The Ministry of Environment was led by a systems engineer, but he knew the epidemiology of malaria, and all the staff were either engineers or sanitarians. They were self-sufficient: they received income from selling the waste products of sewage and from reclaiming land, and so on, so they did not need to claim a budget for malaria eradication. The sanitarians were led by sanitary engineers, with an entomologist guiding them and an epidemiologist overseeing the malaria statistics provided by the Ministry of Health. In this way they finished the
operation in one or two years and eradicated malaria completely.

I remember one of the last cases was discovered while I was there, at 4 o’clock one afternoon. The epidemiologist accompanied the staff straight away to take blood specimens from the case and contacts. Blood slides were taken to the laboratory of the Ministry of Health at night and the technicians kept working on them until past midnight to finish. An Indian lady volunteered to prepare a pamphlet in the local language so that people made their houses ready for spraying the next day. All the investigations were carried out. In the morning at 10 o’clock they had to see the Under-Secretary, who was the systems engineer. We went into an operations room – no chairs, just a map indicating where the patient lived – and we held a briefing: details of the case, how many slides were taken from all the contacts, and so on. So many details were covered in no time at all. When they had found that the local centre could not cope with the spraying of the area, they arranged at night with the nearby centres to borrow certain sanitarians with the spray men and their equipment. In the morning they were standing like an army with their spraying equipment, and everybody knew where to go and what do do. And that was an end to it!

**EL. It was like a military operation?**

Well, vector control is a military operation, it is the military part of public health. There is no democracy in vector control: certain measures have to be applied. You need to obtain the cooperation of the people, of course, but certain things have to be done and it has to be run with military precision. Soper once dismissed somebody who was not where he should have been, even though he would have been killed, and the newspapers made a big story of it. A certain inspector had to go and oil water surfaces against *Aedes aegypti*, and he was supposed to be in an ammunition factory between 10 and 12 a.m. The factory exploded at 11 o’clock and there were no survivors. Next morning he appeared at his office. “God has saved me”, he said. “When I was on my way there I saw a fellow from my village and I invited him for coffee.” And so he was fired. This is the way the operations were run.

**SL. In the mid-1950s when the global eradication campaign was launched it attracted tremendous international funding. Would a control campaign based on vector control have been taken as seriously?**

The word eradication had been articulated for many years, as far back as 1916. Eradication makes a much bigger impact than control, because control means “take your time” but eradication means there’s a time-limited goal. A time-limited exercise has a greater political and psychological appeal for investment. But, of course, if you read the *Sixth Report of the Expert Committee on Malaria* (3), which ushered in the eradication programme, you will learn that it cannot be done in Africa. The report spells out the technical details about the parasites, the vectors, about man, and
about the environment that must be known before an eradication campaign can be launched. Seasoned campaigners know that in certain areas it is very difficult, whereas the bureaucrats who have not “wet their feet” as we say, they don’t. Whenever eradication is mentioned, people think it is simple; just spray and malaria will disappear. Look at these photographs: imagine the difficulties in reaching places like this across muddy, inaccessible terrain, then trying to spray underneath and inside a hut which has windows on all sides. In the rural areas in Africa and the hinterland of Asia it’s not humanly possible. Soper felt the same way; he once said to me, “Well, we get a certain kind of success at least”.

You are right that there was an excellent international response when eradication was launched. Voluntary contributions came in from every country and from other specialized agencies and donor organizations; the Pope gave a contribution, and many American businesses were very generous. We had hoped that when European countries had eradicated malaria they would help other countries financially. But it didn’t work out that way. I suggested that the oil-rich countries could make a small tax on every barrel to help the poorer countries. I got the idea from Dr F.J.C. Cambournac, Regional Director for Africa, who had told me about how in Portugal they levied a tax on every bushel of rice. This was so successful that malaria was eradicated, and with the money left over they built a malaria research institute.

Raising money is an art. If you go to a businessman and talk about parasitology and entomology he will not be interested. You have to approach him in the right way, showing how advantageous a malaria control programme can be for his business. I feel that many of our WHO people missed out on the old art of selling public health schemes. Soper, on the other hand, was a first-class salesman. I was a salesman! Let me tell you about Saudi Arabia. I was borrowed from UNRWA in 1950 by Dr Ali Tewfik Shousha, Regional Director for the Eastern Mediterranean, for a month. He sent me to contact the Under-Secretary of Foreign Affairs in Jeddah to promote WHO involvement in health development. There had been 50,000 cases of malaria among pilgrims the previous year. I suggested that WHO could provide one or two advisers to work with the Government to eliminate malaria from the Holy Lands. To begin with I could not convince him to accept our help, but after we sat chatting and swapping stories about Egypt – where he had lived for some time – he agreed to the project, and included in it the establishment of a malaria training centre for local personnel. This was the first WHO project in Sandi Arabia, and so successful!

I have written an article for the Regional Office’s Eastern Mediterranean Health Journal (4), illustrating the malaria situation in Arabia at the time of the Prophet.

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My idea is to show that the Prophet died of malaria. I have studied how the disease was described, how the Prophet prayed, and what was used against malaria at that time: camel’s milk and urine – it is mentioned in an ancient Arabic treatise that the best milk is from the camels that grazed on artemesia. In the conclusion I
mention my hopes for the elimination of malaria from the area south of Jeddah and from neighbouring Yemen. I also suggested that it would be appropriate to establish a malaria institute in this area, to carry out investigations and experiment with innovative scientific approaches to vector control. I am trying to see if the authorities will respond to an appeal from a religious point of view.

**EL.** What you are describing is leadership, stimulating people to action. How do people develop leadership qualities?

Leaders are born. They can develop, but they are a special type of person with a core of principles of integrity and a will to do something. Somebody said that people can be classified in two categories, those who want to be praised and those who want to do something. Soper definitely wanted to do something. He was a religious man and he used to quote the Bible. Once I made an error in quoting something and he corrected me, saying, "this is from the St James’s version, ‘where there is no vision people perish’". And I have remembered that ever since. He used the same words when he wrote to me in 1963 describing the delays and difficulties he had experienced in eradicating *A. gambiae* from Brazil in the 1930s, and he concluded “the rule is to keep on living under conditions which will make it possible for you to contribute the greatest amount over the long stretch”. So yes, he was a leader. Soper was calm and imperturbable, he listened and he took time to speak so that his words were clear. You were bound to respect him. His vast experience taught him how to solve problems by stimulating each person to give of his best. Certain qualities make leaders. There are potential leaders everywhere, but how to find them? Sometimes, a post such as director of malaria may be filled according to seniority, by someone with no real experience and little skill in communication. This is a recipe for disaster! Leadership is how to get somebody who can build up a whole force with him. Soper encouraged leaders under him: he brought out the best in people.

**SL.** Can you think of any examples?

Yes, indeed. Dr Marcolino Candau, WHO’s second Director-General, was a malariologist who had worked under Soper. Candau was a leader and he fought to keep WHO in shape.

**EL.** You were telling us how Singapore handled a diagnosed case of malaria. That must have been diagnosed by the health care system. How do you see the role of the health care system?

There must be coordination. The Ministry of Health is responsible for treating cases and keeping records to be used by the epidemiologist and the Ministry of Environment, so they can monitor progress. Doctors are trained to diagnose and treat, and these activities under the Ministry of Health are essential, but we have to take account of socioeconomic theories of development, too. WHO has to expand its concepts to include medical geography.

**EL.** We hear a lot about opposition between primary health care and specialized programmes, but are you saying that both are needed, that malaria control
without primary health services to deliver treatment is not feasible?

It takes a long time to achieve full coverage with primary health care. Usually it starts near the cities and progresses outwards, but many rural areas are still left without basic health services and people are still dying from malaria. Surveys which include entomology and parasitology will tell us what is going on, and this work, together with vector control and drug distribution, must continue by vertical programmes in the rural areas until such time as primary health care is available. Secondly, you have to have good statistics.

SL. From what I have read about the early 1950s, when the basic health services concept was emerging at the same time that malaria was moving towards eradication, I have the sense that somehow the malaria people distanced themselves from the debate on how to provide essential health care everywhere. Did it strike you like that?

Well, if they moved away from it, it was not intentionally. But, you see, malaria people are activists, they want to see results. For most health administrators in developing countries it’s bureaucracy that counts: for them it takes a month to repair a car, but we can’t wait a month. Any divergence between malariologists and bureaucrats was due to the type of work and the sense of timing, which is very different. We liked to work with agricultural engineers because they have a sense of urgency – things have to be done promptly to save a crop – whereas a civil engineer can take all the time he needs to plan a perfect project. Pioneers like Andrija Stampar had the vision of a really good public health service with a malaria component. But, of course, they were in Europe and had no idea of what was going on in developing countries and in the tropics.

EL. Is it something to do with the fact that diseases, with their professional medical societies and specific organizations, can mobilize more people and resources than public health? Primary health care doesn’t have the same professional glamour and it’s not given the same consideration.

That’s absolutely true. My contemporaries were surprised that I chose to go into public health. I worked at the grass-roots level under the same conditions as the villagers, whereas my colleagues in curative medicine would roll up in their cars and spend a short time in the clinics where the people had been queuing to consult them. This reminds me of a time in Manila, when I arranged a one-week briefing course for the Under-Secretaries of Health of countries in the Western Pacific Region. It was clear that they considered malaria unimportant. So I said to them: “Gentlemen, let me tell you a story. I started my career in public health and my colleagues went into curative medicine. They became rich and famous. Then Abdel Nasser’s government came in and confiscated their wealth and many of them had heart attacks and died. But I’m still alive and talking to you.” So I broke the ice this way, and we were able to have a productive discussion about public health services.
**EL.** What can you tell us about the famous Garki project in northern Nigeria?

That was seen as one of the stars of WHO research – one of the few projects where WHO did the research itself, and the specialists were working under difficult conditions in Garki district from 1969 to 1976. Its objective was to demonstrate eradication. Well, we had had many pilot projects in Africa, and they should have learned from that experience. Because of population movements, not one of the earlier projects had succeeded and this one reached the same conclusion: malaria is a disease with specific local characteristics, and findings in a certain area are not applicable to others (5). There are different strains of *A. gambiae* and of *P. falciparum*, and there are certainly different socio-economic conditions, climatology, soil, etc., to be taken into account. So what good was all that expensive research, apart from developing mathematical models? I didn’t feel the objectives were clear, and they should have read more about the earlier projects. Of course, this was only my own opinion, and it wasn’t popular!

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**EL.** Dr Farid, what is the key for the future? Is it a question of resources?

Money is always in short supply, because there is competition for resources. I went to the Republic of Korea in 1968 and I told them it should only be a minor problem to eradicate malaria because of the temperate climate. They answered, “But we have no budget for malaria”. I thought about this and I asked, what about making a national lottery? They said no, this would not be allowed. So I wrote to the Minister of Health – here is the letter, dated 7 March 1969 – detailing the problem and putting forward my suggestion, and I asked the malarialogist at the WHO office there to give it to the Minister personally and see what would come of it. I pointed out that the malaria load in the country was about 100 000 cases a year, 50 000 of them in North Kyongsang, in spite of being in the temperate zone where malaria was no longer evident in other countries. The development of basic health services and their participation in malaria case detection and treatment from the start was vital to the success of such an eradication programme, as well as guaranteeing against the reintroduction of malaria once eradication has been achieved. This
involved huge financial commitments for constructing, equipping and staffing over 1000 health sub-centres in the country. I proposed that the Government sponsor a national lottery: half the proceeds to be used for prizes and the other half to cover running costs and be used for malaria eradication and rural health development. I mentioned that many governments had a national lottery as a way of raising funds for national projects, and cited Mexico and some South American countries. On 12 March 1969 – only five days later – the Korea Times carried front-page headlines: “Lottery for 17.1 billion welfare funds”. Here is the article. It doesn’t mention malaria specifically, but they eradicated it anyway! The funny thing is that some years later I met a Korean delegate in Geneva and he knew about that lottery. He said, “It was a life-saver, we could not have held the Olympic Games in Seoul without this lottery”.

EL. Did you write that letter without having it cleared by anybody?

I told Dr F.J. Dy, Regional Director of the Western Pacific, about it afterwards, and he told me it was better not to mention it as I hadn’t gone through channels. But then, he was a malariologist too!

I believe there could be ways of raising money for WHO’s activities if some seed money could be made available, like UNICEF does with its “goodwill ambassadors”. It’s a question of salesmanship, like I said before. But, of course, WHO is a technical agency and UNICEF is a funding agency, even though the distinction is not as clear as it used to be.

SL. When you came to Geneva in the early 1960s was there already the feeling that success was not to be had?

Well, there were some personality clashes, about whether WHO was going in the right direction or whether there was too much reliance on the use of drugs in the consolidation phase. All this was in the air. I remember Dr C.A. Alvarado, who was Director of the Division of Malaria Eradication, saying in a conference that he didn’t want to have individual vertical programmes but rather total coverage of the population by health services. There was a glass of water in front of him on a tray and he poured the water out of the glass so that it covered all the tray and said, “Now this is total coverage”. He didn’t appreciate it when I replied, “In no time at all it will evaporate”.

SL. Do you think Alvarado was committed to the horizontal approach for political reasons, because that was the way UNICEF was going?
I think he sincerely felt a more horizontal approach was a good thing. It was an idea that was gaining ground. We were preparing for a pre-eradication campaign in Africa, and Professor C.L. González, an eminent collaborator from Venezuela who had been my colleague in Johns Hopkins University, tried to promote the new ideas. He took an all-round view, because he stressed the need for mass campaigns simultaneously with the development of rural health services. He was wise, I think, to advocate a combination of the two approaches.

**EL.** Dr Farid, what do you think are WHO’s strengths and what are its weaknesses?

You know, WHO is a unique organization. It can do a lot because it has an internationally respected name and reputation, and its history speaks for itself. It is a scientific institution that can bring together experts from all over the world to study all aspects of any subject pertaining to health and issue a consensus report. This is a real achievement, to help people of all nations to communicate, and is a vital function of the Organization. A weakness, perhaps, is a tendency not to involve scientists with contrasting views in its Expert Committees. Happy gatherings of like-minded experts are not so constructive as real dialogue between people with opposing views.

**EL.** Have you found any weaknesses in WHO’s organizational structure?

Well, I believe the structure is excellent but the posts have to be filled by highly capable people. I did use to question the usefulness of WHO Representatives. There is plenty of scope in the system for a really energetic person, but it all depends on who fills the post, of course. I have met WRs who had inflated ideas of their job and preferred to play ceremonial roles rather than get down to hard work. You need someone with a thorough knowledge of public health and, here too, the salesmanship is important!

**EL.** How do you see WHO in the next 50 years?

The bureaucracy will have to be changed. There will have to be someone at the top who can stop money being wasted on trifling things. I am confident that a shake-up could start the ball rolling and it would continue by itself: such an exercise is self-cleansing. I believe wholeheartedly in the institution when it has the right people. There’s no doubt that the institution is a must.

You know what they say: malaria eradication eradicated malarologists. As a generation it is true we are dying out. But new health leaders are coming. The trend nowadays is for science, ever more science. The latest advances in parasitology, immunology, genetic engineering, etc. are very exciting and understandably highly attractive. The dream of a vaccine is attracting many of our brightest stars. But there are those with a vision of development, and not much can be done without development. These are the ones to look to for our future.
Malaria control in Africa

Throughout the African continent, early diagnosis and prompt treatment form the primary strategy for reducing malaria mortality and morbidity. Organized vector control activities are carried out in very few of the countries with endemic and stable malaria. However, if carefully chosen, preventive activities can have some impact.

A major cause for concern in many countries of the African Region is the scarcity of trained entomologists and epidemiologists in public health services. This lack will hinder the planning, implementation and evaluation of vector control. Lack of resources to purchase supplies and equipment is also a continuing constraint.