

EDITORIAL

TROPICAL MEDICINE, TECHNOLOGY AND ECONOMIC DEVELOPMENT

This issue marks the twenty-fifth anniversary of SEAMEO-TROPED, and the occasion of the XIII International Congress of Tropical Medicine and Malaria which is fittingly being held in the SEAMEO region, in Thailand, from 29 November to 4 December 1992.

The past twenty-five years have witnessed momentous changes, not least in the large number of countries which constitute the tropical swathe of our world. There have been many positive advances but not all has been smooth. During this time the world has weathered many wars, the centrally planned economies of Eastern Europe have dramatically changed course, starvation on a grand scale has occurred in Somalia, Ethiopia and across the Sahel while mountains of food piled up in fortress Europe. Japan's economy has blossomed; South Korea, Hong Kong, Taiwan and Singapore have become little dragons of productivity, ASEAN has consolidated its role in Southeast Asia.

GATT, the General Agreement on Tariffs and Trade, an essential forum for the liberalising of trade between nations which is far more important than aid programs for economic development, has stumbled under the political weight of the Uruguay Round. This leaves uncertainties concerning the equitability of international trade, on which hopes for prosperity depend so heavily (Bhagwati, 1991). Some economies of Latin America have flourished, others have gone from boom to swelling debts heaped upon generations to come. The United States has drifted from top of the credit ladder into the debtor column, with implications for developing economies dependent upon American markets.

Such issues may seem a long way from the immediate concerns of tropical medicine and public health, but this is not so. The past twenty-five years have reinforced the reality of the intimate relationship between the political and economic health of nations and the physical and mental health of their peoples.

During this quarter century we have seen a prodigious expansion of scientific knowledge. Particularly in fields such as information technology, biotechnology and cosmology the rate of genesis of new data and new ideas has created great hype in the public media about the portents of things to come. As has happened with each new technological advance over the ages, we have come to demand a great deal from science and from the inventors. Indeed, the grip of technological advance on our imagination underscores the hope and expectation of the theme of the Congress: *Appropriate technology for better health*. At the same time, despite its cogency, we might dare to ask whether technology itself is likely to have more than a fraction of the answers we seek.

This period of time has also seen us reminded yet again of the vicissitudes of infectious disease associated with increasing mobility of human populations. Against a long history of periodic, sweeping acute epidemics in the past, we have witnessed the rise of a global pandemic of the slow and insidious kind: AIDS has so fired the political imagination that funds have flowed on a scale that only personal fear can inspire in the halls for power. Here the major advances lie in education and community mobilization, while the vaccinologists ponder the tricky problems of a virus with sophisticated inbuilt modes of structural variation.

Critical but rather more modest support has been gathered for other fields of health endeavor: focused attention to the diseases filariasis, leishmaniasis, leprosy, malaria and schistosomiasis under the World Health Organization's TDR Program has recruited an unprecedented range of scientific manpower into the study of important scourges of tropical populations, with engineered vaccines taking shape on the drawing boards around the world. These same populations are especially vulnerable to many diseases. Other WHO programs such as that for the control of diarrheal diseases (CDD) have built up an enviable record of pragmatic success, in this case on the basis of one of the most

efficacious yet simple technologies in the whole of medicinal history, oral rehydration therapy.

In the same time frame our populations have expanded faster than economic advances can accommodate, limiting the quality of life and expectations for the future severely (Ehrlich and Ehrlich, 1990). In terms of the world food equation, the green revolution in many countries has given transient illusion of long-term independent sustenance, at the expense of the negative impact of chemical agriculture and the potential vulnerability of widespread cereal genetic monocultures which have replaced traditional, labor intensive mixed farming. At the same time the forests have diminished, the waterways have been poisoned, the urban sprawls have come to encompass dense shanty jungles.

Where lie the accomplishments in tropical medicine and public health in this uncertain picture of the quarter century just gone by? Some of the most solid scores have been notched up by careful dedicated effort rather than by dramatic technological breakthroughs or massive monetary infusion. Thus China, for example, has moved a considerable distance along the road of control towards a goal of eventual eradication of some tropical diseases, such as kala azar (Guan and Shen, 1991) and filariasis (Liu *et al*, 1991) while reduction of malaria has been remarkable (Tang *et al*, 1991), as has been that of schistosomiasis, despite the continuing challenge of the floods along the Chang Jiang, the great Yangtze River. Malaysia's success in extending control of filariasis to a large part of the country (Jegathesan, 1992) represents a very effective approach quite different to that taken by China. There are many other success stories which demonstrate that infectious disease control can be accomplished given the resources and the will.

Although the struggle to keep new drugs flowing as the resistance of falciparum malaria creeps inexorably upwards has been a tough one, so far efforts to work the combinations of newer and older drugs give reason for immediate if not long term hope. The global program for immunization (EPI) of children against a group of common infectious diseases has gained momentum in the past several years (Goodfield, 1991), so that there is hope that some of the intrinsic goals of this effort will be realized in the next several years, by the careful, continued application of existing techno-

logy under the global umbrella of effective education, organization and financial support from private as well as public sectors.

There are many other heartening pictures which are important to the historical perspective, but at this point in time much of the emphasis needs to be on the continuing challenges ahead. The classical scenario of tropical medicine, with its emphasis on infectious disease and nutrition, will change in pattern but in essence will remain with us for a long time. However, the past quarter century has made it quite clear that economic development itself reduces some of the burdens of tropical disease, at the same time bringing with it other disease burdens. Life expectancy goes up in real terms, increasing the proportion of chronic diseases and the accompaniments of the aging process with their stress on the social fabric of society.

Awareness of the negative impact of many current practices in manufacturing and agricultural industries on the local and global environment has risen steeply in the past decade, so that the debate has been opened up for more vigorous and productive analysis by political, economic and technological sectors of human societies. It is to be hoped that more effective action will follow the analyses.

Recognition of the extent of continuing reduction of species, the biodiversity that fuels biotechnological dreams, has come onto center stage (Shiva *et al*, 1991) as a serious threat to maintaining a balance against the neo-Malthusian thrust of *Homo sapiens'* expansion into the rainforests of the tropical world, late though it may already be. It is not at all clear whether the battle to preserve planetary biodiversity has any chance of being won, but it is very clear that unless the tide is stemmed, much of the wisdom of folk medicine that has arisen in the forests will fade away irrecoverably. The battleground has been marked out for the insidious war between indigenous rainforest cultures and global biotechnology industries (Editorial, 1992). This is part of the ill-defined struggle between north and south, both interdependent, yet so often adversarial.

Health is even more dependent, however, on the broad biological and physical properties of the rainforests: watershed moderation, cloud formation and water condensation, topsoil conservation in

watershed run-off areas, food for the forest fringe dwellers. The technology of logging is momentous in its capacity for instant destruction, of the trees today and of the ecological future (Hurst, 1990).

In a different framework we look forward with expectation to what positive advances in health may emanate from new technologies. The new drug shopping list for tropical diseases is long and urgent, but the price must be right: in many cases it is not clear how this can be achieved even in principle when most tropical countries are too poor to pay for the enormous developmental costs of these new drugs. New vaccine strategies are fitting into place on the molecular drawing boards, but the realization in most cases is still some distance ahead for diseases like leprosy and malaria, tuberculosis and cholera, HIV and dengue. There is a crying need for cheap, rapid, simple field diagnostics for a range of diseases which have their epicenters in the villages of the world rather than the university hospitals where the developmental laboratories lie: the academic centers have been innovative and productive of effort but too few outputs have yet reached the public health market place in a format that is truly advantageous for disease control strategies. Availability of adequate physical technologies such as mobile radiological imaging in the townships, as against the big machine priorities of large city private clinics, lies far short of the ideal. The capability is there, but is the economic will in the place where need is greatest?

The hope is that educational advance and growing prosperity in many tropical countries will see some of the many challenges in modern tropical medicine and public health taken up with vigor by the younger generation, using their access to appropriate technology and their vision for a better world (Meadows *et al*, 1992).

On the occasion of the Congress and the twenty-fifth anniversary of SEAMEO-TROPMED, this issue of the Journal includes a number of special reports from TROPMED centers and a number of invited reviews from inside and outside the South-east Asian region, in addition to regular submitted

papers from many countries. These give only a small glimpse of the vast range of enthusiastic activity in the tropical world, but hopefully it is a useful contribution to the future of that world in which more than half of the human population lives.

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REFERENCES

- Bhagwati J. *The World Trading System*. New York, Harvester Wheatsheaf 1991.
- Editorial. Health and environmental dilemmas: The Rio summit. *Southeast Asian J Trop Med Public Health* 1992; 23 : 355-6.
- Ehrlich P, Ehrlich A. *The Population Explosion*. New York, Touchstone 1990.
- Goodfield J. *The Planned Miracle*. London, Cardinal 1991.
- Guan LR, Shen WX. Review : Recent advances in visceral leishmaniasis in China. *Southeast Asian J Trop Med Public Health* 1991; 22 : 291-8.
- Hurst P. *Rainforest Politics*. London, Zed Books 1990.
- Jegathesan M. Special report : Overview of research at the Institute for Medical Research, Kuala Lumpur, on its ninetieth anniversary. *Southeast Asian J Trop Med Public Health* 1992; 23.
- Liu JY, Liu XJ, Chen ZI, Tu ZP, Zheng GB, Chen YN, Zhang YZ, Weng SP, Huang XH, Yang FZ. Review : Filariasis and its control in Fujian, China. *Southeast Asian J Trop Med Public Health* 1991 : 22 : 147-54.
- Meadows DH, Meadows DL, Randers J. *Beyond the Limits*. London, Earthscan 1992.
- Shiva V, Anderson P, Schucking H, Lohmann L, Cooper D. *Biodiversity : Social and Ecological Perspectives*. Penang, World Rainforest Movement 1991.
- Tang LH, Qian HL, Xu SH. Review : Malaria and its control in the People's Republic of China. *Southeast Asian J Trop Med Public Health* 1991; 22 : 467-76.