

FOREWORD

Malaria -- the most debilitating endemic disease of the rural community--was finally eradicated from Taiwan in the early 1960s. Although there is no record to indicate when the disease came into existence in Taiwan, it is reasonable to assume that malaria had existed among the indigenous population for many centuries, perhaps since the arrival of the first settlers from other western Pacific islands. The tropical climate of the island, with its abundant seasonal precipitation, and the undulating terrain along the foothills of the Central Mountain Range provide ideal breeding conditions for *Anopheles minimus*, the principal malaria vector in Taiwan. Malaria transmission used to occur throughout the year; the disease was highly endemic almost everywhere on the island, particularly in the foothill regions. Before its eradication, malaria was a threat to the lives of many people, especially in rural communities, and was also a major factor deterring the economic development of the island.

A continuing struggle against this disease was initiated soon after the beginning of this century. The Japanese government, which ruled Taiwan during the period from 1895 until 1945, launched a large scale malaria control program in 1911 using Koch's method, *i.e.*, extensive, periodic blood examinations of the residents in the malarious areas, followed by radical cure treatment of the malaria cases detected. This method was applied to practically all the hyperendemic areas in Taiwan and proved to be very effective in maintaining a low parasite rate of 2%-3% among the inhabitants for the period from 1911 to 1944. However, malaria transmission was not interrupted and small outbreaks occurred whenever there were significant ecological or meteorological changes, such as severe typhoons which swept the Island from time to time, earthquakes (*e.g.*, malaria outbreaks in Shinchu county following an earthquake in 1935), and the last but the most severe malaria outbreak, during and after World War II.

In addition to chemotherapy, other malaria control measures were also applied or tested before 1946. Larvivorous fish, *Gambusia affinis*, were brought in from Honolulu in 1911 and were widely distributed throughout the island in 1913. This fish, together with another species, *Poecilia reticulata*, are still present in goodly numbers in Taiwan proper as well as in Penghu and Lanyu. Anti-larval measures

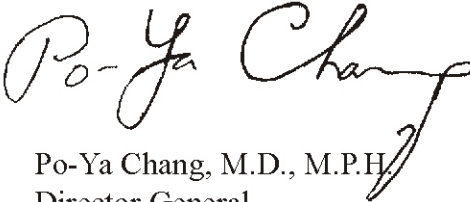
against the vector (such as removal of algae and weeds along irrigation canals, proper drainage of rice paddy fields to avoid overflow, filling-in of unnecessary depressions, and drainage of swamps and unwanted water collections) were tried here and there on a limited scale. Clearing of scrub, dead leaves of bananas, bushes and lower branches of trees around dwellings were a part of the semi-annual cleaning practices in the community. All these measures had their merits, but their effectiveness against malaria transmission was insignificant.

In November 1946 the Rockefeller Foundation, in collaboration with the Government, established a Malaria Research Center in Chaochou, southern Taiwan. Through this research center, new malaria control technology was introduced and technical personnel were trained. This research center became the Taiwan Provincial Malaria Research Institute (TAMRI) in 1948 and served as the headquarters for the malaria eradication program, launched in 1952 with the technical assistance of the World Health Organization (WHO) and the financial assistance of the Joint Commission for Rural Reconstruction (JCRR), the Mutual Security Agency (US/MSA), and the Council for United States Aid (CUSA).

To develop a network of health services, which were non-existent during the Japanese regime, counties and townships began to organize health centers and health stations during 1949 -1952 with the financial assistance of JCRR. The establishment of the health services was very timely for the malaria eradication program, allowing for expansion of field operations through health centers and health stations. The malaria eradication program, on the other hand, provided a dramatic challenge and opportunity for the newly-created health units to acquire field experience in disease control. The system of centralized planning at TAMRI and decentralized execution of the program by local health units worked very well through the attack, consolidation and maintenance phases of the program. The number of malaria cases, conservatively estimated in 1952 as 1.2 million, was down to zero in indigenous transmission by the early 1960s.

On December 4, 1965 Taiwan was officially registered by WHO on its list of countries where malaria eradication has been achieved. In commemoration of the 25th anniversary of the WHO certification, The Department of Health of The Executive Yuan, with the collaboration of the Kaohsiung Medical College, held a ceremony and an International Symposium on Malaria on December 4-5, 1990. As part of the commemoration, our Department also invited several former TAMRI

directors and technical staff and a former WHO adviser to prepare a document which would reflect the history and achievement of the malaria control and eradication program in Taiwan up to this date, and which would serve to remind us of our grave responsibility to keep Taiwan malaria-free until global eradication of this debilitating disease has been achieved.

A handwritten signature in black ink, reading "Po-Ya Chang". The signature is written in a cursive, flowing style with a long, sweeping tail on the final letter.

Po-Ya Chang, M.D., M.P.H.

Director General

May 1991