



The Medical Journal of Malaysia

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8TH CONGRESS OF THE CONFEDERATION OF MEDICAL ASSOCIATIONS IN ASIA AND OCEANIA

by *A.A. Sandosham*

In accordance with the practice of the host country printing the proceedings of the biennial congress of CMAAO in its national medical journal, we have set aside this number of the Medical Journal of Malaysia for this purpose. We apologise to our regular contributors that those articles that have been accepted for publication have been unavoidably held over temporarily.

The C.M.A.A.O. had its beginnings when the idea of organising an international body composed of national medical associations in Southeast Asia was mooted at the 43rd Annual Convention of the Philippines Medical Association held in Manila in April 1950. It was felt that many Asian countries shared common health problems which could be more readily solved by pooling the experiences gained in each of these countries and by increased international cooperation and understanding.

Subsequently a series of meetings were held in Manila with representatives and delegates from some of the countries involved, and in 1954, the Asian Confederation of Medical Associations was organised with headquarters in Manila and its Constitution and Bye-laws were drafted. These were approved in April, 1956 when its name was changed to Confederation of Medical Associations in Asia and Oceania (C.M.A.A.O.) and its first set of Officers were elected. Starting in 1959, seven biennial Congresses have been held hosted by the national medical associations of Japan, Philippines, Australia, Taiwan and South Korea.

Last year, the Malaysian Medical Association

had the privilege and honour of acting as hosts to the 8th Congress of C.M.A.A.O., the proceedings of which are now printed in this issue of our Journal.

Among the problems that C.M.A.A.O. has encountered has been the long distances that have to be covered by delegates and observers attending the Congresses involving considerable time and money. The Council composed of the Officers and Councilors, is also expected to meet once between meetings of the Congress. This year the Council met in Hong Kong. An appeal was made for donations from the more affluent national associations to supplement the nominal subscription charged for membership to help meet the running cost of the C.M.A.A.O. and we are glad that Japan and Australia have responded generously.

The present list of member associations includes those of Australia, Burma, China, Hong Kong, India, Indonesia, Iran, Japan, Korea, Malaysia, Pakistan, Philippines, Singapore, Sri Lanka and Thailand. More can be expected when the political situation improves in Indo-China and West Asia.

The next Congress is to be held in Manila in April 1975 hosted by the Philippines Medical Association, the central theme being "Health care delivery systems in the C.M.A.A.O. member-nations". The delegates and observers will also participate in the scientific sessions of the 68th Annual Convention of the Philippines Medical Association. According to the Constitution each member Association can send two official delegates, two alternate delegates and any number of observers.

OFFICERS AND MEMBERS OF THE C.M.A.A.O.

1971 – 1973

OFFICERS:

PRESIDENT Arthur A. Sandosham, M.D.
VICE-PRESIDENT .. Keshmahinder Singh, M.D.
SECRETARY/
TREASURER Ramon R. Angeles, M.D.
IMMEDIATE PAST
PRESIDENT Choo-Wan Myung, M.D.

COUNCIL:

COUNCILORS
Kunwon Park, M.D.
Hiroshi Kumagai, M.D.
Clarence Reiger, M.D.
Kamjad Swasdio, M.D.

MEMBER ASSOCIATIONS:

Australian Medical Association
Burma Medical Association
China Medical Association
Indonesian Medical Association
Iran Medical Association
Japan Medical Association
Korean Medical Association
Malaysian Medical Association
Pakistan Medical Association
Philippine Medical Association
Thailand Medical Association.

THE ORGANISING COMMITTEE OF THE 8TH CONGRESS OF C.M.A.A.O.

CHAIRMAN:

Datuk Dr. Keshmahinder Singh

MEMBERS:

Professor A. A. Sandosham .. (Scientific Sessions)
Dr. Joan La Brooy (Ladies' Section)
Dr. Lee Kwok Ching (Registration)
Dr. Lee Choong Hing (Venue of Meetings)
Dr. Jones Varughese (Transport)
Datuk Dr. R.P. Pillay
Dr. Pius Martin
Dr. Kuah Kim Boo
Dr. N. Arumugasamy
Dr. Chin Kui Sang
Datin Keshmahinder Singh

LIST OF DELEGATES/OBSERVERS ATTENDING THE 8TH C.M.A.A.O.
CONGRESS TO BE HELD ON 5TH APRIL, 1973.

AUSTRALIAN MEDICAL ASSOCIATION:

Delegate: Sir Geoffrey Newman-Morris — Retired
Chairman of the Federal Assembly.

INDONESIAN MEDICAL ASSOCIATION:

Delegate: Dr. H.E. Monintja.

JAPAN MEDICAL ASSOCIATION:

Delegates:

Dr. Kinshichi Matsukawa — Vice-President, J.M.A.
Dr. Hiroshi Kumagai — Vice-President, J.M.A.
Dr. Seiichi Shigeta — Executive Member of
Board of Trustees.

Alternates Delegates:

Dr. Osamu Saito — Executive Member of
Board of Trustees.
Dr. Noboru Koike — Executive Member of
Board of Trustees.
Dr. Tetsuya Matsuwura — Executive Member of
Board of Trustees.
Dr. Itaru Narita — Executive Member of
Board of Trustees.

Observers:

Dr. Otozo Hanawa — Executive Member of
Board of Trustees.
Dr. Masatami Yamaguchi — President of Osaka
Prefectural Society.
Dr. Takashi Kijima — Member of Committee
of Public Relations.
Dr. Shinji Hara — Member of Committee
of Public Relations.
Dr. Hiroshi Muroya — Director of Foreign
Affairs Division.

KOREAN MEDICAL ASSOCIATION:

Delegates:

Dr. Choo-Wan Myung — Immediate Past Presi-
dent of the C.M.A.
A.O.
Dr. Kunwon Park — Councillor of the
C.M.A.A.O. Council.
Dr. Tong Soo Cho — President, Korean
Medical Association.
Dr. Choon Ho Sohn — Vice-President, Ko-
rean Medical Association.

Alternate Delegate:

Dr. Kyok Boo Han — Immediate Past Presi-
dent, Korean Medical
Association.

Observers:

Dr. Woo-keun Yoon, Dr. III-Soon Moon and
Dr. Yo Lee.

MALAYSIAN MEDICAL ASSOCIATION:

Delegates:

Datuk Dr. R.P. Pillay — Incoming President,
Malaysian Medical
Association.

Datuk Dr. Lim Kee
Jin

— Past President, Ma-
laysian Medical Asso-
ciation.

Dr. G. A. Sreenevasan — Chairman, Selangor/
Pahang Branch of
M.M.A.

Prof. Tan Eng Siong.

Alternate Delegates:

Dr. Raja Ahmad Noordin and Datuk Dr. K.A.
Menon.

Observers:

- Dr. Baghwan Singh — Director of the Institute of Medical Research.
- Dr. Tan Tiong Hong — Secretary, Selangor/Pahang Branch, M.M.A.
- Dr. N. Arumugasamy — Chairman, Organising Committee, MMA.
- Dr. Mahmood Merican

SINGAPORE MEDICAL ASSOCIATION:

Observer:

- Dr. Gwee Ah Leng — President, Singapore Medical Association.

TAIWAN PROVINCIAL PHYSICIANS ASSOCIATION (Unable to come owing to visa difficulties).

Delegates: Dr. C.C. Lee and Dr. T.M. Wu.

Alternate Delegates:

- Dr. H.C. Yang and Dr. Y.P. Chen.

Observers:

- Dr. L.T. Wang and Dr. C.F. Chen.

PHILIPPINES MEDICAL ASSOCIATION:

Delegates:

- Dr. Ramon R. Angeles — Secretary/Treasurer, C.M.A.A.O.
- Dr. Primitivo D. Chua — Councillor - at - large (Elect), Philippines Medical Association.
- Dr. Romeo C. Montes — Concurrently Vice-President, Manila Medical Society.

HONG KONG MEDICAL ASSOCIATION:

Observers:

- Dr. Peter C.Y. Lee — President, The Hong Kong Medical Association.
- Dr. Lee Kin Hung — Hon. Secretary, The Hong Kong Medical Association.

OFFICIAL OPENING, 8th CONGRESS of C.M.A.A.O.

This was held at the General Hospital, Kuala Lumpur at 5.30 p.m. on Thursday April, 5th 1973.

Professor A.A. Sandosham's opening address:

Y.B.Tan Sri Lee Siok Yew, Menteri Kesihatan, Malaysia; Dr. T. Sachithanandan, President, MMA; Distinguished Guests; Delegates and Observers from the various National Associations; Ladies and Gentlemen.

It is my pleasant duty as the President of the Confederation of Medical Associations in Asia and Oceania to give thanks on behalf of the CMAAO and on my own behalf to a number of people we are deeply indebted to in connection with this Congress.

First and foremost, I wish to say how very happy we are that the Honourable Minister of Health Tan Sri Lee Siok Yew has shown such great interest in our organisation as to take time off, despite his multifarious duties and commitments, to come to declare open this 8th Congress of CMAAO. He has gone further and has graciously invited our delegates and observers and members of the MMA Council and officials to a Chinese dinner later this evening. I wish to say that we are indeed extremely grateful to him for his kindness.

We are grateful to the Malaysian Medical Association for hosting this 8th biennial Congress of CMAAO, and by dove-tailing our Congress Programme with that of their own Annual General Meeting, our foreign delegates and observers will have a better opportunity of meeting a good cross-section of the medical profession in Malaysia. We would like Dr. T. Sachi (as we call him) the MMA President to convey the sincere thanks of CMAAO to MMA Council and members.

We are grateful also to Datuk Dr. Keshmahinder Singh, the Chairman and the members of his Organising Committee for the hard work they have put in to make this Congress a success. Datuk Kesh (as we popularly call him) is also the Vice President of CMAAO, and has no doubt been chosen by MMA for this onerous task because of the successful Council meeting of the Commonwealth Medical Association which he organised here two years ago.

We are indebted to Datuk Dr. R.P. Pillay, who is being installed to-morrow as the President of the

Malaysian Medical Association, for his kind permission to hold our meetings in the premises of the General Hospital, Kuala Lumpur of which he is the Director.

It goes without saying that in any international organisation of this nature, where much of the work between the meetings held every two years, the king pin is its Secretary/Treasurer and we are indeed greatly indebted to Dr. Ramon R. Angeles of the Philippines for maintaining correspondence with member associations, writing up the minutes and preparing the Annual Report and Statement of Accounts in readiness for this biennial Congress of CMAAO.

We are grateful to the National Medical Associations which have sent their representatives as delegates and/or observers to this Congress. We are particularly happy to see such a strong contingent from Japan headed by Vice-President Dr. Hiroshi Komigai, Dr. Taro Takemi the President having been forced to withdraw his name at the last moment, Sir Geoffrey Newman-Morris representing the Australian Medical Association who had to alter his itinerary at the last moment to accommodate us and Dr. Tong Soo Cho, the President of the Korean Medical Association for its strong participation. Unfortunately, Dr. C.C. Lee, President of the Taiwan Provincial Physicians' Association who was to have been here was unable to come owing to visa difficulty. Dr. Primitivo D. Chua, Council member to the Philippines Medical Association, Dr. Peter C.Y. Lee, President of the Hong Kong Medical Association, Dr. H. E. Monintja of the Indonesian Medical Association, Dr. Gwee Ah Leng of the Singapore Medical Association and Dr. Abul Quasem of Bangladesh Medical Association are also with us.

One of the perennial problems of CMAAO is her finance, and at the last Congress an appeal was made for the richer National Associations to make donations over and above the nominal membership fees. Our Secretary/Treasurer informs me that both Japan and Australia have made handsome contributions for which we are most grateful.

At these CMAAO Congresses it has been our practice to have a Scientific Session where medical topics of importance to this region are discussed and as the Chairman of the Scientific Session it gives me

great pleasure to welcome those delegates and observers who have kindly agreed to present papers for discussion. I feel sure that these presentations and the discussion that follow will be of great value to the member countries and to the region as a whole.

Of course, it goes without saying that in the organisation of such a Congress many more people have been involved in giving a helping hand than can be mentioned in a short introductory speech of welcome such as I have to deliver.

Reference has been made to some of them in the Acknowledgement paragraph in our Souvenir Programme, and I take this opportunity of expressing our thanks also to those names that have been inadvertently left out and all those others who have assisted us in one way or another to make this Congress a success. Even if I could enumerate them

all I shall not attempt to do so as I do not wish to bore you more than necessary. I am reminded of a clergyman who found it disconcerting, while in the midst of delivering his sermon, to see one of his congregation ostensibly getting up and walking out of the church. After the service the padre took the man's wife to task for her husband's unseemly behaviour. She replied, "I am sure my husband never meant to be rude, Reverend; it is just that he has a way of walking in his sleep!"

Before I conclude, I wish to once again thank our Minister of Health for the great interest he has taken in our organisation and for so graciously consenting to come and declare open the 8th Congress of the Confederation of the Medical Associations in Asia and Oceania held for the first time in Malaysia's capital city, Kuala Lumpur. Thank you.



OFFICIAL OPENING OF CMAAO CONGRESS

The Hon'ble Minister of Health Yang Berhormat Tan Sri Lee Siok Yew being met on arrival by Professor A.A. Sandosham President of CMAAO, Datuk Dr. R.P. Pillay, Director, General Hospital, Kuala Lumpur. Datuk Dr. Keshmahinder Singh, Chairman of Organising Committee and Dr. Ramon R. Angeles, Secretary-Treasurer of CMAAO.

SPEECH BY THE HON'BLE MINISTER OF HEALTH, YANG BERHORMAT TAN SRI LEE SIOK YEW.

I am happy to inaugurate the 8th Biennial Congress of the Confederation of Medical Associations in Asia and Oceania which is being hosted by the Malaysian Medical Association with the full support of the Malaysian Government.

The Malaysian Medical Association has done much to further the interests of the Medical profession in this country and has helped my Ministry in raising the general standard of health of the Malaysian peoples. I am glad that the MMA has established close and friendly relations with Medical Organisations outside this country. Two years ago the MMA hosted the Commonwealth Medical Association and today it is hosting the CMAAO. I understand you have previously held successful congresses in Japan, Philippines, Australia, Taiwan and Korea and I hope you will have an equally fruitful and enjoyable stay in Malaysia.

I notice that in addition to your business meetings you have organised a Scientific Session in which you will be pooling the knowledge and experiences you have gained in your respective countries on three problems of great importance to this part of the world, namely Brain-drain, Drug addiction and Environmental pollution. It is to be hoped that as a result of your presentations and

discussion that there will emerge some practical suggestions towards the solution of these problems. My Ministry will be glad to hear of the deliberations of your Scientific Session.

You are meeting in the premises of the Kuala Lumpur General Hospital at a time when my Ministry is in the process of rebuilding it and hope this will not inconvenience you unduly.

I see from your programme that you are holding your meetings concurrently with the Annual General Meeting of the MMA. As you are having joint social functions, it should give you an opportunity of meeting a representative cross-section of the medical fraternity in the country. In this way you will get a better insight into the medical problems of the country.

It is probable that some of you may stay on a bit longer after the Congress is over and travel around in the country and see some of the many tourist attractions that it has to offer.

Wishing you every success in your deliberations, it now gives me great pleasure in declaring open the 8th Congress of the Confederation of Medical Associations in Asia and Oceania.

AWARD OF CERTIFICATES

Dr. Ramon R. Angeles, the Secretary/Treasurer of CMAAO called on the Hon'ble Minister of Health to make the following presentations:

CERTIFICATES OF APPRECIATION TO:

1. Republic of Korea, Received by Dr. Kunwon Park.
2. Japan Medical Association, Received by Dr. Hiroshi Kumagai.
3. Australian Medical Association, Received by Sir Geoffrey Newman-Morris.

CERTIFICATES OF SERVICE TO:

1. Korean Medical Association. Received by Dr. Tong Soo Cho.
2. Malaysian Medical Association. Received by Dr. T. Satchithanandan.

DISTINGUISHED SERVICE CERTIFICATES TO:

1. Dr. Cho Wan Myung (Korea).
2. Professor A.A. Sandosham (Malaysia).

Datuk Dr. Keshmahinder Singh, the Chairman of the Organising Committee proposed a hearty vote of thanks to Y.B. Tan Sri Lee Siok Yew.

The delegates and officials of CMAAO were kindly entertained to dinner by the Hon'ble Minister of Health, Tan Sri Lee Siok Yew.

The 8th CONGRESS OF C.M.A.A.O.

(Held in Kuala Lumpur, Malaysia — April 5–7, 1973)
Host: The Malaysian Medical Association

GENERAL REPORT

BY DR. PRIMITIVO D. CHUA
Secretary-Treasurer, CMAAO

SCHEDULE OF THE CONGRESS:

THURSDAY APRIL 5:

9:00 a.m.—4:00 p.m.—Registration of delegates and observers adjacent to the Lecture Hall in the School of Nursing and Radiography, Gen. Hospital, Jalan Pahang, Kuala Lumpur.

11:00 a.m.—1:00 p.m.—Business of Council of C.M.A.A.O. in Lecture Hall in the School of Nursing and Radiography, General Hospital, Jalan Pahang, Kuala Lumpur.

1:00 p.m.—2:00 p.m.—Lunch at General Hospital Canteen.

2:00 p.m.—4:00 p.m.—Business Meeting of Council C.M.A.A.O. (Contd.)

4:30 p.m.—5:00 p.m.—Tea General Hospital Canteen.

5:30 p.m.—Official Opening of 8th Congress of C.M.A.A.O. by the Honourable Minister of Health, Yang Berhormat Tan Sri Lee Siok Yew. Group Photographs of C.M.A.A.O. Officials, delegates and observers.

8:00 p.m.—Dinner by the Honourable Minister of Health (by invitation).

FRIDAY APRIL, 6:

9:00 a.m.—11:00 a.m.—Scientific Meeting on Brain-drain Problems.

11:00 a.m.—11:30—Coffee Break.

11:30 a.m.—1:00 p.m.—Scientific Meeting on Drug Addiction Problems.

1:00 p.m.—2:00 p.m.—Lunch at General Hospital Canteen.

2:00 p.m.—4:00 p.m.—Scientific Meeting on Environmental Sanitation and Pollution Problems.

4:30 p.m.—Opening Ceremony of the M.M.A. HOUSE, by Yang Amat Berhormat, the Prime Minister of Malaysia Tun Haji Abdul Razak bin Datuk Hussein followed by Tea with M.M.A. Members.

8:00 p.m.—Informal Dinner Fellowship with M.M.A. Members at Dewan Tunku Rahman.

SATURDAY APRIL, 7:

8:00 a.m.—12:30 p.m.—Golf and Sight-seeing.

1:00 p.m.—2:00 p.m.—Lunch at General Hospital Canteen.

2:00 p.m.—3:00 p.m.—Concluding Session of C.M.A.A.O.

3:30 p.m.—4:00 p.m.—Tea with M.M.A. Members.

4:00 p.m.—6:00 p.m.—M.M.A. Symposium on “Medical Education in Malaysia.”

8:00 p.m.—Formal Dinner with M.M.A. Members and Guests at Hilton Hotel, Kuala Lumpur.



SOME OF THE DELEGATES AND OBSERVERS TO THE 8TH CONGRESS OF THE CONFEDERATION OF MEDICAL ASSOCIATIONS IN ASIA AND OCEANIA.

Seated (L-R) Datuk Dr. Keshmahinder Singh (Chairman Organising Committee), Sir Geoffrey Newman-Morris (Vice-President-Elect.), Professor A.A. Sandosham (President), Dr. Ramon R. Angeles (President-Elect.), Dr. H. Kumagai (Councillor).

BUSINESS MEETINGS

(FIRST SESSION)

(Part I)

The First Session of the 8th Congress was held on April 5, 1973 from 11:00 A.M. to 12:00 noon in the Lecture Hall, School of Nursing and Radiology, General Hospital, Jalan Pahang, Kuala Lumpur, Malaysia.

(1) At about 11:10 a.m. the first Session was Opened with the cordial greetings of the Secretary-Treasurer, Dr. Ramon R. Angeles, who announced that this is the First Session of the 8th Congress of the CMAAO. He then introduced and requested

Prof. Arthur A. Sandosham of the Malaysian Medical Association, CMAAO President, to preside the Meeting.

President Prof. A. A. Sandosham expressed his warm welcome to the members of the Council and the many Delegates/Observers who are able to come and attend the 8th Congress. He then called the Meeting to Order.

The Secretary-Treasurer introduced the Members of the CMAAO Council, after which, the Chief-

Delegate of each Member-Association present introduced himself and the Members of his delegation and observers and the country they represented. These was met with spontaneous applause. The Member-Associations who sent delegations were the (1) Australian (2) Indonesian (3) Japan (4) Korean (5) Malaysian (6) Philippine and the (7) Hong Kong (as guests-observers) Medical Associations. (*Their names are listed separately*). Unable to send delegates, for one reason or another, are the (1) Burma (2) China (3) Iran (4) Pakistan and (5) Thailand Medical Associations.

At this juncture, President Sandosham suggested a modification of the Agenda, i.e., after the Reading and Approval of the Minutes of the 7th Congress held at Seoul, Korea, last October 13-15, 1971, that we consider first the membership-application of the Hong Kong Medical Association. This modification was Approved.

(2) *Reading and Approval of the Minutes of the 7th Congress Held October 13-15, 1971 in Seoul, Korea.*

Dr. Angeles, the Secretary-Treasurer, announced that copies of these Minutes were already furnished each member-association. However, he submitted again copies (Blue Folder) of these Minutes for final consideration in this 8th Congress.

A recess and Coffee-Break for 15 minutes was observed, after which the Session was resumed.

The following items were taken up and acted upon: (1) The Case of the inactive Member-Associations:

(a) *Burma Medical Association* – have not paid its membership dues since *the establishment of the CMAAO*. The Secretary-Treasurer said that their inactive status might have been due to the unsettled political situation in their country in recent years. The Council, after being enlightened, decided to consider the Burma Medical Association as still a member-association of the CMAAO and to give it more time to activate its membership. Approved.

(b) *The case of the Pakistan Medical Association*.—This Member-Association is also in arrears in membership dues. However, Dr. Keshmahinder Singh, the Chairman of the Organizing Committee of the 8th Congress, announced that a letter from the President of the Pakistan Medical Association was received expressing its greetings to the Congress and also its regrets for not having been able to send Delegates. Since this is an indication that the Pakistan

Medical Association considers itself still a CMAAO Member, therefore they should still be carried in the Roster. Approved.

(3) The Secretary-Treasurer also announced that the funds of the CMAAO had been augmented by the *Voluntary Cash Contributions* of the:

(a) Australian Medical Association—gave cash donation of US\$300 aside from its membership fees; and the

(b) Japan Medical Association—Cash donation of US\$1,000.00, also aside from its membership fees. The above cash donations were gratefully accepted with thanks and met with a spontaneous applause.

The Council hopes that these generous cash donations will continue and be followed by other affluent Member-Association of the CMAAO.

The Secretary-Treasurer announced that as of this date we have more than P12,000.00 (Philippine Currency) in the Bank. Noted.

After some minor observations and corrections and upon motion duly seconded and with no objections the *Minutes of the 7th CMAAO Congress held Oct. 13-15, 1971 in Seoul, Korea, was unanimously APPROVED*.

(The *Annual Financial Report* of the Secretary-Treasurer and the proposed *Annual Budget* (for 1971-75) will be taken up in the next Session of the Reference Committees and the Council).

(3) Consideration and Action on the MEMBERSHIP-APPLICATIONS of the:

(1) Hong Kong Medical Association and (2) Sabah Medical Association:—

(Hong Kong Medical Association represented by Dr. Peter C. Y. Lee, President and Dr. Lee King Hong, Hon. Secretary of the Association).

At the outset, President Sandosham briefed the Council about his knowledge of the Hong Kong Medical Association. He made a distinction between the Hong Kong Medical Association and the B.M.A. Hong Kong Branch (British Medical Association) composed largely of armed forces physicians and expatriates; while the Hong Kong Medical Association (which is applying for CMAAO Membership now) is more representative of the Hong Kong physicians and has bigger membership. President Sandosham gathered these information when two years ago, he visited Hong Kong. On the basis of his observations, Dr. Sandosham strongly recommended that the Hong Kong Medical Association (represented by Drs. P. Lee

King Hong) be accepted as a newly-born member of the CMAAO.

Considering the various aspects of the application some discussions came out. Dr. Peter Lee, Hong Kong Medical Association President, volunteered the information that most of the members of the BMA Hong Kong Branch and the Hong Kong Medical Association, which he represents, are members "vice-versa" of both Associations.

After serious deliberations and discussions a motion, duly seconded, was presented to accept the membership-application of the Hong Kong Medical Association.

A standing vote was called resulting in 12+ YES Votes against 4—NO Votes.

The motion being carried, the Hong Kong Medical Association is now considered a new-born member-association of the CMAAO. There was rejoicing and applause.

Dr. Peter C. Y. Lee responded with thanks and pledged that the Hong Kong Medical Association will live up to expectations.

(2) The Application of the *Sabah Medical Association*, — The Sabah Medical Association of the Federation of Malaysia also submitted a membership application to the CMAAO.

President Sandosham volunteered the information that according to the CMAAO's Constitution, only one national Medical Association can be a Member-Association of the Confederation. Since Sabah is a state of the Federation of Malaysia and, therefore, part of Malaysia, it cannot be admitted into the CMAAO for it will be against our Constitution. Therefore, with deep regrets, the Sabah Medical Association cannot be a member-association of the CMAAO. APPROVED.

(3) Progress Report on the Invitation for the *New Zealand Medical Association to be a member-association of the CMAAO*. — Sir Geoffrey Newman Morris representing the Australian Medical Association reported that approaches are being made to invite the New Zealand Medical Association to be a CMAAO Member-Association, but because of difficulties in communications there has been no success yet. Dr. K. Singh, Chairman of the Organizing Committee of the 8th Congress, reported that an invitation to this Congress had been sent to the New Zealand Medical Association but there was no response. Noted.

(4) *Reports of the Chairman of Various Standing and Special Committees*:— "As in the past, because of communications difficulties and failure to receive replies, there are no reports submitted. Another reason perhaps, is because "the dates of this 8th Congress had been scheduled or advanced earlier than expected," Dr. R. Angeles, the Secretary-Treasurer, said.

Therefore, the matters to be taken up in the Congress will be discussed and settled "on the floor" by the Council.

It is the consensus of opinion that heretofore, the communications gap will be remedied or narrowed so that better or closer communications with the member-associations and the Council may be established. The President, Dr. Sandosham and the Secretary-Treasurer, Dr. R. Angeles made strong appeals in this direction. NOTED.

Report of the President. — Likewise, the President, Dr. Sandosham, confessed that he has no formal report to be submitted. NOTED.

FIRST SESSION

(Part II)

1. *Reports of the Chief Delegates (or Representatives) on the Activities and Problems of their Respective Medical Associations*:—

(1) *Malaysian Medical Association (M.M.A.)* — This is published in the Souvenir Program of the Malaysian Medical Association 13th General Meeting. Noteworthy is the Inauguration of the Malaysian Medical Association House (several storeys) at 124 Pahang Road, Kuala Lumpur, which was built through the generous donations of the Officers and members of the Association and civic-spirited of the Federation of Malaysia.

2. *The Philippine Medical Association (PMA)*. — Dr. P. Chua, Philippine Delegate and Councilor-at-Large of the PMA, submitted a written report of the activities and problems of the Association. He prefaced his report by reading a "Message" from the President of the Philippine Medical Association, Dr. Jose G. Tamayo, extending best wishes to the Congress and inviting the CMAAO to hold its next Congress in 1975 in Manila, with the Philippine Medical Association as host. Noteworthy are the increased of membership in the Association because of the

Medicare System; the problem of Narcotics and Drugs Addiction, Brain Drain, etc.
(written Report submitted)

(3) *Japan Medical Association (JMA)*. — A formal report was submitted by Dr. H. Kumagai, Chief Delegate of the Japan Medical Association. He prefaced his report by reading a "Message" from Dr. Taro Takemi, President of the Japan Medical Association expressing best wishes to the Congress and his regrets for not attending it. (Written report submitted).

(4) *Korean Medical Association (KMA)*. — A formal report submitted by Dr. K. Park Delegate of the Korean Medical Association will be circularized later.

(5) *Hong Kong Medical Association (HKMA)*. — Dr. Peter Lee, President of the Hong Kong Medical Association submitted a verbal report of the activities of his Association. He made clarifications about the status of the British Medical Association (Hong Kong Branch) and the Hong Kong Medical Association, of which he is the President. He also stated that all Specialty Societies in Hong Kong is under one big umbrella called the "Federation of Medical Societies of Hong Kong" which admits only medical societies but not individual members. They are now on an active fund-raising campaign to raise funds for the Hong Kong Medical Association headquarters to be called a "Medical Center." It is hoped that by 1975, this Center will be completely built and may be available for international conferences like that of the CMAAO Congresses; they also have the problem of "Drug Addiction" that challenges the Hong Kong Medical Association members.

(6) *Australian Medical Association (A.M.A.)* — Sir Geoffrey Newman Morris, the lone Delegate of the Australian Medical Association and retired Chair-

man of the Federal Assembly, made a verbal report of the important activities and problems of his Association. He mentioned that with the new development, there are changes taking place in the system of the delivery of health care for the community. The A.M.A. is very much involved in the discussions and planning of the program under A.M.A. President Dr. Gavin Johnson — this is the reason why Dr. Johnson was unable to attend the CMAAO Congress. He mentioned that two politico-medical bodies exist now in Australia which, according to Sir Geoffrey, is unfortunate because there are disagreements and competition among these medical bodies, the (1) A.M.A. composed of various state branches of the British Medical Association (2) the Royal College of General Practitioners and (3) the General Practitioners Society, just recently established.

2. *Appointments of the Chairman and Members of the Various References Committees*. — The Council upon motion duly seconded and approved, decided that, except for the *Committee on Resolutions* and the *Committee on Nomination, and Election of Officers*, all items in the Agenda like the Annual Report of the Secretary-Treasurer (including the Annual Budget) and other matters will be discussed on the floor with the whole Council and Delegates participating in the discussions and decisions. A Committee on Resolutions was created composed of Dr. K. Menon (Malaysia), Chairman, with Drs. Peter Lee (Hong Kong) and H. Muroya (Japan).

The Committee on Nominations and Elections, composed of Dr. H. Kumagai (Japan) as Chairman and Dr. Keshmahinder Singh (Malaysia) Dr. Kunwon Park (Korea) as members, was created.

At about 12.30 p.m. the session was temporarily adjourned for the luncheon-break.

SECOND SESSION

April 5, 1973

Time: 2:00 p.m. — 4:00 p.m.
Place: Kuala Lumpur General Hospital

(Part I)

1. *Reading and Approval of the Minutes of the First Session*. — Dr. Sandosham remarked that since there is only a short interval between the First

and Second Sessions, there is no need of reading and approving the Minutes of the First Session.
APPROVED.

2. *Reports of the Various Reference Committees.* — Since, except for the *Committee on Resolutions* and the *Committee on Nominations and Elections.* — No other Reference Committee had been created because the other matters in the Agenda will be discussed on the floor by the whole Council and the Delegates, the Council itself acted on the following items:—

(a) Before going to other Business, *the Report of the Secretary-Treasurer (including the proposed Annual Budget)* was presented for the consideration and approval of the Council. Some minor discrepancies and observations were noted and duly corrected, particularly, the proposed Budget which should be increased, to at least, 30% because of the increasing costs of administrative and operational expenses of the Secretariat. The consensus area: The possibility of increasing the membership fees and items in the Budget be studied and, if possible, presented to the Council, at least, 6 months before the next Congress.

The Financial Report and the proposed Budget as presented by the Secretary-Treasurer, upon motion duly seconded was *approved in principle* for final consideration and presentation in the next Congress. APPROVED.

(b) *Presentation of Resolutions.* — Before Resolutions were presented in this Congress, it is the feeling of the Council that further study and follow-up of some Resolutions approved during the 7th Congress in Seoul, Korea (some of which were discussed in the 8th Congress) be made first. APPROVED.

The following Resolutions were duly presented and acted upon, accordingly. (See separate list, Annex "A").

3. *Determination of the Place (Venue) of the 9th CMAAO Congress.* — The President, Dr. Sandosham announced that there is an Invitation-Letter from the Philippine Medical Association (PMA) President, Dr. Jose G. Tamayo, (Transmitted through Dr. P. Chua of the PMA) extending an invitation for the CMAAO to hold the next Congress — the 9th — in Manila, Philippines in 1975. The PMA will be the host. The President announced that there is no other invitation received so far and asked if there is anybody who would like to extend similar invitation, the Chair is still open. At this juncture, Dr. Peter C. Y. Lee, President, Hong Kong Medical Association stood up and proposed that the CMAAO accept the kind generosity of the Philippine Medical Association.

As to the Hong Kong Medical Association, he said perhaps by 1977 their own building or medical center will already be completed and they may be in a position to be the host by that time. Dr. Lee moved, and duly seconded by a Delegate from the Japan Medical Association that the CMAAO accept the invitation of the Philippine Medical Association to hold the 9th Congress in Manila, 1975, with the Philippine Medical Association as host. This was met with unanimous approval. APPROVED. There was a general applause while Dr. Sandosham expressed gratitude to the Philippine Delegation for transmitting the invitation-letter of their Association for the 9th Congress. He also stated that he had visited Manila, Philippines at least 3 times and he believes that Manila will be a good site for the next Congress. NOTED.

4. *Valedictory Address of Dr. A. A. Sandosham* (as Outgoing President). — Dr. A. A. Sandosham CMAAO President for 1971-1973 as outgoing President, stated that he has not much to say in his Valedictory Address. Nevertheless, he would like to bring out the following:

(a) An appeal to all member-countries of the CMAAO to establish continuous communications with the Secretariat in order to narrow or cover the communication gap among the members of the Confederation;

(b) That prompt reply or exchange of communications should be established throughout the year. He is cognizant of language difficulties among the member-countries but since English is our Official Language perhaps the language barrier is not so big, he said. Likewise, he urged the member-associations to submit information-materials of their respective association, for publication in our "CMAAO Newsletter." These are important, he said. If we want to have an active and vibrant CMAAO in this part of the world. NOTED.

In closing, Dr. A. A. Sandosham expressed his profound gratitude and thanks for giving him the opportunity to be the Confederation President (for 1971-1973), despite his shortcomings. Special mention were made of the Secretary-Treasurer Dr. R. Angeles, whose untiring efforts and interest in the CMAAO contributed much to its existence. Last, but not least, to the members of the Council, who in one way or the other, contributed their time and efforts to bring the CMAAO to its fruitful and continued existence.

Dr. Sandosham's Valedictory Address was met with general applause and approval. NOTED.

SECOND SESSION
(Part II)

(1) *The Committee on Nominations and Election* – Composed of Drs. H. Kumagai as Chairman with K. Park and Dr. Sandosham, as members. After meeting for about 20 minutes, announced the Candidates for the Council for the year 1973-75 as follows:

President – Ramon R. Angeles, M.D. (Philippines)

Vice-President – Sir Geoffrey Newman Morris (Australia)

Secretary-Treasurer – Primitivo D. Chua, M.D. (Philippines)

Councillors:

Amino Gondohutomo, M.D. (Indonesia, 1973-1977)

Datuk Keshmahinder Singh, M.D. (Malaysia 1973-1977)

Hiroshi Kumagai, M.D. (Japan, 1973-1975)

Tong Soo Cho, M.D. (Korea, 1973-1975)

It should be noted here that during the deliberations in the nominations for Council Officers, the name of Dr. Romeo C. Montes of the Philippines was mentioned as a Candidate for Vice-President of the Confederation by Dr. H. Kumagai (Japan). The Philippine Delegates, after a huddle, voiced the opinion that if Dr. R. Montes happens to be elected as Vice-President, it would appear that the Philippines will have dominance or a predominating influence on the Council. This may not be democratic and will deprive Delegates from other member-countries to occupy honored positions in the Council. The Philippine Delegation, therefore, through Dr. P. Chua, expressed gratitude for the nomination of Dr. Montes as Vice-President, while at the same time politely declining the same for reasons stated herein. Upon request of Philippine Delegation, and with the approval of Dr. Montes, the name of Dr. Montes as Candidate for Vice-Presidents had been withdrawn. NOTED.

(2) *Announcement of the Results of the Election.* – As in the past, the voting was done by “Viva Voce.” The name of each candidate (as listed) was announced and voted upon one by one, Results: The candidates as listed were all unanimously elected. The Delegates and members of the Congress, as the result of the election was announced, expressed spontaneous approval and applause.

It must be noted here that Prof. A. A. Sandosham,

Immediate Past President, is an “ex-officio” member of the Council.

(3) *Induction of the Newly Elected Officers.* – Following tradition and for practical purposes, the newly-elected members of the Council were formally Inducted by the outgoing President, Prof. Sandosham. The ceremony was simple but solemn. Expression of mutual satisfaction and best wishes were exchanged among the Officers and the Delegates of the Confederation.

(4) *Inaugural Address of the In-coming President, Dr. Ramon R. Angeles.* – Dr. Ramon R. Angeles who had been the Secretary-Treasurer of the CMAAO since the demise of Dr. Victorino de Dios (1970), his predecessor, Dr. Angeles, the President of the Confederation, took the floor and expressed his grateful appreciation and thanks for the trust and confidence reposed upon him as manifested by his unanimous election to the Presidency. He made mention of the late Dr. Victorino de Dios, whom he considers his mentor and the reason why he got involved in the CMAAO. He also recalled his pleasant associations with Drs. K. Park and Myung of Korea and Drs. Takemi and Kumagai of Japan. Dr. Angeles ended his Inaugural Address by saying that we can solve our common problems through the CMAAO and that, despite his shortcomings, he will do his level best to perform the duties of his high Office. “With God willing,” he said, and “with the full hearted cooperation of each and every member of the Confederation, we shall not fail”

(5) *Business Meeting.* – A brief Business Meeting of the new Council was called by Dr. Angeles to brief the new body about the future plans and activities of the Confederation. Important matters taken up were:

(a) Ways and Means to narrow or fill the communication gap or difficulties among the member-associations of the CMAAO and the Secretariat;

(b) The Pre-Congress Council Meeting (some-time in 1974), in Hong Kong, to honor the invitation of Dr. Peter Lee, President of the Hong Kong Medical Association, to host this mid-Congress Meeting; and

(c) To adopt the appropriate Central Theme and planning of the Program of the coming 9th Congress to be held in Manila in 1975, with the Philippine Medical Association as Host.

Among to be considered are (1) the Health Delivery System in the Member-Countries of the

CMAAO (2) International Travel Regulations with respect to communicable diseases and (3) other topics not well discussed during the past Congresses.

There being no other matters to take up and after exchanges of warm greetings and pleasantries among the Council Members, the Meeting, upon motion duly seconded, was declared adjourned at about 5:30 p.m.

Submitted by:

DR. RAMON R. ANGELES, M.D.
Secretary-Treasurer

ATTESTED TO:

DR. A. A. SANDOSHAM, M.D.
President

RRA/fmd

SCIENTIFIC SESSION

(Overall Chairman and Rapporteur: Prof. A.A. Sandosham)

ENVIRONMENTAL POLLUTION

(Chairman: Sir G. Newman-Morris)

Environmental sanitation and pollution in Malaysia

by: A. Sekaraja Sekaran
Ministry of Health, Malaysia.

A. INTRODUCTION

1. Pollution and Environmental Quality Objectives

The basic need in West Malaysia is for the development of clearly defined Environmental Quality Objectives to allow for determination of levels of pollution – pollution being measured in terms of the degree to which existing conditions fail to meet the particular Environmental Quality Objective accepted as desirable. With time new higher quality objectives may prove to be desirable and hence what was not considered to be pollution in relation to the old objective becomes pollution in terms of the new objective.

2. Proposed Objectives

Proposed Environmental Quality Objectives to be reached by say 1980 or 1985 in relation to Environmental Sanitation are as follows:—

1. Safe piped water to be supplied to 100% of the urban population by 1980, with 75 percent to be served through house connections and the remainder by reasonable access to piped supplies through standpipes within 100 yards of their homes. (This is the WHO World wide objective for 1980.)
2. Fifty percent of the rural population to

be supplied with reasonable safe water by 1980, with 25 percent having direct house connections and the remaining 25% having access to standpipes or sanitary well within 100 yards of their homes. (The WHO objective is 25 percent but Malaysia should be able to exceed this due to its higher than average per capita income).

3. Twenty Seven percent of all urban population to be connected to sewers by 1980. (This is the WHO objective for 1980 but due to the large accumulated backlog Malaysia will probably not be able to achieve more than 18 percent by 1980 (Vs. 27%).)
4. Seventy five percent of all rural population to be provided with satisfactory facilities for excreta disposal by 1980. (The WHO objective is 14 percent by 1980.)

It might be questioned as to what water supply has to do with pollution. First water is the principal means available to man for cleansing his person, his clothes and his home. Without water the level of sanitation and hence pollution of mans environment is

necessarily high. Second in the process of water being used, water itself becomes polluted and on discharge spreads the pollution to the land, drains, or rivers etc. As always we solve one problem but at the cost of creating new ones; thus the need for sewerage develops and following that sewage treatment, stream pollution control, and surveillance of food, fish and shellfish quality as it may be affected by pollutants.

Further objectives would include:—

1. Daily collection of solid wastes from all urban households by 1980 combined with the use of sanitary garbage containers by householders, and sanitary disposal of collected garbage.
2. Covering of all urban storm drains in commercial urban centre areas by 1980 to prevent undue contamination and access by disease vectors and vermin.
3. Conformance by all restaurants, hawkers, and other facilities engaged in serving food to the public with approved public health standards in relation to facilities construction and operation, education of food handlers and certification, and inspection by 1985.
4. Establishment and enforcement of maximum noise levels for residential, commercial and industrial areas by 1980.
5. Establishment of continuing programs of surveillance over fish, shellfish, shrimps, and other aquatic foods in relation to contamination by heavy metal compounds and other toxic substances by 1975.

— The list of objectives can be quite long but must also be geared to the reality of the situation and the ability to implement effectively.

Objectives would of course be adjusted to higher levels of quality and capability as new possibilities for improvement evolve. There is and should be no end to this process of continuing raising of levels of the quality of the human environment and of human life to meet the rising expectations of the people.

Present Status in relation to Objective

Considering the above objectives we have:—

- 1) In Urban Water Supply Malaysia is ahead of

the WHO objectives of 60 percent to be served by house connections by 1980 with 66% presently so served (1970 Census). However this is only 38.5% of the projected 1980 urban population so much work must be done to maintain the present condition and more again to reach the objective of 75 percent of the 1980 population — in effect a doubling of all past achievements which is no small task. In addition the service through standpipes etc., to the remainder of the urban population must be greatly improved and extended.

- 2) In rural areas, thanks mainly to the J.K.R. (Public Works Department), systems Malaysia has already exceeded the 1980 objective set by WHO and is a little over halfway towards the objective set above. Further extension of JKR systems with more connections plus new efforts by the Ministry of Health are expected to allow for achievement of the objectives. (And large schemes such as Pahang Tenggara etc.).
- 3) In the area of Urban Sewerage West Malaysia badly lags behind other countries with comparable per-capita incomes. Prospects for being able to reach the WHO objective of 27 percent served by 1980 are negative and a major effort will be needed to reach 2/3rds of this or 18 percent. Without sewers densely populated urban areas cannot hope to achieve satisfactory levels of urban sanitation. Considerably more effort in planning and time is necessary for sewerage than for water supply, and construction and connection time is also considerably longer. Per-capita investment in the system alone is 2 to 2½ times that involved in water supply and in addition another equal amount is involved in house plumbing and facilities. (Total cost around \$400/- per capita or more). The Ministry of Health, Environmental Health & Engineering Section has been actively promoting basic feasibility studies to support action in this area. The Ipoh study has been completed, the Kuala Lumpur Metropolitan Area study has commenced, and activities are in process for Klang, Johore Bahru, Seremban and other big urban areas.
- 4) Rural Excreta disposal should progress well ahead of WHO targets, mainly through provision of sanitary pour-flush latrines under Ministry of Health Programs. Activities involving

resettlement under major land development schemes will also contribute significantly in this area.

The capital costs of these programs is approximately:—

Urban Water Supply ..	\$M206,000,000/- (75%+ SP)
Rural Water Supply ..	42,000,000/-(75%)
Urban Sewerage Systems	325,000,000/-(27%)
.... (Probable)	275,000,000/-(18%)
Rural Excreta Disposal ..	19,000,000/-(Govt)
	161,000,000/- (People)
<hr/>	
Total National Investment	\$M703,000,000/-

(About \$M300M is cost to people & \$M403M cost to Govt.)

There is also a significant operation, maintenance and an accumulating replacement cost involved.

Each of the other objectives listed needs attention and more detailed study and planning. It is not possible at this stage to make any predictions as to whether the stated objectives are realistic as basic data on the present status and needs is not available. What is needed is an initiative to "get the ball rolling".

B. PROBLEMS OF ENVIRONMENTAL QUALITY CONTROL

1. The Origin of the Sanitation Problems

- (a) In the past populations have generally been small and more dispersed. Under these conditions the environment was able with the help of regular high intensity rains interspersed with strong sunshine to stabilize and absorb what were essentially human excreta and organic food wastes. As population even in rural areas has become more dense and urban centres have grown the waste load has increased and natural forces are less able to do an efficient job. Thus streams which once could be used for drinking water by rural people with only moderate risk have now become more heavily polluted and un-

suitable. Other factors such as soil pollution, contamination of insect and other carriers of disease organisms, and food contamination have become progressively intensified.

What was once simple organic excreta and food wastes has tended to become more complex as detergents, insecticides, fertilizers and newer hormones and industrial chemicals have and continue to be increasingly used. This requires that the modern Environmental Control Engineers, Chemists, Biologists and others must have wider training and understanding in order to plan and implement control operations.

- (b) The basic requirements for urban centres have long been known — the installation of pipes sewerage systems to collect and convey the wastes including excreta, sullage, and trade or industrial waste waters out of the urban area to a place of treatment or disposal. No urban area can be considered to be modern or sanitary without sewerage systems. By concentrating the waste water in one point the sewerage system makes treatment both necessary and feasible. A number of methods of treatment have been devised both mechanical and natural but they all essentially depend upon the action of living organisms in consuming the wastes as food and in the process stabilizing (or oxidizing) them. Such biological stabilization goes on at 2 to 3 times the rate under Malaysian temperatures of 30°C than under temperate climate conditions — a valuable asset. (A Natural Resource). Problems of treating the newer chemicals entering the sewerage can be difficult to resolve and as a result pre-treatment by industries is often required before their waste waters are discharged to sewers.

Older methods, and pit latrines have become (or always were) unsuitable to densely populated towns.

2. Pollution Control and Water Resources

Treatment of Urban Sewerage and Industrial wastes is necessary to control pollution of water resources in order to

protect the quality of the water for uses such as Water Supply, Fish & Shellfish growth, Industrial Use, Swimming and recreation, and agriculture etc. The costs of control must be carefully weighed against the value of the water uses in order to decide upon the level of control that will yield the highest return to the community and the Nation.

3. Protection of Community Water Supply Sources

Community Water Supply is generally accepted as being the most valuable use that can be made of water on a gallon for gallon basis. Thus most developed countries have made legal arrangements for protection of community water sources from contamination and to allow for transfer of water rights acquired for other uses to community use as needed (with compensation). Although Malaysia has implemented limited protection to some water supply watersheds more clearly defined and positive control is needed for the future. Procedures for acquisition of high quality water sources for community supply are also needed (e.g. Seremban).

4. Development of New Water Supply Resources

Due to the general abundance of the river surface water sources in the past it has not been necessary to consider building storage reservoirs in most cases and the potential ground water supplies have been largely ignored. It should be pointed out that on a World wide basis the quantity of fresh water in the ground averages 30 times that available from surface streams. The government is presently trying to assess this worthy of careful investigation. Ground waters are usually clear, which is require little or no treatment except chlorination, and are available at or near the point of use thus reducing the heavy costs of long supply lines and large distribution mains. Pollution of ground water can occur and can be serious when associated with modern chemicals and chemical wastes etc.

5. Designation of Beneficial Water Uses

The establishment of recognised bene-

ficial water uses is basic to the problem of pollution control. This determines the quality of water which must be maintained and hence the treatment necessary for wastewaters and other measures for control. A great deal of work remains to be done in this area.

C. THE NEED FOR TRAINED MANPOWER

1. The Present Situation

Due to the wide and almost unprecedented avalanche of discussion and attention given to the subject of Environment over the last few years, principally originating from the developed industrial nations where environmental degradation had reached serious proportions, almost everyone who reads and listens has become informed on many aspects of the environmental problem. However, there is still a wide gap between general knowledge acquired in this way and the systematised knowledge and detailed understanding and competence of the trained specialist. Malaysia has a number of technical people who have acquired various levels of generalized and specialized competence in this area but to my knowledge no one with specialized and specific training in Environmental Engineering, planning or Management. Perhaps the nearest approach to this are the few who have had training as Public Health Engineers and who have acquired some measure of experience in dealing with problems in Malaysia.

2. A National Environmental Protection Association

What is needed is some form of organization to bring together the available competence in this area in the form of a "Malaysian Environmental Protection Association" with a broad charter capable of accommodating all people concerned with the problem. This should include people with professional training, government administrators, industrialists and business executives, and private citizens. The Association should establish active programs under its own task force or committee structure designed to develop and disseminate knowledge of Malaysian problems and should develop Environmental Policies designed to protect or enhance the

Malaysian Environment, to support needed action by Government, and to promote individual and public education. The Public Health group in your association can greatly contribute towards such an organization.

3. Training the New Specialists

Further there is need for early specialised training of a "new breed" of environmental specialist, Engineers, Architects, Health Doctors, Biologists, etc. to satisfy the need for competence in what will be an ever increasingly complex national and world environment. The lack of such trained specialists is clearly demonstrated in recent development planning reports which give verbal support to the idea of environmental protection and enhancement but are devoid of any plan to outline the "What" and "How" and "When" details that are essential.

Government is considering enactment of a new "Environmental Quality Act" to set up machinery for Environmental Quality Control but without the needed responsible trained and competent manpower such legislation cannot be implemented on a sound basis.

This is an urgent matter that needs immediate attention as it will take from 2 to 6 years to train needed people and longer for them to gain practical experience.

D. RELATED SUPPORTING ACTIVITIES

1. Environmental Sanitation and Epidemiology

The principal guide for the Environmental Quality Control manager in relation to the Public Health Aspects is the findings of the Epidemiological Service in relation to disease incidence, accident causes, mental health effects, noise effects, chemical effects of air and water, housing and overcrowding, and a range of other factors affecting the health and well being of the people. There is need for continued strengthening of the new "infant" Epidemiological Service of the Ministry of Health to provide intelligence as to what is happening to people and why and to give some answers as to what corrective measures are needed. Later this Service will play a valuable role in evaluation of the

effectiveness of Environmental corrective actions taken which is needed to guide future program activities.

In support of Epidemiological Services there is further need for development of Health Laboratory Services and Medical Research, both now in Process. Expansion of Statistical services and mapping operations are also necessary.

2. Analytical Chemistry and Biology Services Etc.

New fields of Aquatic Biology, Fisheries Biology, Industrial Waste Chemistry, Air Chemistry, Radiation detection etc., all require steady development not only of the Department of Chemistry but of specialised evaluation capability in such offices as the Ministry of Health Environmental Health & Engineering Section, the J.K.R., and Dept. of Machinery as well as the proposed new Environmental Quality Control Agency. All of these activities involve further recruitment, training and integration of staff.

3. Environmental Studies and Education

Special support will be needed from University Scientific, Research bodies including social research groups for development capability to grow steadily. Eventually Environmental Studies will need to be incorporated in all education programs from primary schools to graduate studies. Advanced countries have already over the last few years entered into comprehensive programs of Environmental Education of the entire public starting with school children to fit them out with the necessary knowledge and understanding to be able to adapt to the rapidly changing environment of their countries and the world - Malaysia must also attend to this matter on a priority basis - The need for intensified efforts in the area of Health Education is recognised by the Ministry of Health with particular emphasis upon its effects upon Environmental Sanitation.

E. CONCLUSIONS

1. It is apparent that West Malaysia still has a large and difficult job to do in order to

maintain and improve its position with respect to urban and rural water supply.

2. A major effort is needed in relation to rural excreta disposal and urban sewerage which will require a strengthening of national priorities to provide needed support.
3. Preparatory work through development of programs to achieve objectives in Water & Sewerage together with provision and training of professional and sub-professional staff as for example in the Ministry of Health Sanitation, Environmental Health, Epidemiology and Health Education Sections needs reinforcement.
4. There is need for a National Environmental Quality Control Agency to draw together and give direction to the many fragmented partial and poorly supported agencies involved in activities affecting Environmental Quality. As the great bulk of these activities directly relate to the Health and well being of the people such an Agency should preferably be established under the Ministry for Health.

A considerable volume of subsidiary legislation and regulations will be also needed but generally this needs to await analysis of the problems and development of trained people for management of activities.

5. Recruitment and Training of Professional Level Environmental Specialists is perhaps the greatest single need in this field. Competent leadership is a factor that cannot be dispensed with.

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The state of environmental pollution in the Philippines today

Dr. Reynaldo M. Lesaca
Commissioner
National Water and Air Pollution Control Commission
Republic of the Philippines.

INTRODUCTION

The satisfaction of man's basic needs depends upon his efficient manipulation of his own environment and its natural resources. In so doing various

forms of environmental degradation of pollution result. In the beginning he may not notice the existence of such polluted conditions, but because of the cumulative tendency of pollution and the non-

unlimited capacity of the environment to absorb pollutants, he sooner or later starts to feel its consequential menace. It was only within the last decade that he began to give increasingly great attention to pollution.

At the beginning, only the highly developed countries were concerned about pollution. Today, it has become a worldwide concern and even the developing countries have commenced giving the attention it rightfully deserves.

A review of the history of environmental pollution shows that Great Britain first experienced the tragic effect brought by pollution. Later, the United States had the same experience. Other developed countries soon followed. The tragedy occasioned by the occurrence of uncontrolled pollution hastened the enactment and approval of laws, rules and regulations on environmental pollution controls all over the world.

In view of the widening coverage of pollution, the United Nations itself became interested. In a formal resolution adopted in 1968 and with the acceptance of the host country, the first UN Conference on Human Environment was conducted in June 5-16, 1972 at Stockholm, Sweden to discuss matters involving global programs for pollution control.

The sad experience on pollution of the developed countries became a lesson to the developing countries. In their attempts to industrialize as quickly as possible, they are now seeking means of preventing pollution since remedial or corrective methods are more expensive.

Before proceeding any further let me proceed with a few definitions in order to clarify what we are talking about. *Pollution* is generally defined as the fouling of man's surroundings. When something dirties or contaminates air, water or land and makes it unfit for useful purposes, pollution has been created.

In a technical sense, however, pollution refers to the introduction of physico-chemical agents, micro-organism or other substances which change characteristics of the air, water or land making it dangerous to health or resulting in the interference with the normal use of these natural resources by the people.

In our law, Republic Act 3931, known as the "Pollution Control Law," pollution is legally defined as "the alteration of the physical, chemical and/or biological properties of any water and/or atmospheric air of the country as well or is likely to create or

render such water and/or atmospheric air harmful or detrimental or injurious to public health, safety or welfare, or to domestic, industrial, agricultural, recreational or other legitimate uses or to livestock, wild animals, bird, fish or other-aquatic life".

In brief, the term pollution maybe considered to mean anything that causes a change in the appearance, quality, usage or enjoyment of the air, water and other resources of our country.

2. MEASUREMENT OF POLLUTION

Pollution maybe expressed in a qualitative manner by degree of intensity or the seriousness of its effect on the environment. This non-quantitative assessment, however, is not conducive to scientific and systematic analyses and therefore could not, alone by itself, be utilized in arriving at a meaningful and precise determination of the existence of pollution.

The amount of pollutant in the environment is very often expressed in units called *ppm* or parts per million. This is so because the amount of pollutants both in air and water are generally so minute that expressing them in percent concentration would involve many decimals and therefore would be cumbersome.

Among the more important indicators of pollution is the dissolved oxygen content of water. When impurities are present in water especially organic, they tend to absorb and deplete this oxygen present. Normally clean waters should contain not less than about 7-9 ppm of dissolved oxygen depending on temperature. When this goes down below about 3 ppm fish and aquatic life forms start to die although there are some fish that can live for short durations even in polluted waters. When the dissolved oxygen drops to zero, septic conditions set in and the water begins to "demand" more oxygen. This amount needed by both chemical reactions and biological micro-organisms that break up organic matter into simpler forms, is called bio-chemical oxygen demand usually abbreviated into BOD.

Domestic sewage, on the average has about 100 to 300 ppm BOD but certain organic waste coming from distilleries, for example have as high as 4000 ppm BOD. Total solids are another indicator of pollution, the higher content denoting more pollution. Mine tailings, for example, can produce as high as 20,000 ppm total solids whereas the value in clean waters seldom reach 200 ppm.

In order for any water to be considered polluted, its content of certain elements or chemical, its BOD and its acidity or alkalinity must exceed certain standards which by previous experience have been shown to be acceptable as unpolluted. Thus the need for research in order to establish realistic standards.

Unlike water, contaminants in the air are expressed either in ppm by volume, ppm by weight or in micrograms per standard cubic meter. Clean mountain air, free of pollution, normally contains about 50 micrograms of particulates per cubic meter whereas city air in areas with average traffic and paved streets might have up to 200 micrograms per cubic meter. Another way to indicate atmospheric contamination is the amount of dust over an area and this is usually expressed in tons per square kilometer per month.

3. PRESENT POLLUTION LEVELS

A. AIR

From the surveys, investigations and inspections conducted by the NWAPCC, it was found that air pollution usually exists in urban areas and at factory sites.

In Metropolitan Manila, a continuing survey of the motor vehicles indicated a total of about 271,000 in 1970 and 280,000 in 1971. Estimates show that about 3,200 tons of particulate matter were emitted by these motor vehicles in 1970. Air samples from different traffic congested areas were also taken. Laboratory analyses indicated that in Plaza Miranda the monthly average from February to May 1971, a period of four months corresponding to the dry season exceeded the allowable carbon monoxide concentration of 30 ppm. Hourly observations show that this allowable concentration is exceeded during the rush hours in the morning and in the afternoon. Lead in the air covering from gasoline of motor vehicles, averages about 0.5 mg. per cubic meter.

Particulates in the air have been observed exceeding the allowable concentrations of 200 micrograms per cubic meter about 3 days a week. The monthly averages however shows that the allowable limit is not exceeded even during the summer months. Dustfall in the Manila area average about 14 tons per square kilometer per month. Surveys and air sampling on more factories are presently being conducted together with dustfall measurements. The study is still in progress and there are no complete figures yet to warrant conclusive results. However, one should consider the following factors which inevitably

tend to increase air pollution in the Metropolitan Manila atmosphere. (1) Less than 5% of about 500 factories surveyed and inspected have installed air pollution control devices like cyclones, scrubbers, filters and precipitators. (2) The sulfur content of most bunker oil fuel used by industry reaches as high as 3% thereby exceeding the NWAPCC standard of 1.5%. As a consequence the 67 factories in Metropolitan Manila already sampled for smoke emission have been estimated to be discharging 42,000 lbs. of sulfur dioxide in one day.

In Iligan City, air pollution has started to become a serious problem because of the increasing number of industries taking advantage of the proximity to cheap sources of electric power. Throughout the Philippines 13 active cement factories and 26 sugar centrals are contributing significantly to air pollution. The 13 sugar centrals in Negros have been complained of as causing both air pollution in the form of soot and fly ash, and water pollution caused by discharge of excess cane juice, waste molasses and other central related wastes. Most of these factories, however, are causing only localized air pollution problems.

B. WATER

There are some thirty (30) rivers that are or have been reported as polluted by industrial operations. The problem is most critical in the Greater Manila Area, notably the Tinajeros River, in Malabon Pasig River including its principal tributaries, San Juan and Marikina Rivers and numerous esteros in Manila proper; Calumpit and Balagtas in Bulacan; San Pedro River in Laguna and the Agno and Bued Rivers in Pangasinan. It is quite fortunate that the Philippines has a rainy season which tend to wash out into the sea during this period the accumulated pollution of these rivers.

In a recent examination of the quality of river water found in Metropolitan Manila, it was found that 60% to 70% of the total pollution load of the rivers is due to raw and partially treated sewage produced by the two million people in the Pasig River drainage area. The remaining 30% to 40% come from about 300 factories and industrial firms dispersed throughout the area. Of the factories there are 50 that are discharging approximately about 30,000 pounds of organic solids into the Pasig River.

In terms of pollution potential, the NWAPCC has classified industries in the Greater Manila Area in the order that they contribute to water pollution.

Textile mills are the heaviest polluters, the pulp and paper mills second and food processing plants, third. These are followed by the chemical industries, steel processing and glass manufacturing plants.

Although the Pasig River system is big, it can carry only so much pollution load, depending on the time and season of the year. During the wet season it can take care of the total pollution load discharged to it at present. However, during the dry months it can carry only less than half of this load. When this happens, the river becomes murky and gives off odors — the physical signs of heavy pollution. The Tinajeros-Tullahan River system, on the other hand, is comparatively small. Its capacity is inadequate to carry the tons of organic solids which more than 20 industries discharge to it in addition to the domestic sewage contribution from the general public. Thus, it stays polluted throughout the year and its polluted state only slightly decreases during the rainy season. The pollution of this particular river course is further aggravated and complicated by the illegal diking and reclaiming of river banks for real estate purposes leading to narrowing considerably and seriously affecting the flow characteristics.

All over the country, there are some fifteen (15) mining companies which process approximately 120,000 tons of raw ores a day. From 95 to 98% of this is thrown back into the nearby streams as mine tailings resulting in the siltation of farm lands, irrigation systems and fishing areas. Repair and maintenance of irrigation canals as a result of siltation have been estimated at almost a million pesos annually.

Silt is also carried down by heavy rains from denuded mountains. According to newspaper reports, our forests are being denuded at the rate of something like 3,000 hectares a day resulting in severe erosion of mountain-sides and siltation of watersheds.

4. CONTROL EFFORTS OF THE GOVERNMENT

In the Philippines, urbanization and industrialization had their beginning just after World War II. However, the pollution that results from industrialization did not create awareness on the public until the early sixties. It was in 1963 that a bill was introduced in Congress creating a government agency to safeguard the environment from the ill effects of uncontrolled pollution. Numbered House Bill 3554,

it was signed into R.A. 3931 by the President on June 18, 1964.

Briefly this law which is commonly referred to as the "Pollution Control Law," created the National Water and Air Pollution Control Commission (NWAPCC) and defined its composition, functions, duties and responsibilities. The main functions of the Commission are to determine the existence of pollution, to establish water and air quality standards, to promulgate rules and regulations and to require industrial establishments and other polluters to put up the necessary control works. The Law also explicitly defined a basic national policy which is to maintain reasonable standards of purity of the water and air of this country with their utilization for domestic, agricultural, industrial and other legitimate purposes".

Since the NWAPCC was organized in 1966, it has been continuously functioning and has maintained a continuing dialogue with the industry. Surveys and investigations of complaints against existing factories have been the routine and continuing work of the Commission and in which factories are assessed of their actual and potential pollution contributions.

Specific complaints received by the Commission against factories are given preferential attention and always an on-the-spot investigation of each case is conducted. Every survey, inspection and investigation made results in the preparation and submission of a report by the investigating engineer.

Based on the report, the Commission summons the respondent and complainant and to a formal public hearing to hear both sides. In the public hearing the complainant presents evidence in support of his complaints in the form of oral testimony and other documentary or material evidence, if any. The Commission in addition presents its own findings and report of its representative and offers the testimony of said representatives. Respondent is then given the opportunity to challenge and cross-examine the witnesses, including the complainant and the representatives of the Commission in accordance with the judicial doctrine of due process. This is then followed by the respondent offering its own evidence or rebuttal to impeach complainants assertions and to support its own defense. The records of the case are then consolidated and considered by the Commission sitting en banc. After a due deliberations, a decision in the form of an appropriate resolution is rendered.

If, as born out by the records, it appears that

there is actual existence of pollution, the Commission will resolve to issue an order requiring the respondent to construct adequate pollution control measures to reduce pollution to levels acceptable to the Commission within a reasonable period. While the required pollution control devices are under construction and installation, the industry is ordered by the Commission to stop discharging its untreated wastewaters into the river or to stop emitting air pollutants as the case maybe. The industry is directed to put up the temporary control works, if they wish to continue operation. In this connection the Commission has circularized local executives such as City and Municipal Mayors especially those in Greater Manila Area and the immediate neighboring provinces, requesting their cooperation in the implementation of the order requiring industries to put up necessary pollution control works. Follow-up inspections are conducted by the NWAPCC engineers from time to time and corresponding reports submitted.

If within the period specified in the Order, the respondent has not abided therewith or failed to install necessary control measure as shown by follow-up investigation report, the Commission refers the matter to the Office of the Solicitor General and/or the City or Provincial Fiscal's Office for the necessary legal and court actions.

A factory that is found and proved to be polluting the environment can't be forced by the Commission to summarily close shop because the Commission is devoid of this power. It is the local officials that could revoke the company's license to operate, since they are the one's issuing it.

The Commission has therefore circularized provincial governors and city mayors especially those in and around Manila requesting their close operation in requiring industrial establishment to put up the necessary pollution control works.

Some officials have responded well but some are reluctant or silent in enforcing the order-to-stop discharge probably due to political or economic reasons since firms employ men in the locality and pays taxes to the municipality. The Commission hopes that all officials whether local, provincial or national should for a while focus equal attention to the environment, lest it becomes a political issue against him.

Environmental control is similar to many other social problems of this age. It is a problem too important to be left only to the experts nor only to the politicians. An effective way to combat environ-

mental pollution is to attack the entire problem of environmental sanitation in the broadest possible terms. It thus becomes a truly social and economic problem requiring the informed concern of all citizens. It is important that the people realize that industry is not the single culprit in this environmental mess called pollution. It is therefore a matter of proper coordination of all sectors of the society — the public to be concerned and contribute concerted efforts to control pollution.

5. PROBLEMS AND PROGRAMS

The ability of state regulatory agency to enforce positively the laws, rules and regulations on pollution is the key ingredient to ultimate success in all programs of pollution control. The obvious need of sufficient funds and trained personnel determines such capability of the agency.

The NWAPCC is dealing with the rising pollution problem which started long before the Commission was organized. The lack of funds and personnel, however, slows down the momentum of the efforts and may result in the increase of pollution levels. It is earnestly hoped that the Commission's FY 1972 budget of 416,000 will be increased in the succeeding years so that more personnel can be hired and the much needed equipment be procured.

The cost of controlling pollution is a sum added to the industries expenditures. Most often the pollution control devices are operated without material benefit to the industry except the comforts of living in a better environment. As such, the industries are reluctant to put up water treatment plants or air pollution control devices. The Commission would be most happy to support any move by industry to secure tax incentives in the form of accelerated depreciation, long term government loans, tax-credits on pollution control infrastructures and joint pollution control works for adjacent factories or industrial establishments.

In the final analysis pollution control is everybody's concern. Arguments on the subject tend to exhibit the fallacy of all or nothing. Some advocates tend to feel that environment should be restored to its pre-industrial purity; others agree with the statement that if you want a town to grow its got to stink and to have smoky problems. Neither view is acceptable. Rather we must honestly try and answer the question: *How clean do we want our environment to be and how much are we willing to spend for it?*

Sanitation and pollution problems and measures to solve these problems

By Sir Geoffrey Newman-Morris

“Man’s activities continually degrade the quality of the atmosphere surrounding him. As his life style becomes more sophisticated he increases the volume and toxicity of health threatening materials which he adds to the air he breathes. In this country (Australia), the most ubiquitous contributor to atmospheric pollution is that virtually indispensable member of most Australian families, the motor car.” This quotation came from the book, “Australian Health Services” published in 1972 and written by Dr. J.C.H. Dewdney, School of Health Administration, University of New South Wales.

In marked contrast is the remark made by Mr. Michael Somare, Chief Minister of Papua New Guinea and quoted in the Melbourne Age of the 20th March, 1973, “In all the seven hundred languages of our country we have never needed words for slums, unemployment, air pollution.” *It seems obvious that pollution is to a large extent an ill associated with civilisation.*

AIR POLLUTION

Let me summarise briefly those common forms of air pollution that are becoming more and more obvious in Australia.

1. As already mentioned, the motor car with the problems of carbonmonoxide, hydrocarbons and lead.
2. Industrial processes involving the combustion of coal and oil.
3. Other contributors to atmospheric pollution include those from aerial spraying of pesticides and

fertilisers and various forms of waste disposal.

The results of air pollution are difficult to quantify. Great effort has gone into estimating how much certain control measures would cost, sometimes with a view to delaying or in avoidance of their implementation. However, it is obvious that the community as a result of air pollution suffers from impaired health, shortened life span and the reduction of “quality of life”.

Other fields of pollution which must be studied are:

a) Water pollution. Water provides a very convenient medium for the disposal of waste products. Many of our activities may lead to water being unfit for any other purposes.

Well known examples are mercury and detergents.

b) Noise control. Noise pollution, I suppose, is best defined as “unwanted sound”. Its ill-effects are two-fold.

1. Actual damage of body structures are especially the delicate structures in the ear.

2. An interference with the activities of every day life causing loss of sleep, accidents and lowering of efficiency.

In the second part of this paper I want to touch on the *Governmental approach in Australia* to dealing with the problems of environment and pollution.

The catch phrase now is “*Total Environmental Control*”.

In 1968 the Senate of the Commonwealth Parliament resolved to set up a select Committee to enquire into, and report upon, air pollution in Australia including the causes and effects, methods of prevention and control and matters incidentally too.

The *final recommendation* of this body states that "Consideration be given to the co-ordination of studies of the total environment pollution problem, that is, air pollution, water pollution, soil pollution and noise pollution. As a result of this there was brought into being an Australian Environment Council composed of Commonwealth and State Ministers with specific responsibilities for Environmental matters but it was not until, April 1972 that the first meeting of this body was held and a Standing Committee composed of one official representing each member of this Council was formed. Subsequently, a three man part-time environmental advisory committee was formed to act in an advisory and consultative capacity to the Minister.

A standing Committee of the National Health and Medical Research Council has been formed with the task to "consider all aspects of environmental contaminants that may affect health, and to report on measures to alleviate these and in particular to consider a uniform approach to any problem".

In a press statement dated January 5th, 1973 the Minister of Health (Dr. Douglas Everingham) says, "The National Health and Medical Research Council has recommended standards aimed at controlling air pollution from:—

1. Motor vehicles and
2. Industry.

With regard to motor exhaust emissions the new recommendations are similar to those adopted by the United States Government for introduction to that country in 1973 providing for controls over nitrogen oxides, carbon monoxide and hydrocarbons. Motor vehicle manufacturers would need to produce control mechanisms on all cars manufactured after December 31st, 1975."

The Attorney General, Senator Murphy has ordered the establishment of a group within his department aimed at devising a National Environmental Legal code. With the present Labor Government a new Ministerial Department has been formed to deal with Environmental and conservation matters with a medical man, Dr. Moss Cass as the Minister.

Finally I would like to deal with a few individual aspects of pollution that have attracted my attention.

1. **The fishing problem.** (I am a fisherman) The Victorian State Government have brought down a regulation limiting the level of mercury in edible fish to 0.5%.

It has been found by a study of the mercury content of sharks in Bass Strait in the open seas that by and large the mercury content of their flesh exceeds this arbitrary level.

This has caused considerable distress in the fishing industry. Many of the fishermen owned expensive boats rigged only for shark fishing and not convertible, except at great cost, to fishing for other deep sea fish.

I wonder whether there has actually been an increase in mercury content or whether there has just been an increased awareness and an improved technique of estimating mercury levels.

I am well aware of the tragic occurrence of Minamata disease resulting from mercury poisoning from pollution in the waters of Minamata Bay.

I quote: "Minamata disease, which causes death, paralysis, loss of hearing, reduced vision, speech unpediments and perception disorders, is a direct result of mercury wastes being dumped in public waterways.

The first known victims of modern industrial pollution have won a four-year court battle in Japan for compensation from a chemical company which polluted water with industrial wastes.

The case has important ramifications because it is the first in which a cause and effect relationship in industrial pollution in Japan has been admitted."

Be that as it may, no case has been reported in Australia, as far as I know, of a human being suffering from any degree of mercury poisoning as a result of repeated ingestion of fish.

2. **The aluminium can problem.** Recently, in my role as Chairman of the Australian Red Cross Society, I was present at a function in South Australia where one of the leading aluminium producing firms, at a public function, offered the sum of ½ a cent to Red Cross for each aluminium drink can that was handed in for recycling. It was estimated that this would produce for the Red Cross in South Australia five thousand dollars a year.

The opening was associated with some publicity from the Brewery and samples of the aluminium cans were given out filled with the product of the Brewery,

because of the occasion of this announcement was the fact that the Brewery had moved from using steel cans to aluminium cans in the packaging of their product.

The Governor of South Australia, Sir Mark Oliphant, that well known Scientist with a great interest in the environment, was asked to declare open this program, and he said to me afterwards that he did this with some concern. It was claimed that perhaps (with publicity) 80 to 85% of the aluminium drink cans could be reclaimed for recycling, but the average experience prior to this was that if 50% reclamation took place this was satisfactory.

Sir Mark said he had wondered what had happened to the other 50% as aluminium was completely non-biodegradable whereas steel did rust away.

3. The beach problem. I have got a small holiday cottage on the shores of Port Phillip Bay in Melbourne. There is not as much passenger sea transport as there used to be but it is quite a busy harbour and along the beaches every day in the flotsam and jetsam there are many plastic bags of various shapes and sizes which are I believe completely non-biodegradable.

I suppose that this does not intervene much into the field of pollution but it certainly has a very marked impact on the environment.

Beaches all over the World seem to be a natural repository for waste products either left there by humans on land or cast overboard by ships at sea.

4. The D.D.T. Problem. Here obviously one of the factors that should be borne in mind is the relative benefit to mankind of the use of this pesticide with its very vast power for the reduction of disease,

the improvement of health and the improvement of the quality of life in relationship to the fact that it is a toxic drug which I gather is cumulative.

The overall philosophy of this study of course is momentous. The whole problem of overpopulation and of family planning comes into this and eventually the maintenance of a proper balance between the birthrate and the deathrate.

5. The toilet paper problem. Is this real? Our children at school have been taught to suggest to their parents they do not use coloured toilet paper because apparently the dyes used are non-biodegradable so that paper does not emulsify in the sewerage disposal areas.

6. Noise pollution. The Rolling Stones at Koo-yong.

In conclusion let me repeat what I think is a reasonable definition of a sound human environment. "It is that social situation which promotes the prevention and alleviation of human suffering and which effectively eliminates, dirt, disease and dissemination".

I hope in many countries that there is an active approach to this problem. There is no doubt that it has attracted world wide interest especially since the great conference in Stockholm last year.

I am constantly being made aware that in the Red Cross organisation in which I have a particular interest that most of the Red Cross Societies through out the World are now urging the International Red Cross to take an active part in the struggle against increasing pollution and in the fight to maintain a proper quality of life.

The control of environmental pollution in Taiwan Area, Republic of China

It is my pleasure to present a brief introduction on the control of environmental pollution in Taiwan area, Republic of China to this Convention.

In accordance with the rapid development of

industry in Taiwan recent years, the problem of environmental pollutions has become a great concern not only of the related governmental authorities, but also of the general public. Although the need of

controlling such pollutions is increasing, the present status is not as severe as those in some developed countries. But with those factors such as high population density, rapid economical development and rather small land area, Taiwan has to expect more severe pollution hazards in the coming years. In order to minimise the pollution hazards, the action for pollution control should be initiated as early as possible. Actually we already started the control activities of environmental pollution many years ago. Since environmental pollution can be reasonably divided into four categories, i.e. air pollution, water pollution, land pollution and physical pollution, I would like to mention their control in Taiwan one by one.

I. AIR POLLUTION

In 1958 the first air sampling station was set up in Taipei City which was the biggest city in Taiwan. Air pollution control area was set up and the regulation for Controlling Coal Burning (Taipei) was passed and came into force. This is the beginning. Since then similar actions were initiated by other Cities (Provincial Cities and County Cities) and by the end of 1971 there were 92 air sampling stations taking periodical air samples to measure dust fall in tons for square kilometer per month, total particulates in micrograms per cubic meter, smoke concentration in concentration of 60HS/1000ft. and the concentration of sulphur dioxide in ppm.

Technical assistance has been given to the related premises, especially to cement plants, iron works, chemical works, and coal-burning factories. The improvement consists of three main items: smoke abatement by installation of complete-combustion facilities, dust and fumes removal by installation of dust and fume collectors, and the proper installation for reduction of noxious gases.

The training for air pollution control and that for boiler operators has been conducted regularly.

The draft of the "Clean Air Act" was completed in March of 1969 and has been submitted to the National Government for approval. The draft of the standards of Maximum Permissible Concentration of Air Pollutants was also completed in June 1971.

Now I would like to point out the marked decrease in the amount of dust fall in some major cities of Taiwan Province to show you the improvement. In Kaohsiung City the average monthly amount of dust fall per square kilometer was 33.56 tons in 1969 and dropped to 12.19 tons in 1971. In Keelung City it was 21.44 tons in 1969 and decreased

to 13.66 tons in 1971. In Taichung City it was 11.53 in 1969 and 9.77 in 1971.

II. WATER POLLUTION

Since about two third of the land area of Taiwan is mountainous area with many high mountain, the running of rivers is rather short in length and quick in speed. This natural factor influences the functions of self-purification and dilution of rivers. This fact together with the rapid industrization in recent years incurs the problem of water pollution. An increasing attention is being paid by the related authorities and the general public.

Investigation of some rivers with regards to the content and degree of water pollution has been carried out for some years. The owners of factories are requested to pay special attention to the disposal of waste liquid from their factories making sure that water pollutants are removed as much as possible.

The draft of the "Water Pollution Control Act" are now under preparation.

III. LAND POLLUTION

Although this problem is not as dominant as the former two problems, it still gives some hazards to the health of the people. As an example, the use of untreated night-soil as fertilizer, though this is much seldom in present Taiwan than before, will help the transission of intestinal parasite. The use of chemical fertilizer has been encouraged to avoid this factor.

Urbanization brings us many problems such as refuse, night-soil, and factory and domestic waste water etc.. There is lack of complete sewerage system in many cities. Although the number of composting plants is increasing, they still can not cover the whole need. In order to improve the collection of garbage and night-soil, much money has been spent in purchase of many completely sealed trucks.

IV. PHYSICAL POLLUTION

Vibration, Noise and Radiation etc. belong to physical pollution. The reports of such kind of nuisance came from many places in Taiwan in recent years. These cases are treated applying the prevailing regulations.

Because of time limit, I can only give you, through the above-mentioned briefing, a rough idea what is going on for the control of environmental pollution in Taiwan Area, Republic of China. I agree that there are still things to be done in this field. I thank you.

The human environment in Korea

By Dr. Kunwon Park, M.D., K.M.A.

As a developing country, Korea has given primary attention to economic development and the maintenance of its defence forces. At this stage of economic and technological development, it has not been possible to conduct as much research on environmental pollution control which might appear desirable, not has it been possible to initiate as many control programs as might be practical in developed and affluent nations. The following report reflects the progress achieved, and the future plans which are now being given consideration.

1) In major cities and urban areas, air and water pollution is becoming an increasingly serious problems with rapid industrialization. This year there was a survey of air pollution carried out in several cities which demonstrated that the ambient air has rapidly become worse. The emission of air pollutants is critically increasing in the nation from the consumption of huge amounts of various fuel. During 1971, in Seoul, about 243,200 tons of pollutants were emitted. This figure shows the fact that Seoul which occupies only 0.6% of the whole nation's land size is heavily polluted with 23% of pollutants emitted in the country. There is no reliable survey done on the diffusion of air pollutants. According to the survey done on health injuries by air pollution in Seoul, about 7.7% of total hospitalized patients suffered from the upper respiratory infection: acute or chronic bronchitis, bronchial asthma, pulmonary emphysema and bronchiectasis. The daily visiting rate to the clinic of these respiratory patients suggested the fact that there may be some connection

between sulfur dioxide and carbonmonoxide in the urban air with the occurrence of the respiratory diseases. A critical review of air pollution in Seoul City showed that in 1965 the maximum concentration of sulfur dioxide was 0.024 ppm representing an average concentration of 0.0005 ppm. By 1970 the maximum concentration of sulfur dioxide in ambient air, however, increased to 0.619 ppm with an average concentration of 0.092 ppm at the same points.

SULFUR DIOXIDE IN THE AMBIENT AIR IN DOWNTOWN SEOUL CITY

	1965	1967	1969	1970
Range of concentration of sulfur dioxide	Negligible—0.024 ppm	0.003—0.043 ppm	0.003—0.237 ppm	0.004—0.619 ppm
Average concentration	0.005 ppm	—	0.078 ppm	0.092 ppm

2) A typical aspect of home heating facilities in Korea is the usage of "Ondol" floor which makes use of "Under Floor" stoves. In urban areas, such stoves are fueled with coal briquettes which may present the hazard of asphyxiation by carbon monoxide if the stove is not properly installed or maintained. Such heating also contributes substantially to the problem of air pollution.

3) It is easily recognised that the obtaining of water resources and the cause of water pollution are closely treated. River water is utilized for urban public water supply, agricultural irrigation, industrial and other purposes. Therefore, if sewer and wasted water were not properly treated, it is obvious that river water will be easily polluted.

The river pollution in 1969 was as follows:→

Name of Rivers	BOD (average)
Han River	10.2—50.5 ppm (27.7ppm)
Makdong River	1.0— 1.2 ppm (1,1ppm)

However, there has been no proper treatment for the sewage which is emptied into the water ways of the urban areas. Some parts of these urban areas are therefore being seriously polluted by contaminated municipal sewage on the outskirts of the cities. It is urgently required that the government set up the plans for maintaining good water quality. The increase of urban population concentrations has made it increasingly necessary to meet the demand for potable water. However, the major resources for the water supply for the cities have gradually become contaminated. The use of nightsoil as fertilizer is rapidly dwindling due to increasing availability of chemical fertilizer. With the advent of water-carriage waste disposal in urban areas, streams and other water bodies to which sewage has been introduced, are bound to deteriorate in quality.

4) The polluting substances, in cities are principally garbage, rubbish, dust, nightsoil, sewage from households and industrial wastes from factories and workshops. Over 85.4% of rubbish is unburnable. Of the unburnable rubbish 83.7% is from the ashes of coal, most of which is used as sanitary land fill. In 1969, on 178,791,000 urban residents out of 11,686,000 total urban population enjoyed acceptably waste collection and disposal services. The remainder, living mostly in outskirt areas of urban concentrations disposed of solid wastes in unacceptable ways, contributing greatly to the problem of water pollution. The total quantity of anticipated solid wastes was 4,219,000 tons, of which 4,002,000 tons were collected. In Seoul city the production of garbage and wastes amounted to 1,092,000 tons in 1965, but by 1968 it had increased to 1,989,000 tons. These figures were equally serious in other cities.

5) Inadequate nightsoil treatment facilities in multiple dwellings has also caused water pollution, thus requiring the legal establishment of proper disposal facilities and the enforcement of standards as required.

In this regard, large cities in Korea have planned to construct municipal sewage disposal plants for protection of the water system.

6) The need for comprehensive city planning which would ensure the proper distribution of population and its development is becoming increasingly evident in order to meet the requirements for stabilization of urban life and proper accommodations for urban residents. The city development plan should allow for control of population density; zoning for particular type of land use, improvement of housing conditions, occupational safety, provision of educational institutions, control of traffic and transportation, adequate recreational space and controls over noise, air pollution and water contamination.

7) In regard to national development the following proposals are under review:

i) Strengthening of rural industrial development, relocation of the industries located in urban areas, deconcentration of city population and proper city development plans for distribution of population throughout the cities.

ii) Re-organization of city development plans in regard to traffic, markets, industrial workshops and residential areas.

iii) Increase the income for rural and fishery people and improve medical, sanitary and environmental facilities in rural areas.

A Existing and Proposed Measures at the National Level.

I. Organization and Institutional Arrangements, Including Planning.

1) In 1965, the government established a Sanitation Section at the Ministry of Health and Social Affairs which was made responsible administratively for overall sanitary programs and was to closely coordinate with other sectors regarding environmental matters: viz, Inland Transport Bureau of the Ministry of Transportation, Agricultural Products Bureau of the Office of Fisheries, Urban and Housing Bureau and National Planning Bureau of the Ministry of Construction which are responsible for their respective indicated functions. The Sanitation Section was elevated to an Environmental Pollution Control Office in 1970.

2) The Sanitation Section of the Ministry of Health and Social Affairs participated in the establishment of

National policies on industrialization proposed by the Economic Planning Board, deals with the effective implementation of environmental health services and was consulted in regard to setting up policies related to land development and local industrial planning.

3) There is the National Institute of Health (N.I.H.) attached to the Ministry of Health and Social Affairs. The Department of Sanitation of N.I.H. undertakes responsibilities for research on food and nutritional control and for research on the improvement of air and water pollution of numerous emission sources in collaboration with the related Offices of the Ministry of Health and Social Affairs. The Offices also are consulted by non-governmental institutional groups such as the Korea Institute of Science and Technology (L.I.S.T.) and the Institute for Environmental Pollution Research, Yonsei University and several other universities.

II. Legislation and Administration

1) The environmental pollution control program is based on the provisions of the Law on Prevention and Control of Environmental Pollution of 1963. Besides this law, the prevention and control of environmental pollution is closely related to such laws as the Homeland Development Plan Law, the City Development Planning Law, the local Industrial Development Plan Law and the Regulation on Standardization of Equipment and Arrangement for Prevention of Accidents by Automobiles. Besides there are many other provisions for prevention and control pursuant to environmental pollution and other nuisances.

III. Fiscal Policies

Our country is divided into two parts – the Republic of Korea in the south and North Korea in the north. Thus, the expenditures for national defence take a great part of the national budget. In the functional classification of central government expenditure for community services such as construction of roads and irrigation, prevention of conflagration, water supply and sanitation was 37,100 million won, and expenditures for social services such as education health and social security and welfare was 110,887 million won, representing 7.7% and 22.9%, respectively of the total central government expenditure (484,906 million won). The expenditure for economic services which includes development of agriculture and non-material resources, production fuel and power, development of mining, manufactur-

ing and construction, transport and communication and other economic services was 123,713 million won in 1970.

IV Dissemination and Practical Use of Knowledge and Education and Training.

During the period 1972 to 1976 the government will plan to establish a National Reference Centre on environmental problems in Seoul City to exchange existing information between countries. This Centre will implement and accelerate up-to-date information exchange. In order to resolve the present personnel problem of environmental protection, an education and training program for health workers will be urgently carried out to secure well qualified technical personnel and administrative efficiency, by preparing the teaching stage and providing orientation and observation for key members of the government

The overseas technical training program will be carried out with the assistance of such international organizations as WHO UNDP and USAID. Technical cooperation has already been proposed to such organisations. In-service training for the needed technicians and specialists will be given at various educational institutions and at the National Institute of Health under a long term plan.

Views Concerning Existing or Desirable Measures at the International Level.

Environmental protection has become an international and global problem which must be solved through collaborative efforts. However, the approach to environmental protection should be started from each local problem. It requires cooperation with owners and operators of enterprises and in-country control of all of pollutants must also be undertaken. Each nation should establish air and water quality monitoring networks for inspection and control of environmental pollution. It is also necessary to establish monitoring networks on the international level. The data from national and international networks should be reported to an INTERNATIONAL ORGANIZATION FOR ENVIRONMENTAL PROTECTION. The data should be evaluated systematically to provide a base for new measures of international environmental control.

It will also be necessary to set up a unified INTERNATIONAL ORGANIZATION FOR ENVIRONMENTAL PROTECTION against the existing specialized agencies. It is expected that the organi-

zation will contribute to human society through organized efforts for environmental pollution control and waste disposal. The major functions of this

organization would be to accomplish systematic activities on environmental protection world-wide.

Pollution problems in the Prefecture of Osaka

Masatami Yamaguchi, M.D.
President
Osaka Prefectural Medical Society

Ladies and gentlemen, I am deeply grateful and honored to be given this opportunity to speak at this Congress, the history of which is so illustrious.

Although what I am going to speak about has no direct bearing on the doctors participating in this Congress when we think of the future of mankind on this earth I feel that we must take an active interest in environmental pollution as a crucial problem confronting human beings and that we must devise effective measures against it and try to solve this problem by summoning all the knowledge and wisdom available to us in order to protect the sanctity of mankind and promote health. In view of this we in the medical profession naturally ought to offer cooperation in this task through our specialized field of work. I would be most happy if my talk might provide each of you with some sort of a guideline in this connection. I would also like to tell you briefly about the current situation of environmental pollution in the Osaka Area, where I live. I would also be very pleased if you could comment on this part of my talk.

I need hardly define about environmental pollution. However, in 1967 the Basic Law for Environmental Pollution Control was enacted in our country as shown in Table 1, and Article 2 of this Law gives the following definition.

The term "environmental pollution" shall mean

any situation in which the human health and the living environment suffer from air pollution, water pollution, soil pollution, noise, vibration, sinking of the ground and offensive odors which occur over a considerable area as the result of industrial or other human activities.

As you all know, we are promoting a comprehensive system of medical services aimed at the attainment of positive health, as the concept of health has become more expanded. In order to make this comprehensive system take root in the area, all the members of our Medical Society are working for the betterment of community medical care, which is given priority over the other activities of the Medical Society. In its relation with the various diseases, environmental pollution in the area poses at present a particularly grave problem in community medical care. It is also a fact that a change in the disease structure, a distortion produced by the industrialized society with a high economic growth, has become a big political issue as well as causing great anxiety to the people in regard to the appearance of the so-called "difficult-to-cure" diseases.

The Japan Medical Association, with which we are affiliated, predicted the advent of the situation today more than ten years ago and also warned the government about the urgency of countermeasures. It is to our great regret that we had to wait until as

late as 1967 to see the enactment of the Basic Law for Environmental Pollution Control. Since the enactment of this Law, laws relevant to this have been newly enacted or amended as public opinion has grown stronger, and at present they number as many as 22 in all. A mountain of difficult problems await solution, solution that cannot come until environmental pollution is definitely put under control.

In view of this situation, similar acts are currently being enacted at the prefectural level, and countermeasures are being put into effect based on local characteristics. A matter that has recently been attracting the attention of the people in the form of a social demand by the people is the question of compensation for damages caused by environmental pollution. Last autumn, a Committee of Experts for Consideration of the System of Compensation for Damages was organized by the Central Council on Environmental Pollution Control. In March of this year it will submit a recommendation to the government for a new system of compensation, which is expected to begin in January 1974. However, we will probably see the situation becoming more complicated before a final conclusion is reached concerning the respective responsibilities of the nation and enterprises and the introduction of the theory of liability without fault. We in charge of medical care are opposed to the idea of this system of compensation at public expense being introduced into the current medical insurance system and have grave concern in watching the further development on this matter.

At this point I would like to describe briefly the current status of environmental pollution in the Osaka Prefecture, where I live.

Although it is the smallest prefecture in Japan in area, Osaka has a population of approximately eight million. It is an area with a high population density, second only to that of Tokyo. In addition, being an area which has developed from the olden days as the center of commerce and industry of our country, it has experienced a rapidly accelerating deterioration of the living environment and outbreaks of various forms of environmental pollution. Consequently, in order to fight the pollution in the prefecture, the local government, first among the prefectures, has established a Project for Environmental Pollution Control in the Osaka area, based on Article 19 of the aforementioned Basic Law for Environmental Pollution Control. The local government states in the outline of this project: "Because of the tremendous increase in the size of the sources of pollution,

such as factories, etc., an increase in the volume of the discharge of pollutants and excessive concentration of population and industries, environmental pollution is no longer limited to small areas but has become widespread; it has also become so serious as to cause damage to the health of the residents in the area. Furthermore, it has become more complex, as symbolized by the outbreaks of photochemical smog, which is a composite product of various pollutants." The outline also points out emphasizing that in order to control pollution, "it is necessary to strengthen the regulations already in force concerning effluents and location of such sources of pollution as factories, etc. based on the environmental capacity standards, which indicate the quantity of pollutants which can be admitted into the environment without causing undue damage. On top of this, effective measures concerning control over industries, use of land, and population, as well as the establishment of such public facilities as the sewer system for the control of environmental pollution must be enforced comprehensively and intensively jointly with such measures as research studies on how various pollutants affect human health, plants and animals and constant watch over, and measurement of, the pollutants in the particular environment. Furthermore, it is necessary to strive for the conservation of green areas and protection of other aspects of the natural environment in order to help control pollution."

It is true that under these basic policies the situation is improving little by little in the Osaka area. For instance, as regards the changes in the condition in regard to air pollution due to sulfur oxides, Table 2 shows that over a period of four years between 1968 and 1971, the more polluted the area was, the more improvement was seen. As regards the air pollution due to dustfall (Containing lead, tin, manganese, iron, vanadium, copper, etc.), we can recognize some improvement, as shown in Table 3, but the fact that a temporary increase was seen in the outskirts of the Osaka City suggests the need for taking the influence of weather into consideration.

In view of these facts, we who are in charge of medical services, conducted a survey on our own on the influence of pollution on the human body. It was particularly aimed at the pupils of the public elementary schools in the Osaka Prefecture, focusing on the subjective symptoms which are believed to be the result of air pollution. As shown in Table 4, the number of schools surveyed was 719, and the total number of pupils involved was 609,190. The survey

was conducted in the form of a questionnaire, as shown in Table 4.

The figures below show the distribution of the schools with a high rate of complaints, as obtained from the survey. Fig 1 (1) shows the complaints of a sore or irritating throat (complaint rate more than 12%), Fig. 1 (2) painful or bleary eyes (complaint rate more than 9.0%), Fig. 1 (3) frequent headaches without symptoms of a cold (complaint rate more than 16%), and Fig. 1 (4) frequent coughing (complaint rate more than 15%).

As you can see by comparing the air pollution maps (Fig. 2), the findings of the survey correspond with the density distribution of air pollution. The fact that similar symptoms have begun to affect the human bodies in the outskirts of the city, as shown in Fig. 1 (3), outside of the concentrated areas, proves that we cannot neglect weather and the configuration of the land when considering this problem and that it is an important point when devising countermeasures against air pollution.

When we look at the problem from the viewpoint of the system of bearing at public expense the cost of caring for patients who are officially recognized as suffering from diseases caused by environmental pollution, it is clear that the designation of the areas to be covered by the system requires careful consideration, and this is why so many problems and disputes are involved. Up to now the number of areas where the system of bearing the cost of caring at public expense was applied had been three in all, but four areas were newly added to this number in February 1973 based on the findings of the survey. As of January 1972, the number of persons officially recognized as suffering from diseases caused by environmental pollution, as shown in

Table 5, was 624 in regard to water pollution and 7,966 in regard to air pollution. Due to the addition of the areas newly designated in February, the number of patients increased by 7 and 2,910, respectively. It is now clear that the total number of patients is over 10,000 nation-wide. I am sure you will understand that this is a grave social problem.

We in the medical profession would like always to continue to actively point out such problems from our viewpoint as trustees of the life and health of the people. Through our medical practice, I believe we should listen to what the people have to say and grasp the real situation in which they find themselves. Then we should do everything in our power to make our environment better and eradicate all diseases caused by environmental pollution, and as opinion leaders of our society see to it that the direction of control and solution of this problem will not go astray. Naturally, we should also discuss the aspects of environmental pollution other than that of the air, but our time is, unfortunately, limited.

Before closing my remarks, I would like to ask each of the distinguished members present here today to give serious thought to the fact that a tendency for the knowledge and progress of mankind to lead us ultimately to extinction rather than to bring us welfare and happiness is beginning to make its appearance as a reality more grim than war with firearms. I would also like to ask you to take positive actions to study this problem and devise measures to combat it, for this is an urgent and serious task confronting us all on this "one earth" of ours. As the old saying in Japanese goes, "It is not just a fire on the other side of the river. It may happen to us." Thank you for your kind attention.

BASIC LAW FOR ENVIRONMENTAL POLLUTION CONTROL

(Enacted in 1967; amended in 1970)

Article 2

1. The term "environmental pollution" ("ko gai" in Japanese), as used in this Law, shall mean any situation in which the human health and the living environment suffer from air pollution, water pollution (including the deterioration of the quality and

other conditions of water as well as of the beds of rivers, lakes, the sea and other bodies of water, the same applying, hereinafter, except in the case of Paragraph 1 of Article 9.), soil pollution, noise, vibration, sinking of the ground (except for the sinking caused by drilling activities in mining, this ex-

ception applying hereinafter.), and offensive odors, which occur over a considerable area as the result of industrial or other human activities.

2. The term "living environment," as used in this Law, shall include property closely related to

the human life, and animals and plants closely related to the human life and the environment in which such animals and plants live.

Table 2 Changes in Condition of Air Pollution Due to Sulfur Oxides
 (Lead Dioxide Method, 1971)
 (SO_3 mg/100cm²/day)

Area	District	1968	1969	1970	1971	Average figures of measurements made at
Osaka city area	Western part	2.33	2.24	1.78	1.21	35 places
	Northern part	1.74	1.74	1.34	0.93	20 places
	Eastern part	1.44	1.41	1.17	0.83	11 places
	Central part	1.90	1.86	1.46	1.07	7 places
	Southern part	1.28	1.25	0.99	0.68	12 places
	Average for area	1.90	1.85	1.46	1.00	85 places
North Osaka area	Northern part	0.62	0.63	0.68	0.54	13 places
	Southern part	1.20	1.34	1.03	0.73	17 places
	Average for area	0.94	<u>1.02</u>	0.88	0.65	30 places
East Osaka area	Northern part	1.05	1.03	0.90	0.74	27 places
	Southern part	0.99	1.12	0.90	0.70	24 places
	Average for area	1.01	<u>1.07</u>	0.90	0.72	51 places
South Osaka area	Sakai coastal part	1.62	1.72	1.61	1.27	10 places west of Osaka-Wakayama railway line
	Sakai hinterland	0.73	0.84	0.83	0.62	17 places east of Osaka-Wakayama railway line
	Sakai-Takaishi	1.02	1.11	1.07	0.85	30 places
	Senpoku	0.92	0.98	<u>1.01</u>	0.80	38 places
	Sennan	---	---	0.75	0.59	14 places
	South Kawachi	0.54	0.45	<u>0.57</u>	0.44	12 places
	Average for area	0.92	0.98	1.01	0.74	64 places

Table 3 Changes in Condition of Air Pollution Due to Dustfall

(Tons/km²/month)

Area	District	1968	1969	1970	1971	Average figures of measurements made at
Osaka city area	Western part	16.98	17.06	17.04	15.19	7 places
	Northern part	8.29	6.71	5.30	6.29	3 places
	Eastern part	9.40	12.10	12.77	10.55	3 places
	Central part	11.55	9.46	6.92	6.85	2 places
	Southern part	11.06	10.05	7.03	10.07	Setsuyo Middle School only
	Average for area	13.46	12.80	12.15	11.22	16 places
North Osaka area	Northern part	5.52	7.58	6.37	5.48	Ikeda Health Center only
	Southern part	9.45	9.45	6.89	6.72	2 places
	Average for area	8.02	<u>8.73</u>	6.71	6.31	3 places
East Osaka area	Northern part	8.84	7.84	7.53	6.60	Moriguchi Health Center only
	Southern part	9.57	11.68	6.97	8.47	2 places
	Average for area	9.27	<u>10.93</u>	7.11	7.81	3 places
South Osaka area	Sakai coastal part	12.52	14.05	12.85	9.95	11 places west of Osaka-Wakayama railway line
	Sakai hinterland	6.53	7.61	8.00	6.65	7 places east of Osaka-Wakayama railway line
	South Kawachi	3.49	4.28	4.06	3.39	Figures by Osaka Pharmacy College
	Average for area	9.89	<u>11.59</u>	10.97	8.43	19 places

Dustfall : Lead and tin—decreasing

Manganese—increasing

Iron, vanadium and copper—no change

Table 4

Questionnaire on Subjective Symptoms in Schoolchildren

Number of schools surveyed: 719
Number of pupils answering: 609,190

Questionnaire on Children's Health

_____ Primary School, _____ Grade, Class _____

Name: _____ (male, female)

If you frequently experience any of the following, circle that number(s).

1. Sore or itchy throat.
2. Tonsils often become swollen.
3. Nose is often become obstructed.
4. Nose runs often.
5. Sneeze easily.
6. Eyes hurt or become bleary.
7. Discharges from the eyes often.
8. Often have a headache even when there is no cold.
9. Often have a stomachache.
10. Cough often.
11. Cough for a long time after going to bed at night, or at dawn.
12. Wheezing even when there is no cold.
13. Suddenly feel difficult to breathe when asleep.
14. Told by a doctor as having asthma.

Table 5

Number of Persons Suffering From Diseases
Caused by Environmental Pollution

Relating to water pollution: 624 persons (plus 7 persons)
Relating to air pollution: 7,966 persons (plus 2,910 persons)

The numbers in parenthesis are the additional increase in the number of persons as of February of this year.

Fig. 1 Distribution of Schools With Especially High Rate of Complaints
(1) Sore or irritating throat (complaint rate more than 12%)

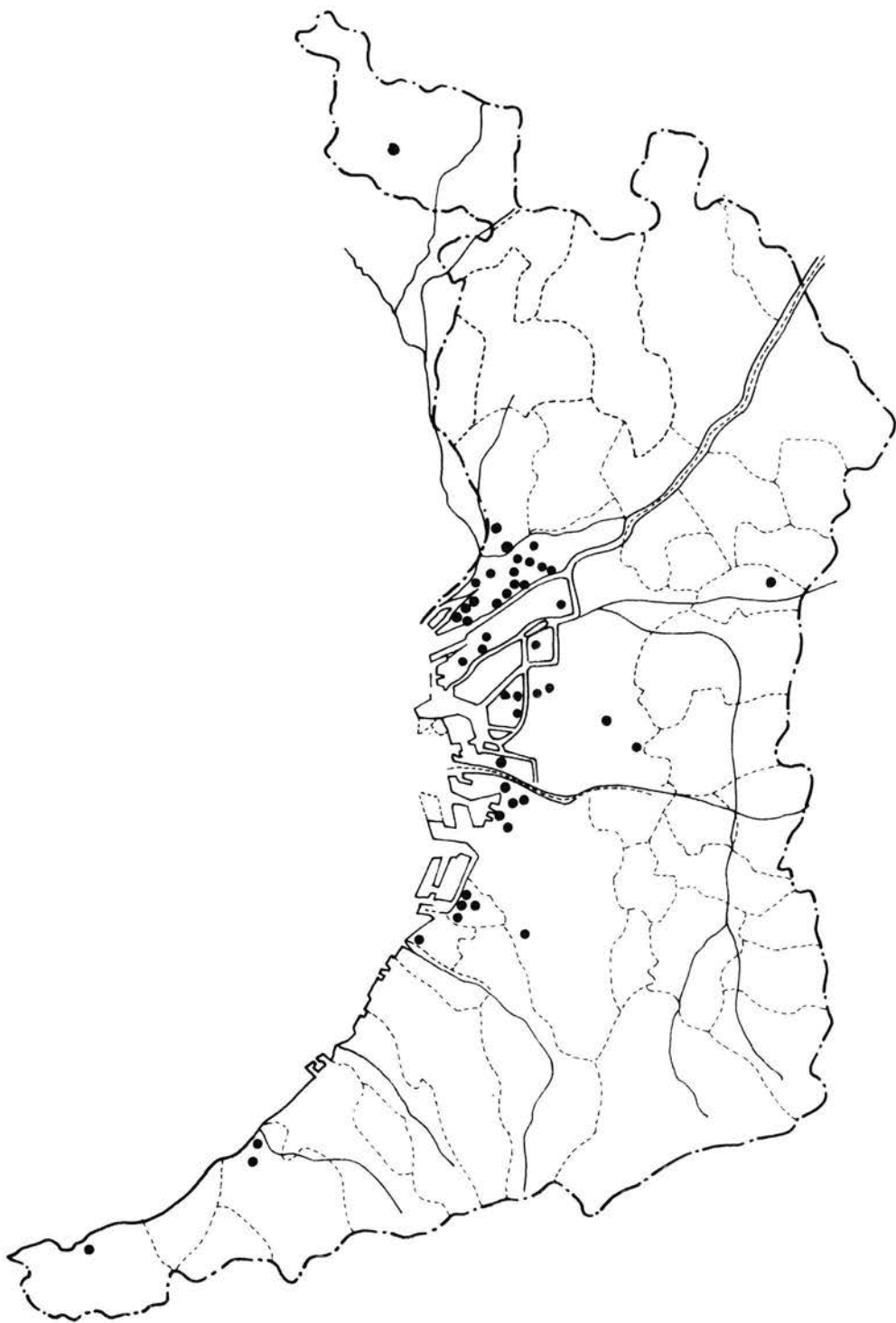


Fig. 1 Distribution of Schools With Especially High Rate of Complaints
(2) Painful or bleary eyes (complaint rate more than 9.0%)

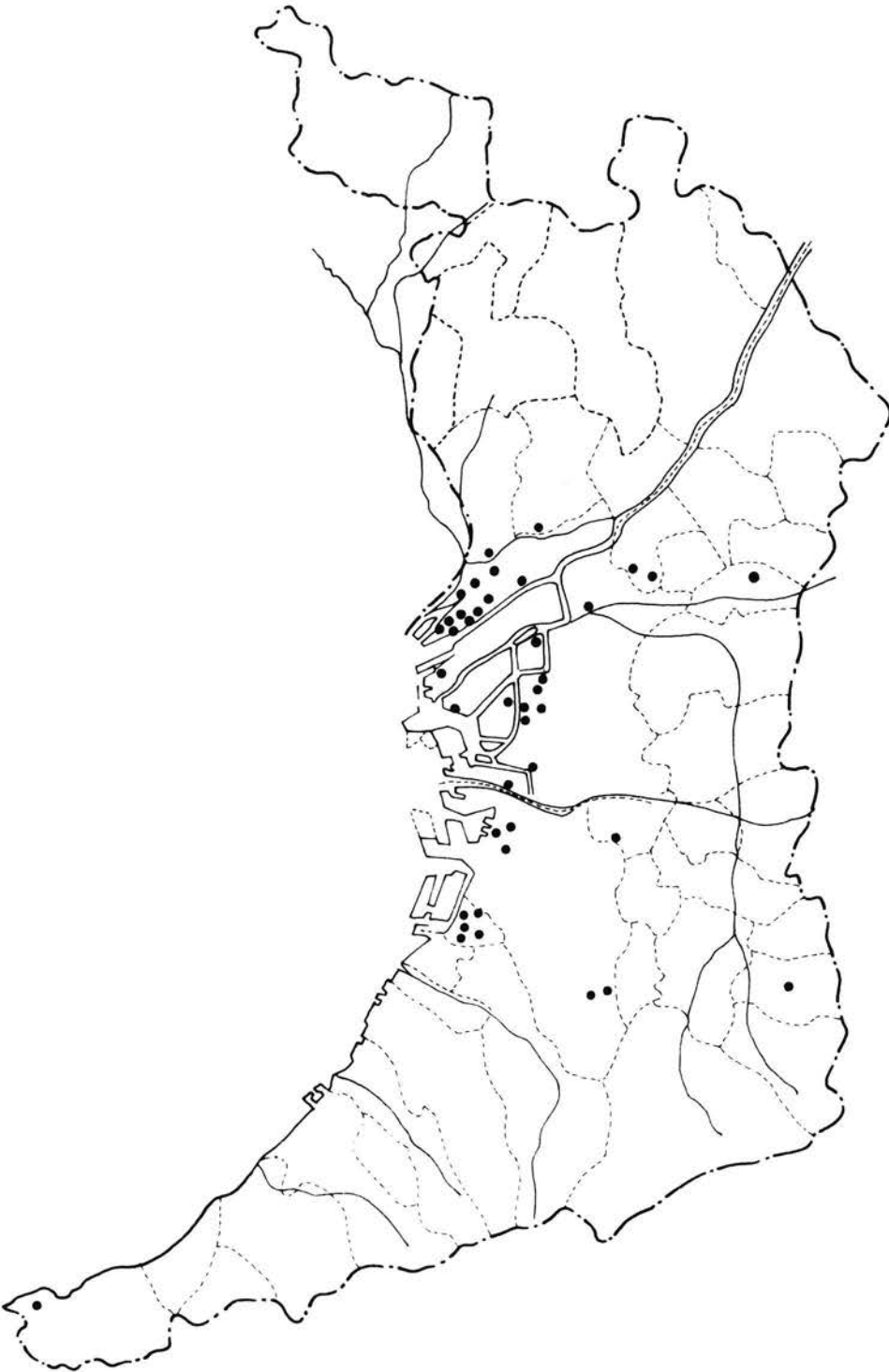


Fig. 1 Distribution of Schools With Especially High Rate of Complaints

(3) Frequent headaches without cold symptoms (complaint rate more than 16%).

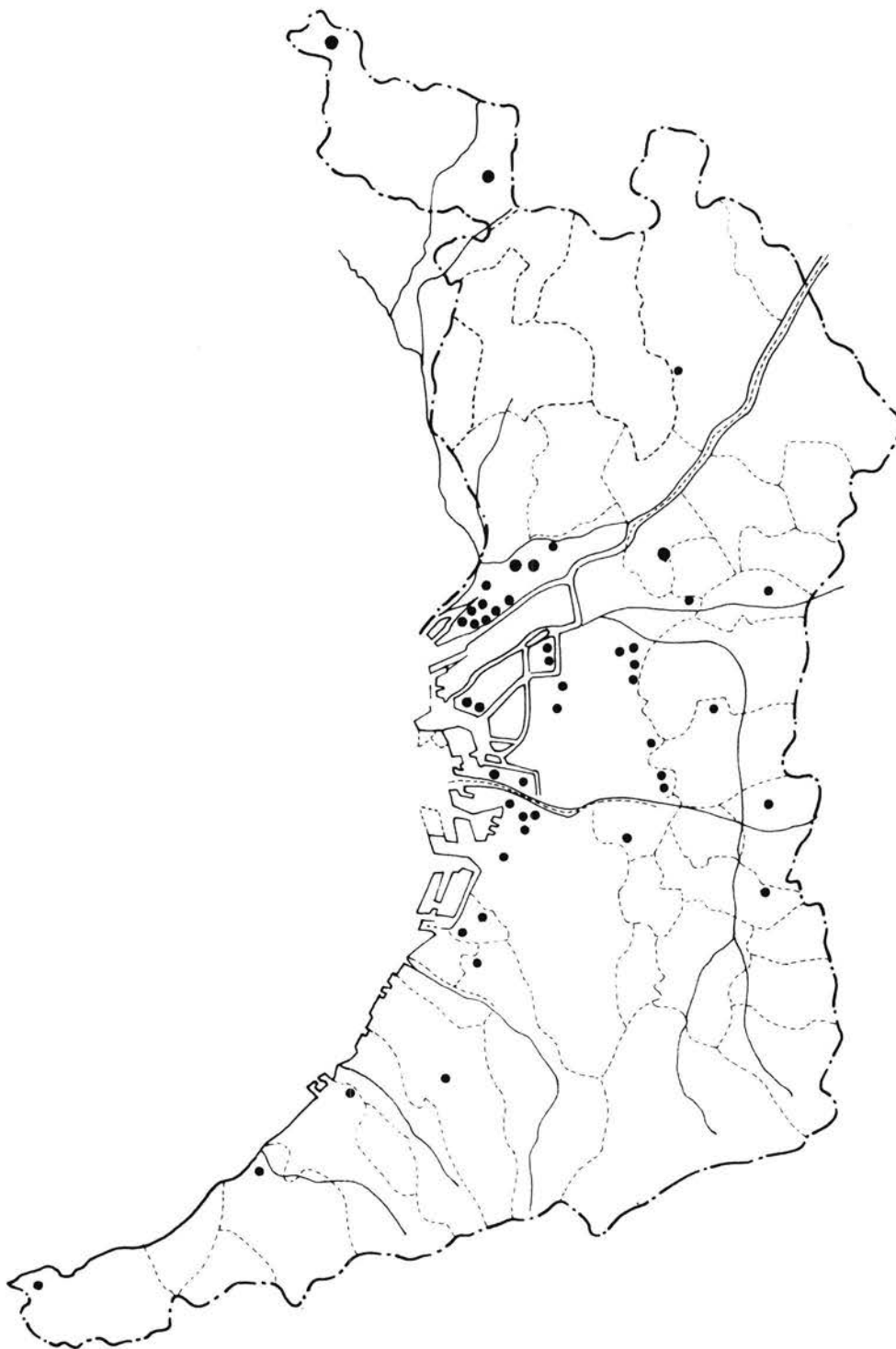


Fig. 1 Distribution of Schools With Especially High Rate of Complaints
(4) Frequent coughing (complaint rate more than 15%)

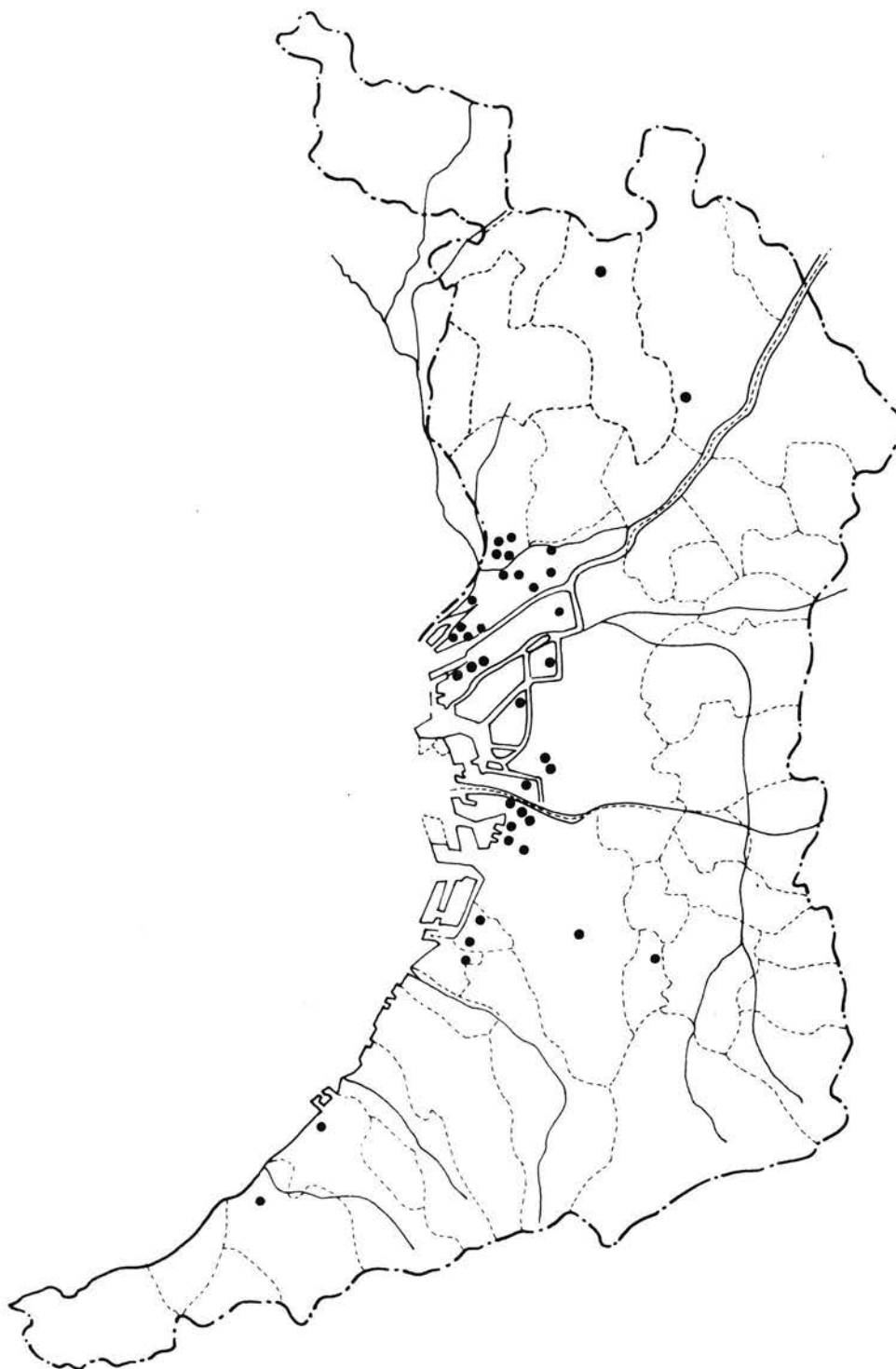
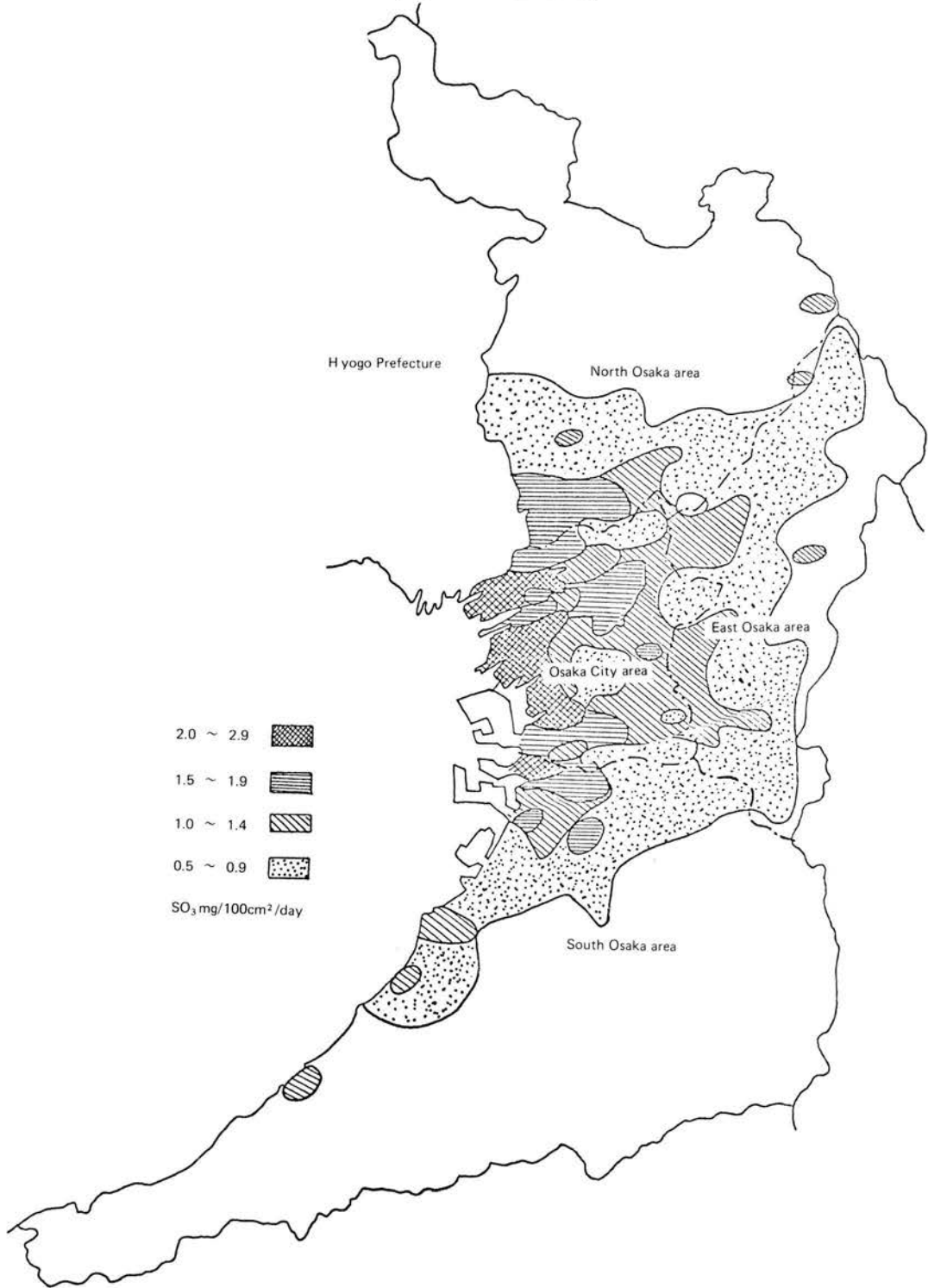


Fig. 2 Distribution Map of Density of Sulfur Oxides in 1970
(By Lead Dioxide Method)



Discussion

Pollution Problems of The Philippines

Environmental Pollution is a global phenomenon and it is man-made. It knows no national boundaries and it is more intense in developed countries. These countries have prudently alerted themselves to the dangers of a ravaged environment and their governments are now taking steps to protect their people and their environment from being exposed further to such dangers.

The Philippines can consider itself more fortunate in this regard and its recognition of this problem is therefore very timely.

The adoption of a national policy which will guide the country in its efforts to bring about social and economic development through environmental planning and control is therefore in order.

Pollution Problems Today

Environmental pollution is a by-product of industrialization, urbanization and rapid population growth.

While industrialization boosts the economy of

the country, it produces as by-products toxic liquid wastes that eventually find its way to our rivers and coastal waters and cause pollution. Toxic gases, fumes and particulates are likewise emitted into the atmosphere which can cause harm to human, plants and even physical property.

The industries that contribute to the pollution of the environment are cement plants, chemical and fertilizer plants, textile mills, distilleries, wood processing plants, pulp and paper mills, desiccated coconut processing plants, soap and detergent plants, refineries, ocean vessels, and boats, gasoline stations, etc.

Likewise domestic sewage contribute greatly to the pollution of our rivers and coastal waters. This is primarily due to the fact that cities and urban communities are not provided with sewerage systems.

Tomorrows quality of our environment will depends on how we direct our present efforts to control pollution. Let us not wait for that doomsday to come. The time to plan and act to preserve our natural environment for man's survival is now

Drug abuse in Malaysia

By Professor Tan Eng Seong
and
Dr. Syed M. Haq

Most people in the medical profession are sympathetic with the view that the drug addict, or to use the more contemporary term, the drug abuser, is a person suffering from an illness which is his need to abuse drugs. The whole problem of drug abuse taken as a whole however is not only a clinical problem but also one which has its roots in the structure of a society, its economics and its culture. In a plural society such as Malaysia's with its mosaic of cultures in a "melting-pot" situation, one can expect a variety of patterns of drug abuse which are to some extent derived from the parent cultures from which the present Malaysian population is derived.

Historical

Ganja or *Cannabis indica* grows in the natural state in this country and has been used by various sections of the indigenous people for various medicinal purposes such as the relief of asthma. The use of opium in its various forms and for various purposes, medicinal or otherwise, can be almost considered to be traditional among the Chinese and Indian sectors of the population. In the description of the founding of Kuala Lumpur it was said that the prospectors under the leadership of the Chinese headmen, financed by local Malay princes set up the Klang River in their quest for tin. Among the supplies that they carried with them was rice, equipment and opium (Gullick, 1956). The opium smoker with his characteristic appearance of emaciation and lethargy used to be traditionally the figure of fun and derision in this country.

Since the days of the British colonisation of Malaya and the immigration of the Chinese tin miners and the Indian labourers who brought with them both the good and the undesirable aspects of their social customs among which various forms of drug abuse may be included, Malaysia has developed into a modern society. In the last few decades, with the increasing pace of development and industrialisation there is an increasing drift of the population to the urban areas (Hamzah Sendut, 1964).

In other words, the social problems, which plagued industrialised and urbanised society are starting to rear their ugly heads in urban Malaysia and drug abuse is one of them.

From a situation where narcotics like opium was allowed free import into the country in the early stages of the British colonisation, this country went through a period for a couple of decades before World War 11 when the import of opium was restricted and the monopoly of its sale was limited to a few individuals. The import of opium into this country has been totally prohibited since the end of the World War 11. However, legislation did not necessarily make the substance significantly less available in the country. It is common knowledge in this country that in a conurbation of any size opium dens are available.

The extent of the Drug Problem

The extent of the drug problem in Malaysia is not fully known. Working in clinical psychiatry one

gets to see patients with drug problem referred for management. However, from the clinical point of view, it is obvious that these cases referred for consultation and management are just that part of the iceberg that appears above the water level. The invisible part of this problem in terms of its size and extent may never be fully known since this is a condition which is frowned upon by society as a whole and declared illegal and hence liable to prosecution by the agencies of law and order. Some statistics of people with the problems related to drug usage are available but this again does not necessarily give a very true indication of the extent of the problem. However, this is better than no indication at all and these figures do give an idea of the qualitative nature of the problem at hand.

Methodology

In the first part of this study, the statistics of drug abusers from the hospitals in Malaysia were compared with those of the inmates of prisons and other penal institutions who are convicted for drug offences. The hospital statistics were collected in August 1972 by one of the authors (S.M.H.) sending a request to the Directors of Medical and Health Services of each state in West Malaysia and to the Directors of the two psychiatric hospitals, to submit the number of cases treated for drug addiction in their states, asking for their age, sex, race and the drug of addiction. For statistics from the prisons a form was sent in March 1973 to the superintendent of all prisons and principals of approved schools in West Malaysia asking for the number of offenders in their custody imprisoned for drug offences, their age, sex, race and the offence for which they were convicted at the time of filling out the forms.

Methodology of Patients and Prisoners

In the three year between 1969 and 1971, the statistics of all the hospitals in West Malaysia show a total of 690 patients admitted voluntarily to inpatient services for treatment. This gives an average of 230 voluntary admissions for drug abuse per year for all the hospitals in West Malaysia where the population is about 8.5 million people. Of these, 81% (559 cases) were cases of narcotic abuse. Included in this category are drugs like opium, morphine, heroin and in a few instances, synthetic analgesics like pethidine. Twelve per cent were admitted with abuse of cannabis and 7% were for problems of abuse of drugs like amphetamine and barbiturates. From this it would appear that the

main problem of drug in the country is the abuse of narcotic drugs.

On the other hand, if one takes a look at the statistics of persons convicted for drug offences in West Malaysia, one sees a different picture. In the census taken earlier this year of the population of penal institutions in West Malaysia there were 178 people convicted for drug offences in West Malaysia. Only 67 (37%) were possessing or using narcotic drugs. Ninety (51%) were for possessing or using cannabis (ganja) and 22 (12%) were a non-specific group who were listed as having been convicted under the Dangerous Drugs Ordinance, which could be for being in possession or usage of any prescribed drug.

Prison Statistics

Among the prisoners who have been convicted for drug offences one naturally expects to find more males than females. Indeed of the 178 subjects involved only 7 were female, the remaining 171 were male. The geographical distribution of factors where these drug offenders were arrested show an interesting pattern. The three highly urbanised states of Selangor, Perak and Penang together account for 121 (68%) of the total number of cases. Fifty eight cases were from Penang, 41 from Selangor and 22 from Perak. The ethnic breakdown of these drug offenders in relation with the drug which has been found in their possession is also of interest. The majority of offenders found with cannabis were Malays. On the other hand there are very few Malays among the offenders found in the morphine or heroin group. This group is almost all Indian and Chinese, with the Chinese forming the majority. In the state of Penang, 24 out of the 32 cases of conviction for narcotics were Chinese, of whom four were found to be in possession of heroin. The age distribution of these drug offenders is also interesting. The largest number fell within the age group 31-30 years category. There were 65 offenders making up 37%. Seventy five per cent of these offenders fell within the age group of 11 to 40 years. However, if one looked at the breakdown of the age of the offenders in terms of the drugs in their possession one finds that although there is a fairly wide distribution of offenders using or possessing the narcotics, while most of these offenders are found to be using or possessing cannabis are of the younger age group. These figures do not enable one to distinguish the users from the pushers. If this were possible one might expect the average age of the user to be much lower than that of the pusher.

Hospital Statistics

The hospital figures unfortunately do not allow an age breakdown to be made. However the same trends are evident in respect of the ethnic group distribution in relation to the drugs used. Chinese are again almost exclusive users of opium. They form the majority of the users of morphine and heroin as well. Conversely, most patients presenting with cannabis abuse are Malays (60%). The Indians form 300 of this group while the Chinese are only 10%. The number of patients who seek admission voluntarily in the hospitals was quite dissimilar to the pattern shown by the prison statistics. The disposition of patients applying for treatment of drug abuse varies from state to state. Such patients could be admitted to a psychiatric hospital, of which there are two in the country, Hospital Bahagia in the state of Perak and Hospital Permai in Johor. In the three year under study, Hospital Bahagia admitted 63 patients of this category for treatment while Hospital Permai only admitted 10. Patients were also admitted to the general hospital psychiatric units for treatment. During the period of study, 1969 to 1971, the two units that were operational and were able to cope with such drug abuse patients were the Psychological Medicine Unit of the University Hospital, Kuala Lumpur and the Psychiatric Unit of the General Hospital, Penang which admitted 89 and 288 patients respectively.

Pattern of Drug Abuse

In gathering of these statistics, the information given by the various sources were in categories which were not entirely classifiable for the elucidation of patterns and trends. Information is also not available for a significantly long enough period for any temporal trend to be discerned on a country-wide basis. From the data available of patients admitted to the Psychological Medicine Unit of the University Hospital and the Psychiatric Unit of the General Hospital Penang (Edward Tan, 1972), there appears to be a rising trend.

These general hospital statistics are detailed enough to allow finer analysis. The ethnic predilection to the various substance of abuse is the pattern seen for hospitals all over the country. The usage of opium is largely confined to the Chinese-educated, working class or lower middle class Chinese whereas the use of cannabis is largely the problem of working class Malay youth, particularly those who have migrated from the rural areas. These figures, it shall be remembered, refer only to patients who

voluntarily come for help. Whether these are any indication of the incidence of the abuse of these various substances is largely a matter of speculation. It has to be remembered that these hospital figures are an underestimate. A patient may be admitted with a drug abuse problem together with another diagnosis. In such an instance, the drug problem may be regarded as a symptom of the underlying diagnosis and so is not indicated as a diagnosis at all.

Cannabis usage appears to be more widespread then is suggested by these general hospital statistics. In one's clinical experience, one comes across a number of students who are seen in the Psychological Medicine Clinic of the University Hospital for various other emotional and psychiatric complaints who admit to having used cannabis at one time or other although they had discontinued using the substance at the time they were seen or the usage of the substance has not presented any problem to them. On the other hand, there is a growing group of adolescent students from the secondary schools and to some extent also from the various institution or tertiary education who are having problems with the excessive use of various synthetic substance such as the barbiturates, methaqualone (commonly referred to as the 'MX pills') and amphetamine.

There is yet another category of patient who present with drug problems that are in fact iatrogenic. I am referring to patients who become dependent on drugs which were initially prescribed by their personal physicians. Such drugs are usually the anxiolytics, mostly of the benzodiazepine group, although sometimes barbiturates have been introduced in this way as well. The medication was prescribed when the patient was faced with a crisis and has difficulty coping or getting to sleep at night. However, the patient felt that he continued to need this substance over a prolonged period of time. In many instances a progressively larger dose was demanded. In most instances, the patient comes for help when the doctor refuses to prescribe any more tablets, or when the patient himself realises that he cannot do without the drug. However the situation in this country is such that many of these substances are available in various stores, particularly the Chinese medicine stores even without a physician's prescriptions although under the Dangerous Drugs Ordinance these substances are supposed to be sold only on a prescription.

Preventive Action

A magnitude of the problems of drug abuse

sounds frightening from the reports from some countries. For example, it has been stated that 12 out of every 100 children in the public high schools in the state of New York have used drugs at one time or another. The situation does not appear to be so bad in this country. However, this is not indication for complacency. Steps have been taken to various levels to combat the drug problems. Government agencies at state level comprising representatives from the departments of health, education, police and welfare have been constituted to spread informing of drug abuse among school children, particularly in the secondary schools, and to deal with the cases of drug abuse as they become known. The Federal Government has established a Central Narcotics Bureau to combat the distribution of these contraband substances. The doctors in the various hospitals have been dealing with such patients as they present and the doctors in the psychiatric hospitals and the psychiatric units, particularly attuned to the needs and the difficulties of such patients. The new Institute of Neurological Sciences in the General Hospital, Kuala Lumpur has a special section in its psychiatric unit, 12 beds for the management of patients with drug abuse.

Results of Treatment

Unless more detailed information is available of these institutionalised cases of drug abuse and such cases are followed up over a period of time, it is largely empirical to decide what steps should be taken to combat such problems. In the cases treated at the University Hospital however, an effort was made to find out how effective our efforts had been and how well these patients were doing after discharge from hospital (Ek, unpublished data). Of the 76 patients treated at the Psychological Medicine Unit of the University Hospital between July 1967 and June 1971 only 21 patients could be traced when the effort was made in the later half of 1971. It was found that nearly 50% of these patients could not be traced at the addresses given on their earlier admission to hospital because these addresses were no longer in existence at the time of the follow-up study. These were addressed in the slum areas of Kuala Lumpur and these slums were cleared in various urban renewal projects which started in 1970.

It has to be pointed out that each of these 76 patients admitted to the inpatient service of the Psychological Medicine Unit of the University Hospital for treatment was carefully evaluated for his

motivation in wanting to be rid of his drug abuse. Though figures are not available as to how many patients in all were seen at the outpatient clinic before these 76 were selected for admission, the general impression is that only one out of about 3 patients were accepted for inpatient treatment. Any patient who showed any sign of wavering in his motivation or in whom it was suspected that the patient came up because of pressure from the spouse, parents, employers or any other source, such patients were admitted only after careful evaluation and it was ascertained that the patient stood a fair chance of being able to go through with the withdrawal programme. The treatment program consisted of substituting the patient's drug of abuse with an analogous substance. For example, abusers of morphine or heroin is given methadone which is then progressively withdrawn over a period of 7 to 14 days. While this withdrawal is going on and continuing for a varying period after that, the patient is given supportive psychotherapy. If there is any indication, the patient might be given depth individual psychotherapy as well. Social manipulations in the form of family group discussions or discussions with the employers in terms of readjusting the patient's work schedule etc., is being done if such a measure is indicated.

Of these 21 patients who could be traced, 14 admitted they had gone back to drugs, 5 refused to comment although it is presumed from their secretiveness that they were back on drugs, and only 2 were able to say categorically that they were not taking drugs any more and were able to substantiate their claims by showing evidence of their better health and improved economic circumstances. They were also able to furnish evidence that they were holding regular jobs. Of the 14 patients who stated that they had gone back to drugs, 10 stated that they were on the same drug that they had been using before mostly opium or morphine. Four stated that they were now on other drugs, in two cases the patients had previously been on narcotics and are now on some form of benzodiazepine. Again, of the patients who admitted going back to drug taking, 9 stated that they were back on drugs within 6 months of their discharge from hospital, 2 patients stated that they were back for varying lengths of time longer than 6 months after discharge from hospital while the remainder were rather vague as to when they went back to drugs. It would appear that our effort to help these drug abusers have not at all been successful.

However, one feels that there is no need to be discouraged by this lack of success in this first series of patients. It has been essentially an effort at dealing with the drug problem at clinical level. However, if one comes back to the basic premise which was stated at the beginning of this paper that the problem of drug abuse is not entirely a clinical problem but one which has its roots in the structure, economics and the culture of a society, then one has reason to hope that perhaps a more concerted effort involving not only the clinicians but educators, the social workers, and although reluctantly, the agencies of law and order as well, may meet with greater success and prevent lives, particularly young lives, from being wasted from this scourge.

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Drug abuse and addiction problems in Taiwan

The drug abuse and addiction problems also exist in the inhabitants of Taiwan. Since having no data to show the degree of the problems, we cannot infer accurate information. Now, through some data of drug addiction in criminal cases, acquired by Dr.

N.S. Yang M.D. Chief of Legal Medicine and Toxicology Laboratory, C.I.D. of Taiwan Police Administration, we can get a warning danger of the drug abuse and addiction problems.

1. The analysis and statistics of crimes by means of drugs:

	Suicide		Homicide		Injury		Theft		Robber		Rape		Narcotics Total
	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	
1958	329	33.35	13	0.29	8	0.18	15	0.07	—	—	82	55.59	597
1959	527	46.10	17	0.32	18	0.34	—	—	—	—	136	63.66	544
1960	776	64.45	33	0.64	14	0.27	3	0.01	—	—	104	65.14	935
1961	819	58.50	19	0.41	18	0.39	12	0.05	—	—	126	66.84	188
1962	1027	64.174	22	0.48	22	0.48	27	0.12	—	—	168	70.00	564
1963	1067	69.24	33	0.69	16	0.33	50	0.29	3	2.48	164	65.04	329
1964	977	66.87	26	0.64	20	0.49	55	0.31	—	—	135	62.40	323
1965	1058	68.54	35	0.74	23	0.51	59	0.37	4	3.10	175	79.02	251

II. The kinds of criminal drugs:

1. Insecticide
2. Central Depressant
3. Analeptics, stimulant
4. Industrial & Occupational Drug
5. Family antiseptics

Poison	1958	1961	1965
Drowning	9.79	7.32	6.05
Hanging	35.24	23.57	16.90
Burned	0.30	0.49	0.20
Cut & Stabbing	2.02	0.71	1.08
Fall	0.20	0.35	0.34
Railway	8.11	2.62	2.10
Pesticides	—	31.11	41.54
Rodenticide	1.93	2.21	0.88
Rotenone	1.93	2.20	0.81
Lesel	1.72	1.07	1.08
Cyanide	3.25	2.21	2.04
Arsenic	0.30	0.36	0.34
Hypnotic	6.19	15.74	18.95
Sedative			
Tranquiliser	1.50	3.21	5.35
Strong Acid	1.11	1.55	1.22
DDT	0.10	1.07	0.47

III. The statistics of suicidal measures:

In 1969, the heroine crimes in Taiwan were 0.31 among 10,000 inhabitants and 1.13 per cent among all the criminal cases. In 1970, the amount became 0.37 and ratio became 1.39%. This figure only included those heroine addiction which inspected by the police, as for those un-inspected, may be more times than this number.

@ The analysis and statistics of factors of drugs addiction:

reason	Steal	Prostitute	Gamble	Labor	Lechery	Illness	Curiosity	Addiction	Total
amount	18	28	24	148	11	32	30	208	499
%	3.16	5.61	4.81	29.66	2.21	6.41	6.01	41.68	100

@ The analysis and statistics of methods of drug addiction:

In Taiwan, what all the drug criminals take is heroin which are smuggled in from Hong Kong. The methods of using are:

Inhaling	Swallow	Syringing
98,	20	381
19.64%	4.01%	76.35%

@ The analysis and statistics of drugs addiction in the past years:

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Case	983	235	621	361	378	327	444	330	420	532	594	617	213
Prisoner	1141	247	680	389	395	334	537	377	479	611	723	799	376

@ In Taiwan, all the hems which are used by drug criminals are carried in by American G.I.s, and most of them are by the hands of bar girls. For the present, the cases about hems are supervised strictly by American M.P.. In Taiwan, the problem of

Amphetamine poison is not serious, therefore there is not a law to control it. Yet in 1968, according to Legal Medicine, there were two murder cases by applying Amphetamine which induced customary hallucinations – seeing and hearing.

Drug abuse and addiction problems in Australia

By: Sir Geoffrey Newman-Morris.

A. The role of the doctor in drug abuse and addiction.

1. *Barbiturates.* I quote a letter sent out in March 1973 to all doctors in Australia by the Pharmaceutical Benefits Advisory Committee urging doctors to reduce their prescribing of barbiturates. "The prescribing of barbiturates is now regarded as being undesirable". The letter goes on to say, "Combinations of barbiturates and analgesics will be deleted in August from Pharmaceutical Benefits available to pensioners". This has already been done.

There is no doubt that there is a growing campaign in Australia to persuade doctors to limit their prescribing of barbiturates.

The document that I have quoted states, "Barbiturates should be prescribed with great caution and only exceptionally for periods of over *four weeks*".

They are unsuitable for the elderly because they readily produce confusion and are unsuitable for youngsters because they may produce an addictive effect.

It is now widely accepted that dependency develops easily with regard to barbiturates".

2. *Bromides.* I think it can be said that the prescription and counter sales of bromides have now almost been abandoned in Australia.

3. *Amphetamines.* The same comment applies to amphetamines.

4. *Alcohol.* The accusation that the use of marihuana is dangerous is countered in every day life by the reply that it is no more dangerous than alcohol.

I quote Lord Bain who said, "The alcoholic can prescribe his drug himself". He has this benefit over other drug users.

I quote now from the report of the Triennial Conference of the Australian and New Zealand Student Health Association in January, 1973 on the subject of the use and abuse of drugs.

"1. If only in terms of its contribution to student mortality in road accidents, alcohol was acknowledged to be the most dangerous drug on Univeristy campuses.

2. It is believed that repressive measures to aim to control the use of *Cannibis* (leading to further antagonism between the police and students) were potentially more harmful than the use of the drug itself.

3. Student health physicians and counsellors have a useful educational role to play strictly limiting the prescription of psychotropic drugs and encouraging

the alternative development of improved intrapersonal communication, relaxation techniques and exercise therapy”.

In relationship to this I quote from the Melbourne Age of the 15th March, 1973 which uses as a headline the following phrase, ‘*Pot Is Not Addictive*’ Say Health Experts”.

This headline was in relationship to the findings of a year long study on drug abuse in Melbourne by Dr. D. W. Rankin, Chief Health Education Officer at the Health Education Centre and Dr. Krupinski, Research Director of the Mental Health Research Institute.

Their statement includes the following words, “Immaturity and not marihuana is the link between pot smoking and hard drug use”.

Dr. Rankin in particular called for a more responsible public attitude to drug education, “You have to tell children the truth because they will quickly find out if you are lying”.

The report went on to say that curiosity and not social rebellion is the main reason for turning to drug use and further “the most common source of information about drugs and drug use was the mass media.”

The next day there was, of course, a spate of publicity contradicting the opinion expressed in this report and this question of whether marihuana is addictive or not is one that is in the public eye and still remains the subject of argument.

I discussed this aspect with Ainslie Meares well known psychiatrist of Melbourne. He made three comments.

He has seen in his practice:

- (1) The move from pot to hard drugs.
- (2) Marked intoxication from pot.
- (3) Severe mental and physical deterioration in pot smokers.

I turn now to my second heading.

B. Government action:

There has been sitting in Australia a Senate Select Committee on drug trafficking and drug abuse.

I quote from the submission of the Australian New Zealand College of Psychiatrists to this Committee.

The main theme of this submission is, “The judicious use of drugs, particularly tranquillisers, sedatives and anti-depressants has virtually revolutionised the practice of psychiatric medicine”; Further under the heading “Incidence Distribution and Causes of Drug Abuse,” the report goes on to say, “It seems inappropriate to focus on the more sensational drugs used by *minorities* in the community whilst ignoring the effects of such widely used drugs such as alcohol and nicotine”.

The report further says, “the most pertinent feature of the incidence and distribution of drug abuse within the community is that it is not confined to one social or economic group. *Barbiturates* for the middle aged housewife, *alcohol* for the man of all ages and *marihuana* with at times narcotics for the 18 to 25 may provide a framework of research for the social scientist and psychiatrist”. The first two categories are probably the greater problem, economically, socially and psychiatrically in our community.

Relevant factors in a broader sociological setting are highlighted as follows:

1. Commercial profit stability.
2. Commercial advertising, a) to doctors and, b) to the public.
3. Ignorance of the public at large.

The need for action in this regard is summed up by pointing to the importance of education for key personnel. This leads me to my third point.

C. Education:

I quote from the report of the Health Education Centre with regard to its activities in 1971.

“It is important that the education program must be more than purely pharmacological. There must be a reasoned analysis of the sociological and forensic aspects of the problem.”

There has been a big professional staff engaged in drug education in relationship to this centre.

The aims of the Drug Education Program in Victoria are stated as follows:

1. To give the public, both young and adult the opportunity of making their own personal decisions about the use or misuse of drugs.
2. To encourage adults and youth to maintain communication with each other in this and other fields of social importance.

These aims are being achieved by the giving of factual information about drugs in an unemotional way by persons trained in the field, and of promoting free discussion amongst all sections of the community.

This is done by education programs through a widespread variety of such groups as parents, social clubs, service clubs, school staff and youth.

There is a similar drug education program in New South Wales which directs its activities in four directions.

1. To Youth. Acting through schools and a drug advisory centre.
2. To concerned adults. An attempt is made to teach them to communicate with youth.
3. To educators. They are informed by means of workshops going up to a twenty-five hour period.
4. To community opinion leaders. An attempt is being made to interest these by one day seminars.

At the Federal level the Director-General of Health wrote to members of the medical profession at the end of last year, "I am writing concerning developments in the National Drug Education program being conducted by Commonwealth and State authorities.

The National program has been in operation for the last two years and although worthwhile progress has been achieved it is felt that members of the Australian Medical Association have an increasingly important role to play in this program.

The Drug Educational Sub-Committee of the National Standing Control Committee on Drugs of Dependence has placed emphasis on the need for total community participation in the program and particularly the involvement of influential members of the community such as medical practitioners.

The Commonwealth Department of Health employs pharmacists to visit medical practitioners to provide information concerning various aspects of the National Health Act.

The Department of Health has now decided that the duties of the inspection pharmacists will in future include reference to aspects of Commonwealth and State Activities in the area of drug abuse prevention."

Treatment and rehabilitation of drug dependency.

This is an area where I feel I am quite unfitted to express opinions. However I recall the very interesting discussion in this regard at the meeting of the World Medical Assembly in Ottawa in 1971.

There seemed to be a widely held opinion then that drug addiction and its management is a medical problem rather than one of criminology. I think that the informed opinion at present in Australia is that the community's existing institutions, laws and particularly its attitudes and prejudices are unfitted to meet a new social phenomenon.

Drinkers, Smokers and Drug Abusers.

I quote from Dr. Dewdney's book, "Australian Health Services", published in 1972.

"Bearing in mind the failure to control the use of alcohol and tobacco effectively by educational means and in the case of alcohol by legislation, aimed at punishing or forcing treatment upon those whose use of that drug is currently unacceptable to some sections of the community; there seems to be little ground for optimism that such measures will be more effective in controlling other forms of drug abuse. Undoubtedly some forms of drug abuse could, in theory, be eliminated and other forms be controlled by the enactment and enforcement of appropriate legislation covering the manufacture, importation and distribution of certain drugs but it is very questionable whether the present law enforcement agencies of Australia would be capable of enforcing such legislation.

At present in Australia the management of persons abusing drugs other than alcohol or tobacco derivatives is a mixture of criminal measures, psychiatric and other forms of medical "treatment", non medically directed therapy, social support and mutual self-help on behalf of the drug abusers themselves."

Finally, with regard to the Senate Select Committee on drug trafficking and drug abuse to which I have already referred the recently published report of this Committee gives little ground for supposing the problems of drug abuse and the supply of drugs to users will be tackled at Commonwealth level more successfully in the future than in the past."

Drug addiction and drug abuse in Korea

By Choo Wan Myung, M.D.
Immediate Past President, C.M.A.A.O.

1. According to Jaffe, (1970) the term drug abuse will be used in its broadest sense, to refer to the use, usually by self-administration, of any drug in a manner that deviates from the approved medical or social patterns within a given culture. However, chief attention will be directed to the abuse of drugs that produce changes in mood and behaviour. These drugs are designated "Psychotropic substance" in WHO Conference at Geneva 1968 and "Habituation drugs" in Korea. The term addiction will be used to mean a behavioural pattern of compulsive drug use, characterized by overwhelming involvement with the use of a drug, the securing of its supply, and high tendency to relapse after withdrawal. These drugs are designated "narcotics". The drug abuse and habituation by the substances together with addiction by narcotics are increasing and a great social problem in the world.

2. The amounts of opioid and other narcotic analgesics imported officially for the uses of medical treatment during 1970 were \$76,370 in Korea. The main items are cocaine, codeine, dihydrocodeine, morphine, meperidine and powdered opium. (Table 1). These narcotics were reprocessed and prepared as an ampules bottle, tablets or powders in the appointed drug companies and distributed to hospitals, dispensaries or drug stores by the request of physicians and pharmacists having narcotic license. Supplement of narcotics in a small amount to analgesic antitussives or other analgesic-antipyretic preparations were allowed and dispensed by ordinary prescription. In this prepose codeine phosphate and dehydrocodeine are mainly used.

Table 1. Amounts of narcotics imported during 1970 for medical uses.

Items	Amount, kg	Price (\$)
Cocain HCl	5	1,750
Codein Phosphate	120	14,400
Dihydro-Codeine	360	55,800
Morphine HCl	8	1,120
Mephridine HCl	60	1,800
Powdered Opium	60	1,500
Total		76,370

3. The status of annual illegal handlers such as traffickers, producers, dealers, planters or addicts arrested from 1969 to 1972 was not much changed in number and the narcotic addicts were rather decreasing yearly (Table 2). These facts are the reflect of law enforcement in the areas both urban and rural from 1970. It can be supposed that either the addicts went underground or the law enforcement leads the addicts to switch the drugs from narcotics to less addicting drugs. The latter is partly true that the illegal habituating drug handlers were increasing (Table 3).

The law of habituating drug control in Korea is legislated in August 7th, 1970 and effective from November 7th, 1970. Both laws in narcotic and habituating drug control were further enforced and announced March 13th, 1973 officially.

Table 2. Number of Illegals in Narcotics Handlings.

	1969	1970	1971	1972	1973 Jan.-Feb. (2 m)
Traffickers	4	6	8	5	3
Producers	7	10	5	6	11
Dealers	73	90	64	130	11
Planters	79	22	20	18	—
Addicts	373	106	78	66	3
Others	—	—	51	—	—
Total	536	234	226	225	

Table 3. Number of Illegal habituating-drug handlings.

Out-lawed events	1971	1972	1973 Jan.—Feb.(2m)
Traffickers	4	4	
Producers	2	1	1
Dealers	52	244	21
Addicts	86	101	49
Total	144	350	71

No. of Preparations in Korea 1970

Single: 147 kinds

Combination: 260 kinds.

Lastly, since the separation of dispensary from medical practice is not legislated in Korea yet, the drug stores can sell all kinds of drugs including antibiotics, etc. without doctors' prescription.

Besides the above mentioned reasons, due to the low national income, 58.5% of the patients are treated by direct use of drugs from drugs stores while only 27.5% are treated at the clinics and hospitals.

As a result, the majority of the patients are not only improperly treated, but the drug resistance and side reactions among the people are gradually increasing.

To correct this problem of drug abuse, the Government, as a first step, had prohibited the commercial advertisement of antibiotics, steroids and several other drugs on TV, radio and newspaper.

However, the complete correction of drug abuse would be possible; first, through the education of the public; second, increase of national income; third, by establishing a better medical care system.

Drug abuse and counter-measures in Japan

By: Prof. Hiroshi KUMAGAI
Japan Medical Association.

History of Drug Abuse Problems

We have been visited by drug epidemics twice since 1945: at first stimulants were abused in the reconstruction period following the end of World War II, then many youths were addicted to narcotic drugs, inter alia, heroin.

Our history can be divided into four periods as

far as drug abuse is concerned. The first period was the "calm" period prior to 1945; the second period from 1946 to 1954 was called the "stimulants" period; the third one from 1955 to 1962 was when heroin abuse was rampant and the present period of narcotic control from 1963 on.

(i) The calm period (Before 1945)

In those days prior to World War II, there were practically no abuse problems of narcotic drugs or any drugs for that matter. According to the record, in 1933 a private organization established a narcotic treatment center for addicts in Tokyo with financial help from the Government and voluntary addicts were treated through occupational therapy. However, most of the patients were foreign immigrants who were opium addicts. As for Japanese, there were only a few cocaine addicts who became addicted to the drug through inhalation.

(ii) The stimulants period (1946 – 1954)

When World War II ended, the condition of the world had changed drastically. People were prostrated and griefstricken and were forced to work desperately to make a living. Therefore, when stimulant drugs were put on sale with an ad "Shake off sleepiness and become energetic" under these circumstances, they made a great sensation among night laborers, students, performers, etc., causing a major social problem. The Government then took the lead in establishing a law to control stimulant drugs in 1951 and enforced rigorous control of them. As a result, the stimulant cases began to decrease suddenly and, at one time, they seemed to have ceased to occur, though recently, to our regret, they are increasing again. (Fig. 1).

(iii) The heroin period (1955 – 1962)

Like stimulant drugs, narcotic abuse gradually increased taking advantage of the turmoil after the war, and yearly narcotic arrests numbered one thousand in the early years. About 1958, the number of addicts still increased and in the peak years, namely, 1961 to 1962, the number of heroin addicts was estimated at 40,000. They were mostly people in their twenties or thirties and curiosity, temptation, imitation, or use of stimulants were mentioned as causes of addiction. Many of them were slum-dwellers with no regular occupation or prostitutes.

Further, there was an abuse of sleeping pills such as methaqualone among teenagers during this period. However, this abuse has disappeared at least outwardly due to an administrative measure taken against the distribution of such drugs.

(iv) The narcotic control period from 1963 onward.

The seriousness of the problem of heroin abuse prompted the Government to take decisive steps for effective suppression. By all-inclusive counter-measures, as explained in detail in the next chapter, heroin epidemic subsided rapidly. Fig. 4 shows the sharp decline in the number of heroin addicts.

1. In our country psychotropic agents* that are abused are:
 1. Narcotics (Opium and its alkaloids, and their derivatives and synthetic narcotic drugs)
 2. Amphetamines, Cocaine
 3. Cannabis (Marihuana)
 4. LSD 25
 5. Organic solvents (Mixture of toluene, xylene and esters).

Of these agents all but organic solvents are designated as Narcotics and are under the strict administrative control.

1. Narcotics

Before 1945 Narcotics presented no serious social problem. By the end of the Second World War, there occurred a serious social confusion among the Japanese, and considerable quantities of narcotic drugs were released on the market by ex-army personnel. This situation together with the post-war misery and poverty was the main source of illicit trafficking and abuse of narcotic drugs. In the years from 1946 to 1954, heroin abuse was the predominant social evil. Gangsters' organizations of illicit drug traffic became active more and more, and narcotic addicts gathered at delinquent quarters of large cities for seeking heroin, a great deal of which was smuggled by gangsters mainly from South East Asia and the number of narcotic addicts was estimated more than 40,000 persons in 1960.

This trend of narcotic drug abuse forced the government to amend the Narcotic Control Law in 1963 in order

- (1) to make the penalty severer for offenders: (max. term of imprisonment was increased from 10 years to the life imprisonment, and max. fine, from 7,500 yen to 5,000,000 yen).

* All chemical agents that affect mood and behaviour are capable of abuse, and their common sites of action are limbic system and thalamus of the brain.

(2) to establish a system of compulsory hospitalization for narcotic addicts.

As a result of the amendment of the Law, the number of narcotic offences and addicts has decreased year by year, and we have now succeeded in eradicating heroin abuse.

Since 1966, no addict have been discovered even in delinquent quarters of large cities in Japan, except in Okinawa. There heroin is still rampant and some heroin addicts have been reported since its reversion in May 1972.

2. Cannabis (Marihuana)

Before the end of the IIInd World War, cannabis offence was considered to be negligible among the Japanese. Cannabis was not legislated in Japan except Indian Hemp which was controlled by the Narcotics Control Regulation. Cannabis plants were cultivated for the purpose of collecting fibers, but there was no practice of cannabis smoking.

U.S. troops stationed in Japan ordered the government to establish the Cannabis Control Regulation in 1947 and it was amended to be the present Cannabis Control Law in 1948.

Immediately after the end of the IIInd World War, cannabis smoking was only detected around U.S. military bases. Of recent years, cannabis offence has shown the trend to increase among the Japanese, who have been in contact with delinquent foreigners and the evil of cannabis traffic and smoking has considerably increased even among the ordinary Japanese.

3. Amphetamines

The number of offences in amphetamine abuse had increased abruptly since 1951, reaching its maximum in 1954, totalling up to 55,000 persons. But after the Amphetamine Control Regulation became effective, the number of offences had decreased year by year and until 1969 it had been found sporadically. Since 1970 some increase has been noted.

4. LSD 25

At the beginning of 1970, it was found for the first time that guests at a party possessed LSD in Tokyo. So the Ministry of Health and Welfare took prompt action to designate the hallucinogenic LSD as Narcotics on Feb. 16, 1970.

5. Barbiturates

Barbiturates are sold at drug houses only by direction of doctors. As regards the data about the

number of abusers of these drugs, we have no exact data at hand. However, according to the survey made by the Japanese Psychological Society in 1962-1964, the number of addicts hospitalized throughout Japan was reported to amount to 332.

6. Hypnotics and tranquilizers

In recent years the frequent use of hypnotics and tranquilizers is seen among the middle and advanced age groups besides delinquent juveniles. These drugs are designated as "prescription drugs" and/or "powerful drugs" and the Pharmaceutical Affairs Law. Nevertheless, the number of abusers of such psychotropic drugs seems to be increasing, although no systematic data are available on the degree of their abuse.

7. Glue-sniffing

Spray inhalation was noticed among youngsters (anomic, delinquent, hippy, and dependent) from 1962 to 1963 and it increased explosively in 1967. In 1968 the number of youngsters who were consulted by a police agency totalled to 20,000 and among them 110 death cases were reported, including 47 suicides. Since 1969 the generation of abusers has shifted from youngsters to the youth and sometimes to adults. They use it for the purpose of pleasure and euphoria. Some of them have got psychic dependence but physical dependence has never been noticed. In 1971, an approximate number of 50,000 youngsters were found to be abusing them, recording a 25% increase over the previous year. Such grave consequences of Glue-sniffing urged the Government to take stringent counter-measures. Glue-sniffing has been outlawed since August 1972, when they passed an amendment to the Poisonous and Deleterious Substance Control Law.

II. Control measures against drug abuse

1. Administrative control

- a. Designation, if possible, of agents or drugs in question as Narcotics.
- b. Cooperation of the national (Fig. 2) as well as international control system.

2. Measures against abusers

Early detection, diagnosis, therapy, hospitalization, rehabilitation and after care have to be conducted systematically.

For the effective conduction of the system,

promotion and intensification of mental health care is imperative.

In our country the legal control of Narcotics has proved to be successful in eradicating illicit traffic, especially regarding heroin abuse.

Contrary to the success in controlling illicit drug traffic, mental health care facilities against drug abuse have been rather neglected.

The facilities for mental health care run by the national government and prefectural governments are a few in number and 85% of mental patients is covered by the care of non-governmental hospitals.

For the promotion of mental health care the Japan Medical Association proposed a plan for the revision of the present mental health care system.

The proposed plan is based upon the concept

that comprehensive mental health care system has to be included in regional community medical care.

For the effective administration of this system we have recommended:

1) Establishment of a Survey Committee for the community. This committee consists of local medical association, mental health center (out of 46 prefectures 22 are in action), local government (health center), Social Welfare Agency, Child Care Agency, Social Health Organization, residents in the community and technical experts in the community.

2) Reorganization of hospitals and clinics throughout Japan for cooperation.

By means of these systems, the community network for mental health care will be provided.

FIG. 1. NUMBER OF PERSONS VIOLATED

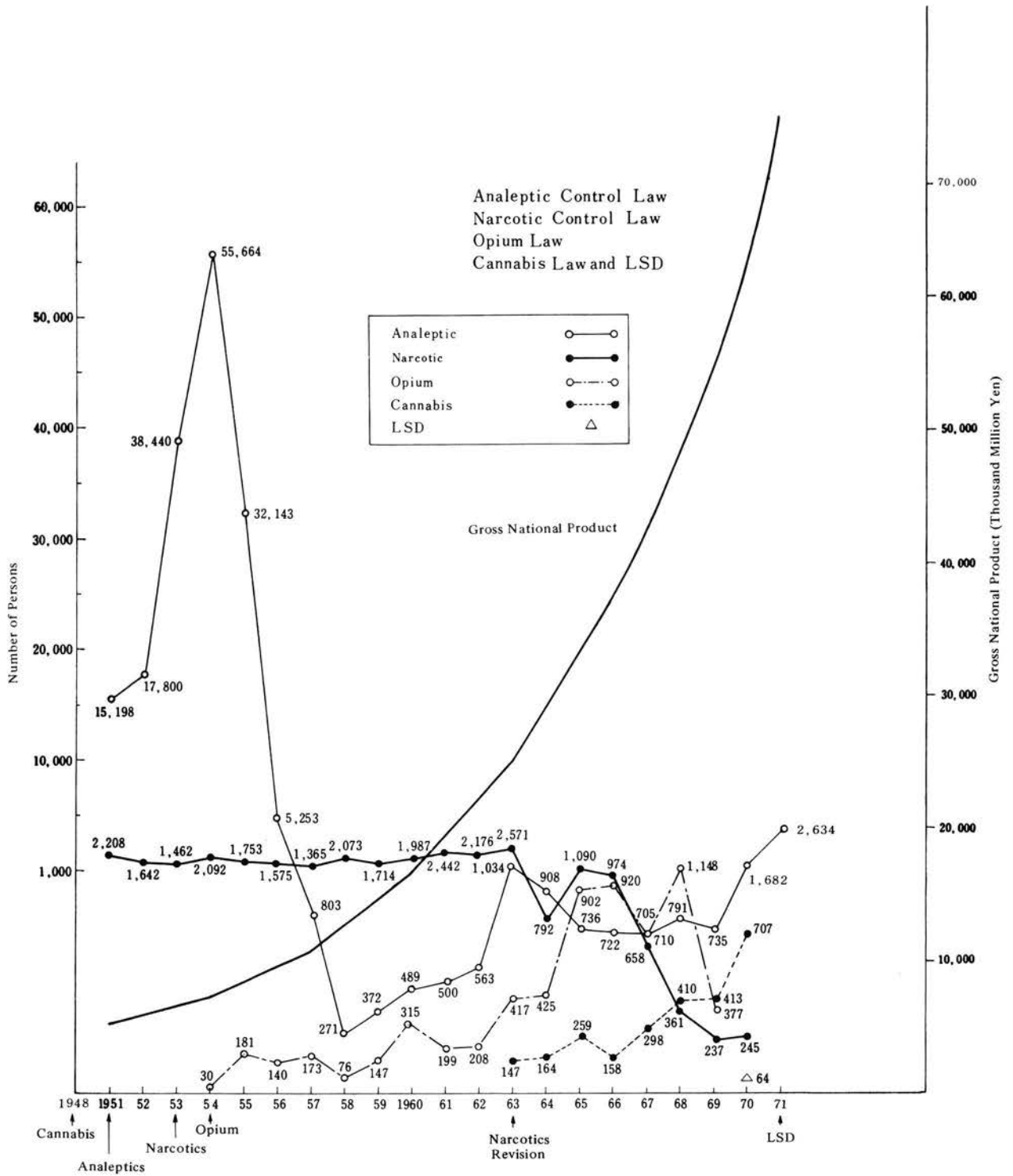


FIG. 2. NARCOTIC CONTROL SYSTEM

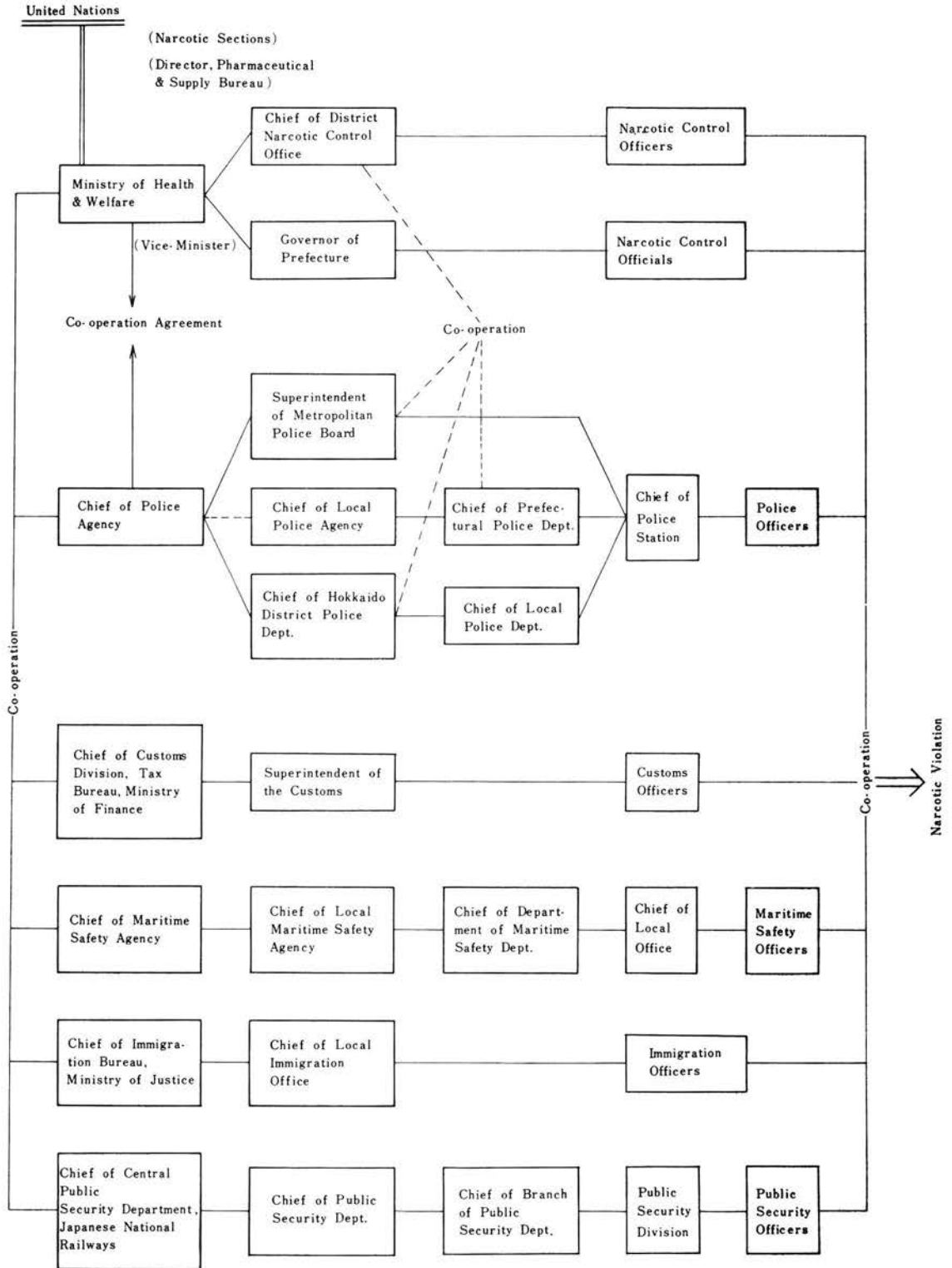


FIG. 3. PROCEDURE OF HOSPITALIZATION FOR NARCOTIC ADDICT UNDER NARCOTIC CONTROL LAW

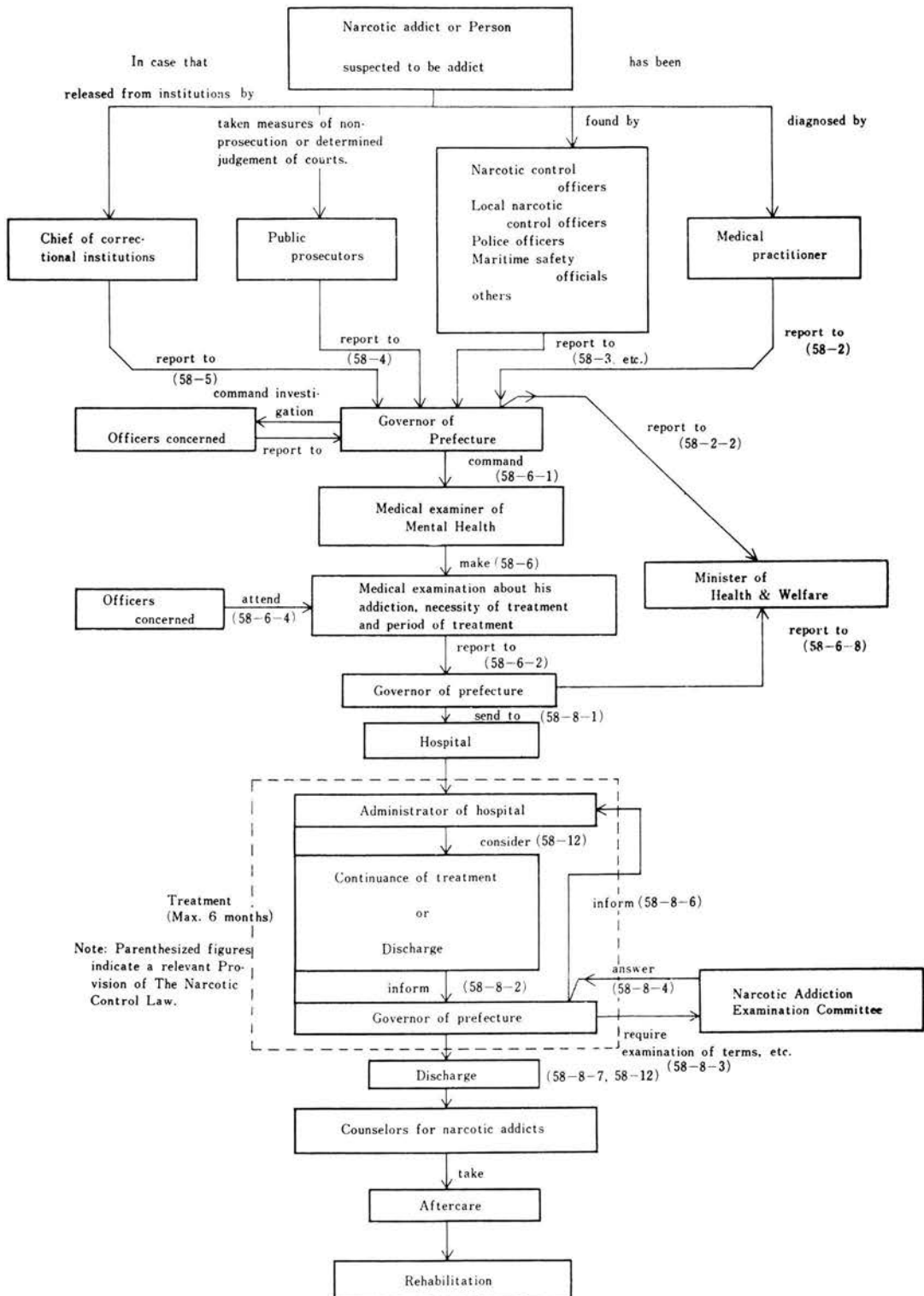
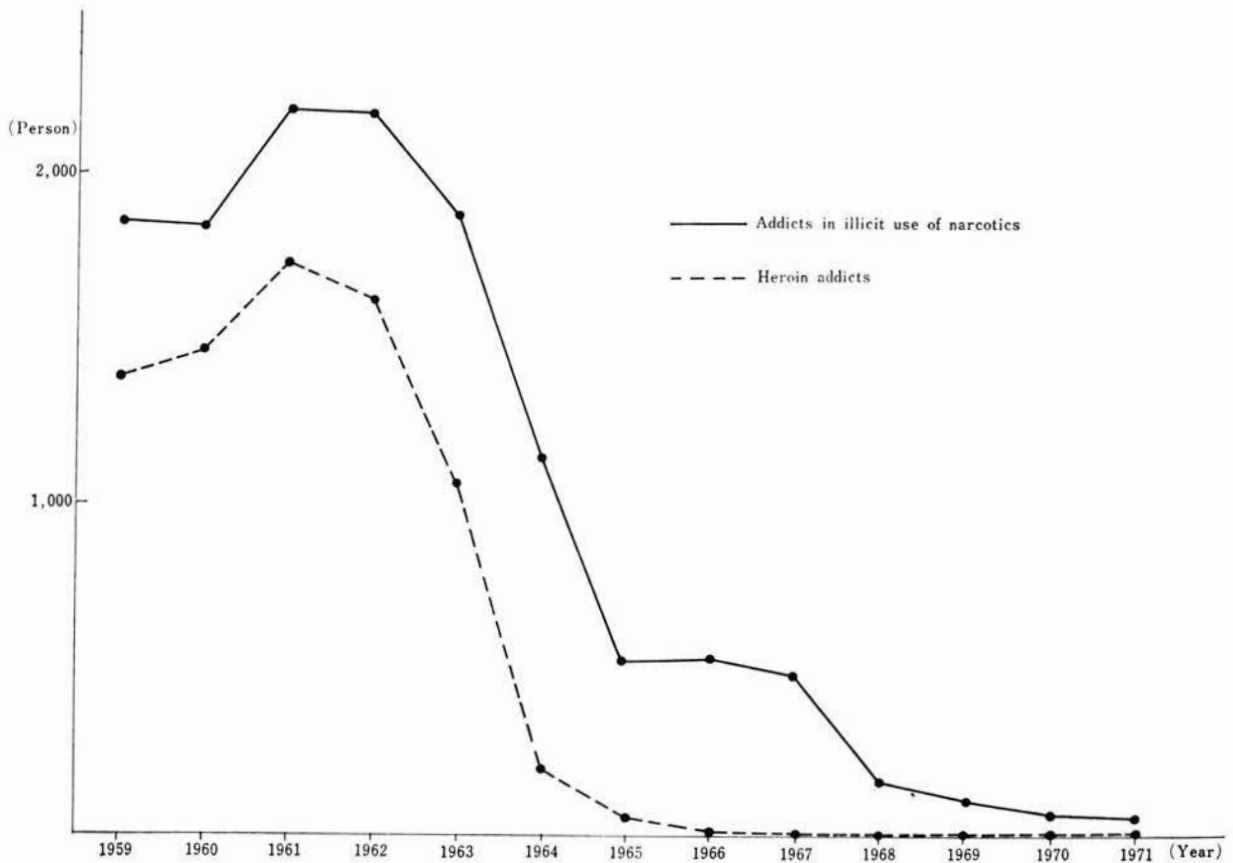


FIG. 4. ADDICTS REPORTED ANNUALLY



Discussion

PROFESSOR A.A. SANDOSHAM (Malaysia) said that curiosity obviously played a big part in initiating the drug-taking habit among the adolescents, especially in the trying out of pep pills. In those circumstances, he asked if we were adopting a wise policy in publicising information on the use and abuse of drugs in Secondary Schools.

PROFESSOR TAN ENG SEONG (Malaysia) replied that we should neither over dramatize nor underplay

the abuse of drugs in schools.

DR. PETER LEE (Hong Kong) said that in Hong Kong sex education was introduced in schools and books on narcotics and their dangers (maximal and minimal effects) were distributed widely in all schools.

DR. CHEAH OON SIEW (Malaysia) said that he was the Secretary of a Committee set up by the Malaysian Medical Association to study the problem of drug

addiction in Malaysia. They found that police records in Penang of offences charged under the Dangerous Drug Act showed an increasing trend and that there was a corresponding pattern of increasing numbers in the Penang General Hospital medical record of patients admitted with a diagnosis of drug addiction. Personal experiences in treating drug addicts suggested that official figures were only the tip of the iceberg. A pilot project using drug questionnaire survey in Penang secondary schools did give rise to concern about the growing extent of the problem in schools. Pressure groups by joining bad company could be a factor. However, most of the young addicts were in their twenties. Teachers and youth leaders could help in tackling this problem.

Dr. Cheah said he would, in consultation with his colleague, submit a draft resolution for the consideration of the CMAAO Congress.

This draft was referred to the Resolutions Subcommittee composed of Datuk (Dr.) K.A. Menon, Drs. Peter Lee and N. Muroya and was rejected as the recommendations would not be applicable to several other countries represented in the CMAAO.

DR LIM KEE JIN (Malaysia) said that any resolution on this subject should be taken in conjunction with social and other problems that drives people to take to drugs.

DR. K.H. LEE (Hong Kong) said that drug addiction was a growing problem in Hong Kong. Notification is necessary by law. There were three points which were directly related to the clinician. (1) Notification: whether notification of drug addicts is desirable or practicable is debatable. However, notification does give a better and more accurate idea of the volume of

the problem. (2) Methodone substitution therapy: Two separate schemes are under trial in Hong Kong to treat heroin addicts by methodone maintenance. (3) Treatment by acupuncture: A neurosurgeon in Hong Kong has discovered a breakthrough in the treatment of heroin addicts. Acupuncture has been found effective in controlling withdrawal symptoms. A much more extensive study is being carried out. The preliminary results will soon be published.

DR. PRIMITIVO D. CHUA (Philippines)

Our country has not been spared the problem of "Drug Addiction", particularly among the youth of our population. The problem has reached alarming proportions so that the Government enacted the "Dangerous Drugs Act of 1972" (R.A. 6425), providing the creation of the Dangerous Drugs Board, which promulgated rules and regulations and the penalties of violations thereof, are now being implemented. Physicians prescribing (1) Prohibited and/or (2) Regulated Drugs (as listed by the Drug Board) have to use an approved Prescription Form consisting of 3 copies (each to be retained by (1) the dispensing drugstore, (2) the prescribing physician and (3) the patient).

As a point of information, under the current Martial Law, the President of our Republic, after a fair trial, ordered the execution by firing squad of a Chinese citizen who was proven actively engaged in the traffic and manufacture of Prohibited Drugs. These, no doubt, will be an effective control for the illegal uses of Dangerous Drugs. It has been noted that, after the full implementation of our "Dangerous Drugs Act," drug addiction in our country is now very much minimized, if not totally eradicated.

BRAIN DRAIN

(Chairman: Dr. Gwee Ah Leng)

Brain Drain

By Dr. Gwee Ah Leng,
Singapore.

Brain drain is not a new problem, for as early as the Warring Kingdoms, 200–400 B.C. there was reference to able men of one kingdom being employed by another. One of the famous cases was a man from Cho who was unable to please the Lord of Cho enough to get employment. His friend spoke to the Lord several times on his behalf without success, and finally in exasperation, he said to Lord of Cho: “My Lord, if you are not going to utilise this man’s ability, please kill him before he serves our enemies.” The Lord of Cho did not accept the advice. In fact, he was a bit surprised at the advice, because these two men were excellent friends. Subsequently, he made his way to Chin, and helped Chin to wrest military leadership from Cho. Hence the famous saying 楚材晋用 – The talents of Cho utilised by Chin!

We can see that there is the realisation that a man of talent is of value to a country, and his leaving the country would be a loss. The loss, it maybe granted, is not tangible in terms of foreign exchange or other material possessions, but it is one that can be equally, if not more, devastating.

Now, a nation is rich and strong if it has an abundance of material and human ability. The possession of oil, grain, minerals and arable land is a sine – qua – non for a mighty nation, for in history, no nation has become mighty without. Those that are naturally endowed can become mighty in their own right, but those that are not so lucky nevertheless can make good by plunder, annexations, and other means.

Similarly, wealth without talents are insufficient to bring about success, for without human power to utilise wealth, possession of material abundance only leads to the danger of being plundered and subjugated, and history in the last 300 years has been a record of colonial plunders by western nations of wealth in the other countries.

Hence, wealth does not invariably spell strength, and the key to the difference is the degree and efficiency of utilisation. The wealth of India alone has contributed a large measure to make the British Empire a mightier one than Rome at one time, but that same wealth did not and still has not transformed India from a poverty-stricken developing nation to a modern power. Likewise, human power is essential for the growth of a nation towards success, but unless exploited, it is of little value.

Hence, in the world, there are nations who have the prerequisite conditions for success – natural resources and manpower, and they are expectedly successful. At the same time, there are also nations with similar prerequisite conditions; but they are “developing” at best. What is even more interesting is that some nations are deficient in one or both of these conditions, and they are nevertheless successful.

To do so they would have to depend on resource-material exploitation, and brain drain to make up their deficits.

It can be seen that brain drain in fact is ancient in history, and is a natural consequence of inability to utilise, or competitive inducement. Why is it we

are now so much obsessed with it that in fact we are discussing it even today in a meeting of medical people?

One of the reasons, I feel sure, is that in the post-war years, many Governments have become susceptible to public opinion, because of the improvement in the level of general education, so that the public has become more critical and sophisticated. Another equally important reason would seem to be that many Governments made promises too readily of social and personal advancement, and their subsequent failure to deliver the goods forced them to look for a reason, and brain drain is a very credible excuse. After all, if the able nationals were unwilling to stay back and do their bit, what can one expect the statesman to be able to achieve?

Thus, in developing nations particularly, and in countries where things are not going on so well, such as the Health Services in Britain, there is a loud and insistent cry of brain drain, and some blame their own nationals for materialistic outlook and lack of loyalty, and others accuse the benefitting nations of unprincipled poaching and even economic and manpower sabotage. Some introduce punitive measures to prevent emigration such as tightening of exit visas, prohibition of transference of money and personal belongings whereas some nations are coerced to introduce quotas of admission, and insist on repatriation of personnel after training by prohibiting them from taking up gainful employment in the countries benefitting from the alleged drain.

What actually is the brain drain? Logically, the distribution of "brain" ability in a population is much the same the world over, and in any population, at least 25% to 30% can be trained beyond secondary level, constituting the brain reservoir. Full utilisation would mean all these will have the opportunity to train and openings to occupy. Under-utilisation would be a brain wastage, at times as serious, if not more than brain drain. In Singapore there are 60,000 students at school entry. Half gets weeded out at primary, 80% gets weeded at Form 4 and 50% gets weeded out at H.S.C. leaving us a brain utilisation figure of 5% only!

On the other hand, the brain drain, though much played up, is a smaller problem in terms of numbers, other than some exceptional situations like

doctors in Ireland and post-graduate research scholars from Taiwan and Philippines. Even in the two last instances, when one considers the actual number involved in terms of total manpower, the problem is barely significant.

Nevertheless, a good deal of attention has been directed to this group, and broadly one many say that the reasons generally accepted for brain drain are as follows:—

1. Lack of opportunity at home.
2. Lack of suitable facilities at home.
3. Better employment conditions elsewhere.
4. Personal factors.

It must be obvious that to train someone in a highly developed country and then to have him back at work in undeveloped rural areas is squandering idiocy at its best, for here one is literally spending resources to create frustrated brain power! Yet, this has been done again and again, even up till today.

In a competitive world, one cannot prevent out-bidding, and if anyone happens to have a very outstanding person about, chances are this person will be induced by many means to go elsewhere. Happily, extraordinary men of genius are few, and they would not really count in the reckoning of total manpower in terms of numbers.

My belief is that in the matter of brain drain, personal factors play the most important part. Incompatibility, lack of dedication, administrative bias, improper utilisation are some of the things that cause rancour and dissatisfaction, and result in brain drain when the opportunity is ripe. Basically, it takes a brain to recognise another. Incompetent statesmen will not be able to utilise able personnel, and one can gauge the ability of the Government by the calibre of the people it employs.

In summary, I like to submit that the problem of brain drain though spectacular and common is insignificant compared to brain wastage, and attention to develop brain potentials by training and education is far more important than concern over brain drain. In brain drain, however the problems are several but the biggest one is that of the incompetence of the employer, who is unable to utilise a good man properly because he is not good enough to identify him.

Brain drain problems in the Philippines

Brain drain, to be precise, is the exodus of skilled workers and professionals from less developed countries or underdeveloped nations to highly developed or industrial countries.

The Philippines for one has been plagued by this nagging problem, and yet, Filipino emigration to foreign lands continue to accelerate hitherto.

In 1961, only about 2,205 Filipinos migrated to the United States, accounting for 13.05 per cent of the total number of Asians who sought and were granted permanent residence in the U.S. and almost one per cent (0.85) per cent) of the world total of 260,032. This rose to 2,896 in two years. It then declined slightly in 1964 with 2,607.

A total of 2,489 Filipino workers migrated from the country in 1965. However, in 1966, it jumped to 5,204 representing 21.33 per cent or more than one-fifth of the Asian total of 24,392 and 1.80 per cent of the world total of 289,472. In 1967 it further increased to 8,546, representing 26.07 per cent and 2.90 per cent, respectively, of the Asian and world totals. In 1968 it climbed to 14,534, soared to 22,026 in 1969, and rose to an all-time level of 23,845 in 1970.

A recent study on the outflow of manpower in the country to foreign countries is the paper entitled "Outflow of Human Capital - High Level Manpower from the Philippines, with Special Reference to the Period 1965-1971." Conducted by Dr. M. L. Gupta of the ILO Manpower Assessment and Planning Expert of the UNDP in the Philippines, the in depth

study traces the magnitude of the outflow of Filipino professionals and highly trained workers to foreign countries considering the Philippine total to Asian and world totals, occupations, destination of work and foreign laws on immigration.

Dr. Gupta said: Migration embodies at least a two fold loss in terms of the direct costs of higher learning and the earnings foregone during the period of education. The costs involved and the losses incurred in the current level of annual migration (say 11,240 professional and skilled workers composed of 8,911 such migrants to the U. S. and another 2,249 migrants to Canada, excluding 1,859 such workers going to other countries on contract employment basis) from the Philippines are colossal.'

Likewise he pointed out that the Filipino immigrants to the United States in 1967, when the number admitted was 2,517 or less than 30 per cent of the level reached in 1970, the cost estimate was US\$5.24 million, the estimate for 1970 would be about \$17 million.

These money costs, though substantial, are not as important as the drain the country's stock of finest talents. According to Dr. Gupta, from 1969 to 1970, a magnitude of 13,000 Filipino workers has gone abroad, not mentioning their dependents and retired workers. From 1970 alone, 4.67 per cent of the country's architects, 6.19 per cent of its chemical engineers, and 2.59 per cent of its mining and metallurgical engineers migrated to the U. S. and Canada. In addition, 2.77 per cent of its doctors, 4.15 per

cent of its nurses, 3.58 per cent of its veterinarians, and an exceptionally high 22.445 per cent of dieticians and nutritionists migrated from the country in 1970.

Dr. Gupta noted that more liberal immigration laws are now being imposed among professionals in the United States, Canada, Australia and the United Kingdom primarily because these countries would gain from an increased supply of people able to adapt to the demands of an increasingly complex society in which accelerating technological changes is reshaping the world as work more and more rapidly.'

Hence the acceleration of Filipino emigration to these countries, with the United States accounting for the largest number of emigrants. Such that in 1965, only 100 Filipinos obtained immigrant visas, in 1969 it was 20,000 reaching the annual numerical unit under the revised US Immigration and Nationality Act.

As of February 1972, there were 171,999 applicants registered with the US Embassy, decided to go to the United States.

Next to U. S. in absorbing Filipino workers is Canada. From 1965 to 1970 a total of 13,4429 Filipino professionals migrated to Canada. They accounted for about 15 per cent or one-sixth of the Asian total and slightly more than two per cent of the world total. In the past years, Filipino nurses comprised the largest volume of immigrants from the country into Canada. To date, the manufacturing and mechanical trade and clerical workers consist the bulk of Filipino migrants to Canada.

The causes of huge export of manpower and labor were given by Gupta, Watanabe, Kannappan and the Study Committee created by the Secretary of Labor of the Philippines pursuant to Administrative Order No. 195, such as the following:

1) The desire for an adequate income, i.e., the attraction of the dollar. Disparities in the standards of living and per capita incomes between developed and developing countries mean lower salaries in the latter.

2) Better opportunities and working conditions abroad. Research-oriented individuals are not satis-

fied with the research facilities in the country which compare unfavourably with that of highly developed countries.

3) Lack of professional opportunities in the country and poor prospects for the future. There exists a maldistribution of manpower resources as evidenced by the acute shortage of qualified manpower (particularly doctors and nurses) in the rural areas.

4) Under-utilization of professional skills. Gupta asserts that there exists a substantial under-utilization of skills in the country.

5) The desire to acquire additional training or enhance professional standing.

6) The growing structural imbalance in manpower supply and employment opportunities aggravated by the educational system.

The Office of Manpower Services revealed recently that 1,337 or 19.9% of a total of 6,688 Filipino workers who left the country from January to September 1972 consisted of professional, technical and related workers. These were doctors, nurses, midwives, engineers and other professionals wherein 40.3% or 2,696 were workers in transport and communication, while 1,915 or 28.6% were craftsmen. Services and related worker numbered 493 or 7.3% of the total.

In October 1972, professional, technical and related workers who migrated totalled 213 or 16.8% of 1,271, while workers in transportation and communication (seamen) reached 878 or 69.1%.

However, for November last year, more than 4,000 Filipino workers left the country. They have been absorbed, according to the OMS, by foreign industries, mainly shipping and air transport, in several regional locations in the world, namely, the South-east Asia, Trust Territories and Colonies in the Pacific, Europe, United States, Shipping Companies and Middle East.

Actually brain drain can be traced in the under-development of the country.

The problem of migration of physicians and para-medical auxiliary to the advanced countries from Taiwan

In Taiwan, the problem of migration of physicians and para-medical auxiliary to the advanced countries has been existing for more than ten years. Originally, the students who graduated from the Medical Faculty of Taiwan University went to the United States and became interns and residents here. After getting U.S. P.R., they were employed by the public and the private hospitals, or practise medicine themselves after being certificates.

Afterwards, because more and more medico-graduates went to U.S. to earn their living the Medical Hospital of Taiwan University needed more physicians than it could be supplied. Concerned in this problem, the Ministry of Interior regularized that the medico-graduates, before their going abroad, should go into two year service in their own country, but this regulation has been made invalid by the procedure of going abroad study applied by the graduates to the Ministry of Education. Using Student Visa in name, they can not only go abroad but reside semi-permanently in U.S. Meanwhile they tried by any

means, to become employees of public or private hospitals.

Taiwan is a free country and its government would not want to refrain its people from going abroad or taking jobs. Therefore, our country still let most of the graduates of medical college, even those of nursery school, go abroad constantly. With regard to this freedom, neither does Taiwan Medical Association want to limit its members.

What our government wants to do now is to execute the rule of two years service strictly and control the emigrants in name of Student Visa. On the other hand, our government is also trying to raise the salaries of young physicians who devote to their own country. And in order to solve the problems of physician-wantage of local sanitary stations, it is planning to take the measures of one-year service in sanitary stations. Anyway, it is not easy to solve these problems.

Present Status of M.D. Graduates from National Taiwan University

YEAR	No. of Graduates No.	Working in Taiwan						Sub-Total No.	Sub-Total %	Leave Taiwan No.	Leave Taiwan %	Dead No.	Relived or unknown No.
		N.T.U.C.M. No.	On Practice No.	Working in official Hospital No.	Public Health No.	Public Health No.	Public Health No.						
1947	59	2	37	4	2	45	76.3	2	3.4	0	12		
1948	58	9	35	5	2	51	87.9	3	5.2	3	1		
1949	61	6	32	7	2	47	77.1	9	14.8	3	2		
1950	76	7	45	7	0	59	77.6	13	17.1	1	3		
1951	157	9	89	17	2	117	74.5	18	11.5	1	21		
1952	—	—	—	—	—	—	—	—	—	—	—		
1953	100	4	74	5	2	85	85.0	12	12.0	1	2		
1954	71	8	28	7	1	44	62.0	8	11.3	0	19		
1955	181	1	3	0	1	5	27.8	2	11.1	0	11		
1956	68	6	24	7	0	37	54.5	29	42.7	2	0		
1957	63	6	28	3	0	37	58.7	24	38.1	2	0		
1958	72	5	19	9	0	33	45.8	29	40.3	0	10		
1959	68	2	27	3	0	32	47.1	32	47.1	3	1		
1960	69	2	21	4	0	27	39.1	42	60.9	0	0		
1961	89	6	9	5	0	20	22.5	53	59.6	0	16		
1962	79	6	17	11	0	34	43.0	43	54.4	2	0		
1963	86	1	18	1	0	20	23.3	48	55.8	0	18		
1964	95	4	5	4	1	14	14.7	79	83.3	0	1		
1965	91	11	9	10	0	30	33.0	61	67.0	0	0		
1966	94	1	3	6	0	10	10.6	60	63.8	0	24		
1967	91	8	5	6	0	19	20.9	71	78.0	1	0		
1968	86	16	2	4	0	22	25.6	64	74.4	0	0		
1969	97	24	2	5	1	32	33.0	61	62.9	0	4		
1970	99	28	0	5	1	34	34.3	65	65.7	0	0		
1971	83	48	1	4	0	33	63.9	29	34.9	0	0		
Total	1930	220	633	139	15	907	47.0	857	44.5	19	145		
		The Report Supplier — The Public Health Institute of National University											

Brain-drain problems in Korea

By: Chung Huh, M.D.,
*Professor of Preventive Medicine, Medical School,
Seoul National University.*

It is my honour to present to you the brain-drain problems in my country on behalf of the Korean Delegates.

Contrary to a remarkable economic development Korea achieved during the 1960's, the program was to materialize a balanced development of her public health and medical service was not satisfactory.

In spite of continuous efforts made by the Korean Government, many of her public health problems remain to be solved, and many rural areas lack doctors because her public health and medical facilities and personnel are concentrated in urban areas.

As of the end of 1972, the statistics concerning medical personnel in this country were as follows:

There were 16,925 physicians, 2,483 dentists, 19,722 nurses, and 16,636 midwives. Of them all, a total of 7,940 medical personnel including 2,903 physicians, 4,932 nurses, and 105 dentists were staying overseas.

Not including those staying overseas, the above medical personnel were broken down into urban and rural areas as follows: 81 per cent of physicians, 84 per cent of dentists, 88 per cent of nurses, and 61 per cent of pharmacists were either practicing or employed in urban areas.

Meanwhile approximately 50 per cent of medical assistants were working in urban areas. In other words, a relatively great proportion of medical assistants were working in rural areas.

The above statistics indicate that considerably great proportions of physicians and nurses are working overseas. The trends rapidly developed during the decade of the 1960's. In order to improve the public health status of Korea, the Government and other agencies concerned are trying to rectify the trends.

Thus, the problems concerning medical manpower in this country boils down to the unbalanced distribution of medical manpower within the country and its outflow to foreign countries.

Medical personnel are leaving this country, seeking higher rates of pay and better work conditions overseas. This should be stopped at an appropriate level. The concentration of medical personnel in urban areas should also be checked as far as possible for the sake of equal opportunities of medical service for all the people.

To this end the Government has already worked out measures and is now enforcing them to limit the outflow of specialised medical personnel including physicians but not including medical assistants.

In order to rectify the unbalanced distribution of medical manpower within the country, the Government is sending doctors, who are working as residents at the training hospitals, to work for the period of six months in the rural areas.

From 1974, the Government is going to make the newly licensed medical personnel, including medical and herb doctors and nurses, work in the rural areas under the period of two years.

However, until 1976, a total of approximately 1,400 physicians is expected to be yearly turned out from the 14 medical colleges throughout the country. Therefore, the compulsory measures calling for their service in rural areas are believed to be discontinued by that time.

Ultimately, however, many problems, it is feared, will remain unsolved unless developed nations adopt a definite immigration policy to end the introduction of medical manpower from underdeveloped

countries to cover their shortage of medical manpower. Certainly, the developed nations should end their policy of importing medical manpower. At the same time, it is hoped that the public health authorities and medical associations of the developing countries will overcome such problems by trying to train physicians in such a way as to meet their social requirements towards the goal of better public health. Thank you.

Discussion

DATUK (DR.) KESHMAHINDER SINGH (Malaysia) referred to a publication titled "Migration of Medical Manpower" which is a report on an international conference on the movement of doctors sponsored by the MACY Foundation and was held in Italy in 1970. Speakers from 15 countries both developing and developed presented papers at this conference and the papers presented at this conference were very relevant to the subject being discussed. He commented that it was a report worth studying.

He mentioned a few points from this report among which were the factors responsible for the migration of medical graduates from developing (donor) to developed (recipient) countries. The factors which encouraged the doctors to leave their countries (push factors) were:—

(a) Strife which may take the form of social, political or religious tensions in the donor country. Sometimes this strife may be a medical matter such as the introduction of compulsory service in government health schemes.

(b) Material Gain The lower salary offered in the developing countries again acted as a push factor. To this may be added the higher social status they enjoyed in the donor country.

(c) Achievement or desire to fulfil themselves, to achieve or simply to accept a challenge and to prove their ability in a more competitive world.

(d) Intellectual companionship and stimulation at a medical centre in a developed country are added factors.

The factors which resulted in young doctors returning to their own country after a period of post-graduate training in a developed country (pull factors) were:—

(a) Patriotism and love for one's country. A desire to serve in its health programmes etc.

(b) Family and Cultural Ties where the young doctor is unable to adjust himself to the new social and cultural environment of the developed country.

(c) Scholarships Those doctors undertaking post-graduate courses on scholarship generally returned on completion of their course.

It is said that in Canada one-third of the physicians are foreign trained and the proportion of foreigners is increasing. From 1965 Canada has more emigrant doctors than graduates from its own medical schools.

Speakers from developing or donor countries

have stressed that one of the major factors for doctors leaving their countries is for purpose of post-graduate medical training. In Pakistan of the total number of doctors emigrating for higher training or for employment it is estimated that no more than 15% return to Pakistan. However, doctors sent abroad for training on government scholarship and fellowship programmes generally return and during the period of 1962 to 1966 out of 277 doctors sent abroad under such training programmes 250 returned. The major reasons for their not returning are lack of job satisfaction especially with rural postings and the absence of suitable employment opportunities in government service for the highly qualified personnel. Some of these doctors qualify in subjects and specialist fields for which facilities are very limited at home. The recognition of their scientific merit, the opportunity to publish research papers in collaboration with leading and well recognised overseas specialists is not always present. The prestige of a foreign degree in regard to government appointments and promotions and in private practice is also greater thus influencing doctors to seek these qualifications.

The speaker then referred to Malaysia and said accurate figures of the number of doctors who are emigrating from Malaysia are not available but it is believed that the figure is a small one. There is, however, a fear that the figure may increase in the near future as the number of government scholarship offered for overseas training is not very large and it takes many years for a young doctor to qualify for such scholarships? These factors might induce young doctors to go on their own for overseas training and if suitable job opportunities are available they may not return?

DR. G.A. SREENIVASAN (Malaysia) said that some of the blame for the brain drain from a developing country lies in the lack of appreciation of the respective Governments and the people of the value to the country of highly qualified professional personnel. Not sufficient incentive is provided for these people wanting to stay put.

One form of brain-drain in Malaysia is the exodus of doctors from Government service to the private sector. Discriminatory promotions and transfers to rural areas for an indefinite period, overwork leaving little time for study and relaxation, lack of adequate study leave opportunities to better themselves professionally and poor working conditions and salary structure are among the main causes. A

reorientation of thinking on the part of Governments and the public is necessary if we intend to stop this tendency of doctors to look elsewhere for a more congenial atmosphere to work in.

DR. DORA TAN (Malaysia) said that Government in Malaysia just cannot afford to raise the salaries of its doctors to equal what they can earn in general private practice today.

DR. PETER LEE (Hong Kong) said that Hong Kong was fortunate in this respect because of the high rates of pay and good conditions of service. The migration from the public to the private sector was also not a problem in Hong Kong because Government salaries were good and tended to retain their doctors. The Interns received HK\$1400 per mensem and HK\$3500/- plus allowances at the end of one year. Work was available at low-cost clinics paid by the hour.

There was, however, a real problem in that general practitioners tended to go for specialisation. The College of General Practitioners is trying to raise the status of general practice. The sense of insecurity for the future of Hong Kong is driving some of the younger doctors to go abroad even accepting worse conditions than in Hong Kong. Recipient countries tended to treat doctors as cheap labour for example, by restricting their practice to hospitals only, thus making them second-class doctors. This Congress should pass a resolution demanding that equal treatment should be meted out to immigrant doctors as their own.

DATUK DR. KESHMAHINDER SINGH (Malaysia) said that recipient countries should be made to pay to the donor countries the cost of training. Postgraduate training should be developed locally as far as possible because some of the migration of doctors is due to the prestige of foreign training centres.

SIR GEOFFREY NEWMAN-MORRIS (Australia) felt that it would be difficult to restrict or lay down conditions to recipient countries. Sometimes brain drain was due to overproduction.

DR. K.H. LEE (Hong Kong) said that an effective measure to reduce brain drain to overseas was the provision of adequate postgraduate training in the donor countries and better still, the provision of postgraduate examinations for recognised degrees in the donor countries.

DR. GWEE AH LENG (Singapore) said that brain

drain was largely a personal factor. Brain wastage was a far greater problem than brain drain. Only 5 percent of the people of Singapore are able to get adequate training.

DR. RAMON R. ANGELES (Philippines) said brain drain was a big problem in his country, a very high percentage of professionals migrating to U.S.A. He attributed much of the problem to the giving of wrong type of training to local people, the graduates not being fitted to work locally. The Martial Law has introduced a new educational system and forces graduates to work in rural areas of the country.

DR. PRIMITIVO D. CHUA (Philippines)

Our country continues to suffer the migration of professionals (particularly physicians, nurses and other medical auxiliaries) to the advanced countries like U.S.A., Canada, and Europe, not necessarily for professional advancement and training but more for economic reasons, i.e., because of better pay, good living conditions and to attain a status symbol. No legislation has been enacted to limit this exodus of professionals because our government believes in freedom of movement in the pursuit of man's happiness. However, with the imposition of Martial Law, certain restrictions on foreign travels and employments abroad will be forthcoming. It is believed that one of the solutions to discourage the migration of physicians to foreign countries is to offer good Training and Residency Programs for GP's and other Specialists. The Department of Health is now upgrading Medical Services by requiring government physicians to undertake a well-balanced training program for Municipal Health Officers and Hospitals Directors. Other incentives as increased pay and other fringe benefits are being offered. Medicare will also enable physicians to participate and have more paying patients.

DR. H.E. MONINTJA (Indonesia) said that the situation in his country was changing rapidly. Many graduates now want to stay put or return to Indonesia. The latter, however, are not orientated to local conditions.

SIR GEOFFREY NEWMAN-MORRIS (Australia) summed up the points raised in the discussions by saying that there was brain drain from:

- (1) Donor countries to recipient countries,
- (2) Government medical service to private practice,
- (3) Rural areas to urban areas and
- (4) Interdisciplinary exchanges.

It was necessary therefore there should be:

- (1) Adequate conditions of service in donor countries,
- (2) Government subsidies for overseas study,
- (3) Migration restrictions and
- (4) Overproduction.

He proposed the following resolution which was accepted with general consent.

The C.M.A.A.O. is of the opinion that there are three significant factors in controlling the loss of trained medical personnel to other countries:

- (1) The conditions of practice in their own country must provide, (a) proper facilities for practice, (b) job satisfaction and (c) proper financial remuneration.
- (2) The provision of first class postgraduate training in their own countries.
- (3) The provision of Government subsidies for postgraduate training in other countries to selected persons with an undertaking to return.

Other activities for C.M.A.A.O. delegates

SYMPOSIUM ON MEDICAL EDUCATION

The C.M.A.A.O. Delegates and Observers had the opportunity to take part in the symposium on

medical education organised in conjunction with the Annual General Meeting of the Malaysian Medical Association.

MMA ANNUAL GENERAL MEETING

They also attended the opening session of the Annual General Meeting of the Malaysian Medical Association when Datuk Dr. R. P. Pillay, the Director of the General Hospital, Kuala Lumpur was installed as President of MMA for 1973-74 by the out-going President Dr. T. Sachithanandan.

M.M.A. HOUSE

They also witnessed the Prime Minister Y.A.B. Tun Abdul Razak declare open the MMA House. This is a 6-storey building sited on 26,800 sq. ft of land opposite the General Hospital, Kuala Lumpur costing three-quarters of a million dollars.

SOCIAL PROGRAMME

They also had the opportunity of attending the Informal Dinner and meet the members of the Malaysian Medical Association socially at the Dewan Tunku

Abdul Rahman on Friday, 6th April, 1973 and at the Formal Dinner and Dance at Hilton Hotel on Saturday 7th April, 1973.

Arrangements had been made for golf and sight-seeing including a whole-day trip for the wives of C.M.A.A.O. delegates in conjunction with the wives and children of MMA members to the Genting Highlands. Arrangements had also been made for visits to shopping centres and places of interest in and around Kuala Lumpur. A visit to the Suria Batek Factory in Klang and a Fashion Show by "Love Boutique" at the Weld Supermarket at Kuala Lumpur were among the other items of interest organised by Dr. Joan La Brooy and her Committee for the ladies.

Datuk Dr. Keshmahinder Singh the Chairman and the members of his Organising Committee were accorded a hearty vote of thanks by our guests.



M.M.A. FORMAL DINNER

Officials of C.M.A.A.O. sharing a joke with Tun Abdul Razak, the Prime Minister.

(L-R) Dr. Ramon R. Angeles, Professor A. A. Sandosham, Dr. H. Kumagai, Dr. Peter Lee, Dr. R.C. Montes, Prime Minister and Datuk Dr. R.P. Pillay.