

CONSTITUTION  
of the  
EMPLOYERS' ASSOCIATION IN INDONESIA

PERKUMPULAN  
BADAN PERMUSYAWARATAN URUSAN  
SOSIAL-EKONOMI PENGUSAHA  
SELURUH INDONESIA

( P U S P I )

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- 5B, Jl. Kebon Binatang V, Jakarta. Tel. no: 43235 -



## INTRODUCTION

To understand better the new Constitution of the Employers' Association in Indonesia (PUSPI), which was ratified on the 7th of September 1970, it will be advantageous to know also in short the history of PUSPI's development.

### Its Foundation in 1952.

A number of employers established as a response to the demands of time on January 31, 1952 a federation of employers with the particular object to study problems, which were closely related with manpower -- labour -- within the production process.

The primary incentive to this step was the growing awareness among modern employers, that labour, like any other factor of production, needed attention and research and good special care in conformity with the thoughts and ideas initiated and further developed by the International Labour Organisation.

At that time many enterprises were Dutch-owned and this federation was therefore more known as the "Centraal Sociaal Werkgevers Overleg" (The Central for Employers' Deliberations on Social Affairs) rather than as "Permusyawaratan Urusan Sosial Pengusaha di Indonesia" (PUSPI) or "Deliberations of Social Affairs of Employers in Indonesia", the latter mentioned in the Constitution as its official designation.



This organisation -- in conformity with the existing conditions at that time -- catered more to big companies as according to the current opinion, only big enterprises could pay the necessary attention to the manpower -- labour -- in their respective industries.

After going through very difficult times -- although this period could also demonstrate the usefulness of this organisation -- there came the moment that the activities of the organisation were forced to be stopped as being contrary to prevailing government policies.

#### The era of the "New Order".

Only after the return of a more favourable climate in the business world in general with the advent of the "New Order" could the PUSPI make its comeback and increased activities could be started in 1969.

But it was keenly felt during this period of re-awakening, that the old Constitution could not meet anymore the developments taking place in the business world in general and the labour world in Indonesia in particular.

This was not only realised by the PUSPI but also by the Department of Manpower, which made labour its special field of attention.

#### Perfectionizing the PUSPI.

In satisfactory collaboration with the Department of Manpower a meeting was held on March 21 and 22 1970 at Ciloto, attended by a major part of the employers, who came also with their coordinated wishes.

The Minister of Manpower expounded explicitly the important function of the employers within the framework of the new policy, which will be followed in labour relations as delineated in the Law on Manpower (Law. No: 14/1969.

Spontaneously and unanimously a "Preparatory Committee for the Establishment of an Indonesian Employers' Organisation" was created with the special task to investigate the most ideal form of collaboration between employers with regard to labour relations by way of perfectionizing the existing FUSPI.

This committee worked very hard and after only one month, succeeded in delineating a new and more perfect Constitution.

#### The New Constitution.

The draft constitution was submitted to the (old) PUSPI, which accepted it unanimously in its meeting of May 13, 1970.

In conformity with this constitution the abbreviation PUSPI is preserved -- even if the meaning of the name was slightly altered to depict more appropriately the objectives of the organisation -- and its full name becomes "Permusyawaratan Urusan Sosial-ekonomi Pengusaha seluruh Indonesia", (Deliberations of Social-economic affairs of Employers in whole Indonesia), while it was decided that the official name in English shall be "Employers' Association in Indonesia".

Other important provisions included in the new Constitution are concerning :

1. The form of organisation :



1. the form of organisation : This is now an "incorporated society", providing the members with greater rights and duties.
2. membership : It is possible now for small companies to participate in and benefit from the profits derived from their membership in the PUSPI.
3. objectives : These are now made in conformity with Law no. 14/1969.

With this more perfectionized tool it is now expected, that more companies shall apply for membership and be prepared to support the organisation, while also enjoying the services and other benefits which can be provided by the PUSPI.

It is further hoped, that the employers shall actively take part in establishing and maintaining good relations with the Labour in their industries to ensure the success of the government program as delineated in the Five Years Development Plan viz :

"to preserve labour peace and working enthusiasm for the sake of increasing productivity as a contribution to the realization of the Indonesian people's prosperity and welfare" (article 3 of the Constitution of the PUSPI).

Jakarta, February 22, 1971.

CONSTITUTION  
of the  
EMPLOYERS' ASSOCIATION IN INDONESIA  
( P U S P I )

enacted before

SUDJONO

notary public

in

notary public act. no: 6

dated - Jakarta, July 7, 1970

which reads as follows :



1. The first of...  
2. The second of...  
3. The third of...  
4. The fourth of...  
5. The fifth of...  
6. The sixth of...  
7. The seventh of...  
8. The eighth of...  
9. The ninth of...  
10. The tenth of...

PERKUMPULAN  
BADAN PERMUSYAWARATAN URUSAN SOSIAL-EKONOMI  
PENGUSAHA SELURUH INDONESIA  
( P U S P I )  
( EMPLOYERS' ASSOCIATION IN INDONESIA )

Definition or meaning of terms

Article 1.

What is meant under this Constitution by :

" P U S P I " : the Employers' Association in Indonesia.

EXECUTIVE BOARD is : the body referred to under article 3.

M E M B E R is : the company or association referred to under article 6.

Name and domicile

Article 2.

This Association is named Employers' Association in Indonesia, abbreviated "PUSFI" and is domiciled in Jakarta.

Purpose

Article 3.

The purpose of PUSPI is to create and foster a balance



in the field of labor-management relations in the widest sense of the word in the business world so as to preserve labor peace and working enthusiasm for the sake of increasing productivity as a contribution to the realization of the Indonesian people's prosperity and welfare.

Efforts

Article 4.

PUSPI shall achieve its purpose by means of :

- a) studying the role of the working man as a factor in the production process in the widest sense of the world ;
- b) turning this body into a central receptacle for the exchange of views concerning problems relating to labor management relations in the widest sense of the word in order to speed up achievement of a common stand among its members ;
- c) collecting, conducting research and processing information materials connected with problems concerning labor management relations in the widest sense of the word ;
- d) providing information and recommendations to members ;
- e) presenting its views to government bodies and other parties to the extent they are necessary for the achievement of the purpose ;
- f) cooperating and consulting with government bodies and other parties having the same purpose and interest both at home and abroad ;
- g) making all other lawful efforts that are useful to PUSPI's purpose.

Wealth

Article 5.

- 1) PUSPI's wealth consists of :
  - a) entrance fees
  - b) contributions
  - c) donations
  - d) all other lawful income.
- 2) - The amount of annual contributions shall be determined on the basis of the budget prepared annually by the Central Executive Board by considering the need for expenditure for the coming year.  
- The Budget and the decision on the contributions shall be approved by the Meeting of the Plenary Executive Board .
- 3) - Every Branch shall surrender to the Central Executive Board the total amount of contributions it has received from its members.

Membership.

Article 6.

- 1) PUSPI has 3 (three) types of members, namely :
  - a) ordinary members ;
  - b) associate members ;
  - c) honorary members.
- 2) Eligible for ordinary membership are :
  - a) all companies that meet the condition as follows:  
domiciled in Indonesia and having 10 (ten) employees.



- b) all business associations that meet the condition as follows :
- domiciled in Indonesia and having 10 (ten) employees, or having a minimum of 100 (one hundred) association members, or having a minimum of 1000 (one thousand) employees in all association members.
3. Eligible for associate membership are all companies and/or business associations that do not meet the conditions referred to under paragraph 2.
4. - Eligible for honorary membership are persons who have rendered valuable service to PUSPI.  
- The provisions for honorary membership are contained in the Byelaws.
5. - Membership can be obtained at the request of the candidate member.  
- The Central Executive Board shall decide on the acceptance of membership applications.

Article 7.

Membership shall terminate :

- a) in case of a request for resignation from membership which shall be submitted to the Executive Board by registered mail.

In such a case, membership terminates on the last day of PUSPI's fiscal year during which the request for resignation has been received.

Without detracting from the provision of the aforesaid sentence, a member whose request for resignation is received after the first of December shall be obliged to pay the contribution for the next fiscal

year of PUSPI.

- b) in case of death for individuals.  
c) in the case of associations because of their dissolution, on the day of the dissolution.  
d) in case of the dissolution of the company in Indonesia.  
e) in case of expulsion by the Executive Board for failure to pay contribution.

Central Executive Board.

Article 8.

1. The Association distinguishes a Daily Executive Board, a Central Executive Board and a Plenary Executive Board.
2. The Daily Executive Board comprises :
- a) a Chairman
  - b) a First Deputy Chairman
  - c) a Second Deputy Chairman
  - d) a Secretary
  - e) a Treasurer
3. The Central Executive Board comprises the Daily Executive Board with the addition of a maximum of 10 (ten) members.
4. The Plenary Executive Board comprises the Central Executive Board with the addition of 1 (one) representative from each First-Level Region in which PUSPI is found.
5. Members of the Executive Board sit for a term of two years but may be reelected after the expiration of their term with the proviso that to ensure con-



tinuity of operation, every time a new Executive Board is elected at least two members of the old Daily Executive Board are reelected.

6. Eligible for a membership in the Executive Board is a person who assumes a function in the Board of Directors/Management and is the lawful representative of the company or business association which has already become a member of PUSPI.
7. Membership in the Executive Board terminates :
  - a) in case of death.
  - b) in case of requested resignation.
  - c) in case of ceasing to be the lawful representative of a company or a business association.
  - d) in case of expiration of his term and his being not reelected.
8. If it deems it necessary, the Executive Board can request one or more persons to sit in the Board as advisors.

#### Article 9.

- The Central Executive Board is elected by members at the time a Meeting of the Plenary Executive Board is held and efforts shall be made to have the most representative composition in view of the various types of companies.
- The election of the Executive Board is regulated in the Byelaws.

#### Article 10.

1. - The Executive Board is charged with general management of PUSPI.

- The Chairman and a member of the Executive Board designated by the Executive Board shall represent PUSPI within and outside the court with the proviso that the Chairman and the Treasurer are empowered to represent PUSPI outside the court with regard to financial matters.
- 2. In the performance of its task, the Executive Board shall seek in due manner to maintain the widest communications with PUSPI members concerning relevant matters so as to ensure that the views prevailing among the members are made the guidelines for PUSPI.

#### Article 11.

The Executive Board shall itself fill the vacancies that occur therein during the term as referred to under article 8 paragraph 5 and paragraph 7.

#### Executive Board Meeting

#### Article 12.

1. - Executive Board members have each one vote.
- Decisions shall be reached by simple majority.
- These decisions can be made only on the basis of the votes of the majority of the Executive Board members attending the Meeting.
- In case the votes in favor of a particular proposal equal those that are against it, the proposal shall be considered rejected.
- Abstentions in voting shall not be counted.
- Voting shall be conducted orally unless determined otherwise by the Meeting.



2. Procedures for notifications to attend Executive Board meetings and for deliberations and voting at these meetings may be further regulated in the By-laws.

Central Secretariat

Article 13.

1. The Executive Board shall appoint an Executive Secretary and have one or more Bureau Chiefs assist him.
  - The Executive Secretary and the Bureau Chiefs shall be appointed and discharged by the Executive Board.
  - Other employees shall be appointed and discharged by the Executive Secretary with the approval of the Chairman.
2. - On the responsibility of the Executive Board, the Executive Secretary is authorized to carry out everything contained in written instructions issued by the Executive Board.
  - Any action of a financial nature not provided for in the Budget must have the prior approval of the Executive Board.

Branches

Membership Meetings

The right to speak and to vote

Article 14.

1. Branches may be established in First-level Regions.
2. For a region where it is impossible to set up a branch, the Central Executive Board may appoint a Correspondent.
3. Each branch shall manage its own household affairs.

Article 15.

1. A branch membership meeting shall be attended by authorized representatives of ordinary and associate members.
2. If it is considered necessary by the Board or by at least two members, the Board shall fix a membership meeting to hold discussions and deliberations.
3. Every two years, a Branch must convene a Membership meeting to elect the branch representative in the Plenary Executive Board.

Article 16.

1. Every member has the right to speak.
2. Only an ordinary member shall have the right to vote.
3. Decisions shall be made by a simple majority of the votes cast.



4. When the voting on both sides is equal, the motion concerned shall be regarded as rejected.
5. Abstaining votes shall not be counted.
6. Votes shall be cast orally unless otherwise decided by the meeting.

Accounting Year

Article 17.

The accounting year of PUSPI covers the period of time from the first of January through the thirty-first of December.

Audit Committee

Article 18.

1. The Central Executive Board may annually appoint a three member Audit Committee with a term of office of one year.
2. - The Committee members shall be selected from among non-officers.  
- Their appointment by the Central Executive Board must be approved by the majority of the Plenary Executive Board.
3. The Audit Committee shall audit the financial and other records of PUSPI.

Accountant

Article 19.

The Central Executive Board may appoint an accountant to examine the balance sheet, the revenue statement and other accounting records, and the report on his findings

to the Central Executive Board.

Financial Management

Article 20.

1. - The treasurer has the authority over PUSPI finances on behalf of the Executive Board.  
- The Treasurer, with the approval of the Executive Board, has the right to delegate part of his authority to the Executive Secretary.
2. - Before the first of June of every year, the Treasurer shall have submitted to the Central Executive Board his accounting statements for the preceding year and, if available, the reports of the Audit Committee and/or the Accountant for further submission to and ratification by the Plenary Board's Meeting.
3. - Ratification of the said financial statements by the meeting means the release of the Executive Board from its responsibility for the said statements.
4. - Before the first day of October, the Central Treasurer must have submitted a Draft Budget for the coming year to the Central and Branch Executive Boards.  
- Proposed changes in the said Draft Budget must be submitted to the Treasurer not later than the 31st of October.  
- The Plenary Executive Board shall pass the Draft Budget in November.



Byelaws

Article 21.

- The Plenary Executive Board may adopt Byelaws for regulating such matters as have not been clearly provided for in this Constitution.
- The Byelaws may not conflict with this Constitution.

Amendments

Article 22.

1. This Constitution may be amended by the Plenary Executive Board.
2. This article and the provision of Article 3 may not be so amended as to alter the purposes of the Association.

Dissolution

Article 23.

1. The Plenary Executive Board may pass a resolution for dissolving PUSPI.
2. The Plenary Executive Board shall act as the liquidator of PUSPI. However, the Plenary Executive Board may appoint one or more outsiders to act as liquidator.

Article 24.

This Association has been established for an indefinite period.

Concluding provision

Article 25.

Departing from the provision of article 9, the Central Executive Board shall, for the first time, be composed of the following :

Chairman	:	Mr. Harlan Bekti
First Deputy Chairman	:	Mr. Hidayat Suryanatamihardja
Second Deputy Chairman	:	Mr. R. Suhardi Prawironoto
Secretary	:	Mr. Drs. Soerodjo
Treasurer	:	Mr. R. Soetedjo
Members	:	1. Mr. R.M.M. Machribie Reksomadiprodjo
		2. Mr. Ch. J. Soekarja Tirtasoeekatja
		3. Mr. Rusdhi Inam Sudjono
		4. Mr. Delma Juzar S.H.
		5. Mr. Awar Hamid.

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OFFICE BEARERS OF THE PUSPI

Chairman : Harlan Bekti  
P.T. Harlan Bekti Corp.  
Jl. Melawai Raya no: 19  
Kebayoran-baru. Tel. 74251

First Vice-Chairman: R. Soetedjo  
P.T. B.A.T.M.(I) Ltd.  
Jl. Jen. S. Parman no: 14  
Jakarta. Tel. 59211

Second Vice-Chairman: R. Soehardi Prawironoto  
Pertamina  
Jl. Perwira no: 2  
Jakarta. Tel. 5531

Secretary : Oentoeng Soetomo, S.H.  
BKU PN Perkebunan  
Jl. Jen. S. Parman no. 73  
Jakarta. Tel. 59524

Treasurer : Ir. Yamani Hasan  
P.T. Unilever Indonesia  
Jl. Medan Merdeka Bata no: 1  
Jakarta. Tel. 47051

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Jl. Perwira no: 2  
Jakarta. Tel. 5531

Secretary : Oentoeng Soetomo, S.H.  
BKU PN Perkebunan  
Jl. Jen. S. Parman no. 73  
Jakarta. Tel. 59524

Treasurer : Ir. Yamani Hasan  
P.T. Unilever Indonesia  
Jl. Medan Merdeka Bata no: 1  
Jakarta. Tel. 47051



- Members :
1. Hidayat Suryanatamihardja  
P.T. Bhakti Putra  
Jl. Cawang II no. 145  
Jakarta. Tel. 81015
  2. M. Agoes Sahab  
P.T. Union Carbide Indonesia  
P.O. Box 2677  
Jakarta. Tel. 57187
  3. Rusdhi Inan Soedjono  
P.T. Perkapalan, Perindustrian  
& Perdagangan "Carya Ltd".  
Jl. Lodan Kampung Bandan 648  
Jakarta. Tel. 21923
  4. Ir. Djoko Wijono  
Gabungan Pengusaha Gula Indonesia  
d/a Jl. Melawai V/20  
Kebayoran-baru. Tel. 70090
  5. P.H. Simatupang, S.H.  
P.T. Mantrust  
Jl. Jatinegara Barat no: 124  
Jakarta. Tel: 81355
  6. Drs. Soebingar  
Siemens Indonesia Office  
Jl. Kebon Sirih no: 4  
Jakarta. Tel: 51051

7. Let. Kol. Tiksno Murti, S.H.  
P.T. Hotel Indonesia International  
Jl. Kramat Raya no: 158  
Jakarta. Tel. 43781
8. Hasan Satir, S.H.  
P.T. Maskapai Assuransi Indonesia  
Jl. Sultan Hasanuddin Pers. 53/54  
Blok K/V,  
Kebayoran-baru. Tel. 70466
9. Drs. Roesmarsoedi  
P.T. Gunung Agung  
Jl. Kramat Kwitang no. 6  
Jakarta. Tel. 46069
10. Ch. J. Sockarja Tirtasockatja  
I.N.S.A. Daerah Jakarta  
Jl. Dawora no. 10  
Tanjung-Priok. Tel. 291919

SECRETARIAT OF THE PUSPI

Jalan Kebon Binatang V/3B, Jakarta. Tel. 43235

Executive Secretary : Djantani Bakti  
Consultant : Drs. Bakri Burhan  
General Affairs : Kusniah Rh.-



Branches - 18 -

Palembang

Chairman : H.M. Djuaini Mukti, M.A.  
Address of Secretariat :  
c/o GPEI  
Jl. Karet no: 2  
Palembang. Tel. 22495

Jakarta

Chairman : Temporary held by the Chairman of the  
Central Executive Board : Harlan Bekti  
Address of Secretariat :  
Jl. Kebon Binatang V/3B,  
Jakarta. Tel. 43235

Yogyakarta

Chairman : M. Muslim Djalil  
Address of Secretariat :  
c/o Ambarrukmo Palace Hotel  
Jalan Sala  
Yogyakarta. Tel. 3141-50

East Java

Chairman : Ir. Didih Widjaja Kusumah  
Address of Secretariat :  
c/o P.T. Boma Bisma Indra  
Jl. Raya Dr. Sutomo no: 89  
Surabaya. Tel. Darmo 6177-8283

B a l i

Chairman : I.G.P. Wenten, S.H.  
Address of Secretariat :  
c/o P.T. PPN "Nusa Tenggara"  
Jl. Diponegoro no: 113 (atas)  
Bali. Tel. 2550-  
4475





EMPLOYERS'  
ASSOCIATION  
IN INDONESIA

What it is

and what it does

in a nutshell

PUSPI will serve you

Office Hours : Monday -- Friday 07.30 -- 12.30  
13.30 -- 16.30

Address : Jalan Kebon Binatang V/3 B Tel.no.43235  
Jakarta Pusat III/13. Indonesia



### What is PUSPI ?

- It is the name of the Organisation "Permusyawaratan Urusan Sosial-ekonomi Pengusaha seluruh Indonesia". (Employers' Association in Indonesia).
- It is the only Employers' Organisation, which is officially granted by the Minister of Manpower Transmigration and Cooperatives the right to represent the Employers in labour and socio-economic matters related to management-labour relations.

### What does the PUSPI stand for ?

#### Specifically

- to create and cultivate a harmonious balance in the field of employment relations in the widest sense of the word in the business world so as to preserve working security and working enthusiasm for the sake of increasing productivity.
- to have a concerted policy in labour matters that fits neatly into the overall socio-economic strategy of the State.
- to speed up a common stand among its members.

PUSPI has been active to implement its principles since January 31th, 1952.

### What are the reasons in founding PUSPI ?

- As the company—the instrument of the employer—is a social organisation, which has a specific function in the society, so is the employer also a part of the society.  
He can't stay apart neither from the community nor from his fellow — employers.  
Moreover, by pooling their efforts, the employers as a whole will be strong. Strong, to withstand difficulties, but also strong to help their labour—the human factor—have a decent living.
- Help from within the group in the country can be canalised to its advantage and also help from outside parties e.g.

- the International Labour Organisation (ILO) with headquarters at Geneva.

- the International Organisation of Employers (IOE) with headquarters at Geneva.

the Organisation of Employers in other countries.

- other Organisations which can be of help for PUSPI.

PUSPI is always endeavouring and exploring to broaden its relations.

### What program does PUSPI give to its members ?

- Being the spokesman of the Employers concerning labour and socio-economic matters in the field of management-labour relations.
- PUSPI is regularly consulted by competent Government agencies, specifically by the Ministry of Manpower; Transmigration and Cooperatives.  
- In turn PUSPI keeps them constantly informed about the Employers' viewpoints.
- PUSPI studies the role of the WORKING MAN as a factor in the production process.
- PUSPI provides information and recommendations to members connected with problems concerning employment relations.
- PUSPI cooperates with and consults government bodies and other parties having the same purpose and interest both at home and abroad.
- PUSPI is a central receptacle for the exchange of views concerning problems relating to employment relations.
- PUSPI organises guest — lectures of Government officials in their specific branches.
- PUSPI organises guest — lectures of experts and/or other Employers in order to be constantly furnished with up-to-date problems and their solutions.
- through the Ministry of Manpower Transmigration and Cooperatives PUSPI participates in Seminars and/or Technical Meetings held by the ILO, the IOE and/or other International Organisations.



### What is the range of PUSPI's activities

- Because of the consultative status granted by the Ministry of Manpower, PUSPI is often requested to give to them the Employers' viewpoint in Labour and socio-economic matters.
- PUSPI tries to collect, conduct research and to process information materials connected with problems concerning employment relations.
- PUSPI tries to give help/intermediary concerning recruitment, development, remuneration, maintenance of manpower.
- By maintaining good contacts continuously with the competent Government agency, PUSPI is consulted when a member representing the Employers' Group should be nominated in the P4 Pusat or the P4 Daerah—the Central/Regional Arbitration Committee for Labour Disputes.
- Through the International Organisation of Employers (IOE) PUSPI maintains contacts with foreign Employers/Employers' Organisations.
- In consultation with the IOE, PUSPI has succeeded in securing a seat in the Governing Body of the ILO. For the period of 1972-1975 its Chairman has been nominated as substitute member for the Governing Body and also for the Asian Advisory Committee of the ILO.
- As a result of the Seminar on Occupational Health in March 1969 PUSPI tries to implement several aspects of it.
- PUSPI tries to set up and to maintain an up-to-date library relating to labour and socio-economic matters.

### Office-bearers of the PUSPI.

1. Chairman  
Harlan Bekti — P.T. Harlan Bekti Corp.
  2. First Vice-Chairman :  
R. Soetedjo — P.T. B.A.T.M. (I) Ltd.
  3. Second Vice-Chairman:  
R. Soehardi Prawironoto — P.N. Pertamina
  4. Secretary :  
Oentoeng Soetomo S.H. — B.K.U. P.N. Perkebunan
  5. Treasurer :  
Ir. Yamani Hasan. — P.T. Unilever Indonesia
- Members :
1. Hidayat Suryanatamihardja — P.T. Bhakti Putra
  2. M. Agoes Sahab — P.T. Union Carbide Indonesia
  3. Rusdhi Imam Soedjono — P.T. Perkapalan, Perindustrian & Perdagangan "Carya" Ltd"
  4. Ir. Djoko Wijono — Gabungan Pengu-saha Gula Indonesia
  5. P.M. Simatupang. S.H. — P.T. Mantrust
  6. Drs. Soebingar — Siemens Indonesia Office
  7. Let. Kol. Tiksno Murti. S.H — P.T. Hotel Indone-sia International
  8. Hasan Satir. S.H. — P.T. Maskapai As-suransi Indonesia
  9. Drs. Roesmarsoedi — P.T. Gunung Agung
  10. CH. J. Soekarja — I.N.S.A. Daerah Tirtasoekatja Jakarta.
- Executive Secretary — Djamtani Bekti



# OCCUPATIONAL HEALTH IN INDONESIA

by

Dr Suma'mur P.K., M.Sc.



ISSUED BY : THE ORGANIZING COMMITTEE OF THE 7<sup>TH</sup>  
ASIAN CONFERENCE ON OCCUPATIONAL HEALTH



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**ISSUED BY :** THE ORGANIZING COMMITTEE OF THE 7<sup>TH</sup>  
ASIAN CONFERENCE ON OCCUPATIONAL HEALTH.



A BRIEF HISTORY  
OF OCCUPATIONAL HEALTH IN INDONESIA

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OCCUPATIONAL HEALTH IN INDONESIA

BY

DR SUMAMUR P.K., M.Sc.

ISSUED BY : THE ORGANIZING COMMITTEE OF THE 7<sup>TH</sup>

ASIAN CONFERENCE ON OCCUPATIONAL HEALTH



## A BRIEF HISTORY OF OCCUPATIONAL HEALTH IN INDONESIA

When occupational health in Indonesia actually started is unknown. Nevertheless, the traditional medicine had been used to treat war casualties or occupational accidents both in agriculture and manufacturing industry since ancient times. In the 17 th. century the Dutch came to Indonesia, where the United East Company landed for the first time at Jakarta. At the beginning of Dutch colony, Indonesia was made as producer of raw materials, either plantation or forestry products or metals and other materials from mining operation. The existing health service at the that time was military health service that later on changed into civil health service and no any description on occupational health has been found in literature.

In additions, there was regulation whatsoever concerning occupational safety and health at that time. The situation had remained the same until the early decades of the 19 th. century, when industry had been developing considerably, so that the Dutch Authority issued certain requirements for building factories to be safe for the community. In 1853, the boilers law was promulgated for the first time. For comparison, the number of boilers in 1853 was 120 and 2277 in 1898. Afterwards, more and more bigger industries had been built, hence the need for the issuance of the Safety Law in 1905. This law was revised in 1910. If the number of factories between 1910 and 1920 was about 1500, this figure had become 5585 in the next decade 1920 — 1930 in the mining sector, Police Mine Regulation was enacted in 1916. This law contained among others provisions for hygiene requirements in mining operations. In 1927, the Public Nuisance Law came into being. The Government revised the boilers law in 1930. The years 1931 — 1936 was period of economic depression, the industry, however, did not reduce in number, but was only slowdown in their expanding growth. Viewed from occupational health development, no further remarks could be considered important until and during Japanese occupation (1942 — 1945).

In 1945, Indonesia declared her independence. Two years later, in 1947, the Accident Compensation Law was enacted, and then in 1948 the Labour Law passed the Parliament and became effective. Unfortunately, however, neither of the laws had covered sufficient provisions for occupational health. On the other hand, occupational safety already had enough legal support comparatively. For the implementation of the accident law, an advisory physician was appointed in the Ministry of Labour at the early fifties. In 1953, Dr Thiis Evenson, an ILO expert was visiting Indonesia to advise the Government concerning the organization of occupational hygiene and health.



Several years later, the Institute of Occupational Health was founded in 1959 and was headed by Dr T. Karimoeddin, and underwent changes in names and organization as Institute of Occupational Health and Safety (1965) and became the National Institute of Industrial Hygiene and Occupational Health (1967) directed by Dr Suma'mur P.K. In 1964, Ministerial Decree on hygiene and health requirements at workplaces was issued by the Ministry of Labour. In the same year, Indonesia was the host the Fourth Asian Conference on Occupational Health which had stimulated the formation of the Indonesian Association for Occupational Health. The book entitled "Occupational Health", written in Indonesian was published by the Institute (1965), and other book on industrial hygiene and occupational health appeared two years later ; these two books had been written by Dr Suma'mur P.K. From organization aspect, there were two notable events in 1966, first, the creation of industrial hygiene and occupational health services, as an inspecting body, within the Ministry for Manpower, and second, the inauguration of the Industrial Hygiene Foundation in Surabaya. Furthermore, another body named the Industrial Hygiene Consulting Body was established in Bandung a year later. The latter were two private organization having their activities in occupational health. The Indonesian Journal of Industrial Hygiene and Occupational Health was published for the first time in 1968. In that year, Dr M.A. El Batawi visited Indonesia and advised the Government regarding the significance of occupational health in the Five Year Development Programme. The Occupational Health Development was included in the Proramme in 1968. The year 1969 indicated outstanding remarks in occupational health progress in Indonesia. First of all, the Seminar on Health and Productivity, in which about 300 physicians, employers, workers, and scientists participated clearly defined the scope and objectives of occupational health in the framwork of Indonesia's Development. The first official training to 27 occupational health personnel was also carried out in that year Beside that, the ILO Convention no. 120 concerning hygiene in offices and trades was ratified. Furthermore, the basic labour law that contains the general description of occupational health was enacted in 1969. In 1970, the Safety Law that replaces all of the previous laws has since become effective. Looking back at period between 1960 and 1970, several physicians and engineers went abroad for certain specialization in the field. In 1969, the WHO was interested in aiding occupational health development and sent Dr Batawi and Dr M. Noweir to Indonesia.

## OCCUPATIONAL HEALTH AND NATIONAL DEVELOPMENT \*

### I. INTRODUCTION

1. This paper is an attempt to shed light on the relationship between occupational health and National Development as experience gained in Indonesia in all the efforts made to create awareness and acceptance among the policy makers in particular and the public in general on occupational health as one of the important aspects of National Development.
2. The idea of occupational health has been sold in a modified concept suited to the main tasks of the Government as formulated by the Provisional People's Council, in order for it to receive high priority scale. The tasks include the political stability and economic development.
3. Within the framework of economic development, argumentation and factual evidence on the roles of occupational health in productivity improment beneficial for the increase of national production should be presented.
4. Knowledge and technical know-how achieved in other countries, and especially those of the ILO and WHO are guiding principles and have been found very useful in directing the development of the field in harmony with national programmes.

### II. OCCUPATIONAL HEALTH AND PRODUCTIVITY.

1. The idea that occupational health is a factor for increased productivity, as usual, originated from only a small group of persons, both from Government and private sectors, who were convinced that labour protection, is not merely for the welfare, but as means of productivity as well. I, myself, have had the pleasure to be preaching this principle at any possible occasion. And fortunately, one of the group was a newspaperman who always made a wide publication on the matter.
2. It was in 1969, that the Seminar on "Occupational Health and Productivity" in which 300 employers, employees and physicians were participating, reached the national concensus on the significance of occupational health as infrastructure for productivity. The Seminar among others has formulated :

\* Presented in the Firshst Symposium on Occupational Health in South East Asia, Singapore, 1971,



- i). Development and health are two closely - related things. More - over in the more specific scope of the relationship between occupational health and industrialization. Occupational health is an important factor in increasing the production ; and in return, the increased productivity will enable the enterprise to improve industrial health services.
- ii). Occupational health aims at :
  - 1) labour welfare, particularly with regard to their health,
  - 2) the promotion of efficiency in work performance leading to economic gains.
- iii). In line with the ideal of the Nation, the working conditions would not be a tedious and heavy burden for the labourers, but dynamic, healthy and productive ones.
- iv). Occupational health movement in Indonesia is a leaving reality, that is reflected by the growing numbers of physicians, engineers, physiologists, and psychologists, engaged in inplant health services and private or public institutions/agencies for occupational health.
- v). More attempts should be made to facilitate the inclusion of occupational health in the curricula of faculties and academies.
- vi). To implement the productive aspects of occupational health, more physicians, engineers, physiologists and psychologists would be recruited to industry.
- vii). The uniformity of the organization of inplant health services, their functions, and scope, is highly recommended.
- viii). Applied research in occupational health would be performed in a coordinated manner among the related agencies and institution. Any duplication would, as far as possible, be avoided.
- ix). The Indonesian Journal of Industrial Hygiene and Occupational Health would become means of communication for all industrial health activities.

3. To substantiate the relationship, Dr M.A. Batawi mentions the necessity to collect the information on :

- i). The dependence in work performance on basic hygiene and environmental engineering standards that are necessary for sufficient output. This includes the effects on productivity caused by heat stress ; industrial lighting ; airborne dust ; work postures ; man-machine adjustment ; the economization of effort ; preplacement and periodic medical examinations ; and industrial feeding and nutrition.

- ii). The cost of accidents and diseases as compared to the cost of prevention. The cost of curative programme covers : medical treatment, hospitalization and rehabilitation ; absenteeism from work ; destruction of products and production tools by accidents or fires, and suspension of work ; permanent disability.

4. It is the function of the National Institute of Industrial Hygiene and Occupational Health to collect the mentioned data. Due to various limitations and the large number of working population distributed in different sectors of economic activities and spread in 3000 island, however, the health surveys have only covered the importantly considered aspects. Despite the fact, the ill-health conditions that lower the productivity have been clearly revealed such as :

- i). **General illness :** In agriculture, mining, industrial and other sectors as well, the infectious, endemic and parasitic diseases are most prevalent. The illnesses of the respiratory apparatus such as flu and bronchitis constitute 30 — 40% of the diseases. Intestinal affections occupy 15 — 20% of the general maladies. TBC incidence rates are high varying from 3,5 — to 8% of the working population concerned. Parasites are agents which still create problems especially in agriculture and mining operations. In additions, epidemics of smallpox and cholera sometimes occur among the labour force. Beside that the health disturbances due to general illnesses are usually deteriorated by unhealthy working conditions, such as the increased prevalence rates of TBC that correlate with the magnitude of unbearable stress and strain in the job. From the observation made in 1966 — 1967, the absenteeism rates due to sickness were in the range between 3 — 8% of the workers daily.

- ii). **Occupational diseases :** Occupational maladies such as pneumoconioses, occupational dermatoses, industrial poisoning, occupational mental diseases, and others have been actually found in the working population. In a study on respiratory affections among the miners, it has been shown that 1/2% of them had silicosis. Furthermore, an investigation carried out on 20 carders revealed 2 cases of bronchospasm associated with the job, 1 case of repeated bronchitis and two cases of chronic bronchitis. The prevalence rates of the diseases, however, appear to be relatively low due to the lack of reports, insufficient orientation of the physician to make the diagnosis, high labour turnover, and the nature of the job which is still far from full employment. Despite the fact, the health disturbances are sometimes of considerable magnitude like observed in those workers exposed to combination of heat stress and



tobacco dust, many of them during workhours have the complaints of fever, coughs and headache. Deaths resulted from pesticide poisoning have been reported, although the actual number of intoxicated are still not known due to incomplete reports. Generally speaking the chronic effects caused by prolonged exposure to toxic substances are not understood by the employers, despite their recognition of gradual decrease in health conditions after a long period of work. Occupational dermatoses have been particularly seen among those handling chemicals, both in industry and agriculture. In the latter, fertilizers and a few of pesticides have been proved as having caused affections on the skin. In this connection, an organo-mercurial compound, used as fungicide, has been banned due to its highly irritating nature.

iii). **Nutritional status** : As seen from productivity point of view, nutritional status of the workers is often unfavourable. The unsatisfactory condition is the reflection of endemic and parasitic diseases, ignorance with regard to food requirements, low wages, and heavy workloads. Height and weight measurements done for the workers performing their jobs in hot and dusty surroundings have shown the average weight of 46,9 kg, whereas administrative workers of the same height have the average of 52,5 kg. In this connection, there is a tendency indicating the losing of weight among those with very heavy occupational burden. In this case, the individual productivity is, of course, very low.

iv). **Work environments**. The work environments often do not fulfill the requisites for the optimal productivity. Temperature, humidity and air movement result in effective temperature above the comfort zone. Together with the tropical climate, here and there the heat stress index is often more than 1. Lighting as a requirement for doing the job is not seldom neglected leading to eye fatigue and decrease in work efficiency. Noise is often above 80 db. this intensity may not only reduce the productivity, but may also cause damage to the hearing capacity. The atmospheres of the workplaces are often polluted with dusts, gasses, vapours and others, which also effect the productivity and health of the workers. There is no comprehension whatsoever on the threshold limit value and, if any, there is no skill to make the appraisal of the potential hazards. In the evaluation of the effects of hibiscus dusts, the complaints of lack of work enjoyment have been indicated, especially among those exposed to the dusts.

v). **Man and machine**. Planning and concept of the fitting the machine to man, and the improvement of workmethods foll-

owing the progress of modernization aiming at the least energy maximal output are, frankly speaking, not known. It is not seldom, that machine and tools are disproportional to the workers partly due to the fact that machines and tools are still imported, and partly because of the absence of attention. In this regard, awareness among employers should be created. Let us not consider the complicated machine, but just look at the earthbreaking axes, which are now of different sizes and weights, so that selection according to optimal comfort and maximal productivity has been recommended.

vi). **Mental health**. Seen from mental and psychological conditions, workers have passed through social and political unrest with the climax of the last 30 th. - September Movement and have now just reached a phase of inprovement resulted from political stabilization programmes of the Government. In addition, industrial and work psychology only known by big sized establishment and the psycho-test is exclusively practised for preemployment examination. Industrial psychology is not yet used as means for emotional adjustment of the workers to their jobs. Employers are not aware that the practice of psychology will contribute much to the work comfort of the employees.

vii). **Family Planning**. The welfare of the worker's family, which is usually unsatisfactory, is often deteriorated by the ignorance on family planning practice. In this regard, industrial or plantations communities are often located in isolated areas and far from the general community, hence the challenge for the integration of family planning with enterprise health programme.

viii). **Employer's and workers' education**. Employers and workers as well, often do not understand the relationship between health and productivity. They are usually of opinion, that health is merely an aspect of labour welfare, and has nothing to do with productivit. Furthermore, education and information on the matter are very limited in number and quality. As a matter or fact, worker's education on occupational health has only just been recently accomplished.

ix). Similarly is the health programme at plant level, it is still far from the expectation. The emphasis of the programme is, too heavy on curative, with very small efforts on or without preventive measures. As for the correlation between health and productivity, the programme has usually no any idea at all about it. The difficulties lie in the part-time contracts of the physicians, so that the opportunity for developing their specialization in occupational health is very limited.



- x). There have been enough regulations on occupational health, although there are still some needs to develop the shortage of inspectors, lack of skill, insufficiency of equipments and facilities.

### III. OCCUPATIONAL HEALTH PROJECT IN NATIONAL DEVELOPMENT.

1. Having the broader challenges according to the needs of the country, occupational health has widened its scope as follows :

- i). curative aspect, which includes the treatment of all of non occupational diseases,
- ii). preventive measures, both medical and engineering components,
- iii). productivity movement, including ergonomics,
- iv). family planning for the workers.

2. Based on the previous facts, occupational health project has been created in the National Development Programme. The central idea of the Project is skill formation in occupational health with the National Institute of Occupational Health and its regional offices which are in very close cooperation with universities, as the nuclei of the skill development.

3. The Institute in cooperation with Universities has the function :

- i). To train/educate industrial physicians and those practising health for the working population, occupational health nurses, industrial hygienists, employers and workers.
- ii). To perform research in connection with the human characteristics of Indonesia, such as work hours and rest periods, nutrition and productivity, comfortable conditions and efficiency, etc. The findings are useful for better occupational health practice and as standards for legislation.
- iii). To render services to enterprises, in case requested, for the appraisal and improvement of work environments, procedures, and methods, and health programme.

4. All of the organizations are in good cooperation to assess the goal of occupational health :

- i). Various Ministries, concerned with occupational health, are in good contact. Unfortunately, however, the establishment of a national committee on occupational health still needs time for the preparation.
- ii). In some medical faculties, occupational health is given as undergraduate course with theories at the 3rd and 4th year students,

and practices at the 5th class. In School of Public Health, occupational health is still a section in environmental health.

iii). Two private organizations are present and render services to the establishments.

iv). There are about 100 fulltime and 300 part-time physicians working for industries and plantations, all of them need specialization or, at least, orientation course in occupational health.

5. As for the legislation, attention would be given to the following remarks :

i). Viewed from the existing legislations, occupational health has received considerable attention. The field is described in the Basic Labour Law (1969), which is the source of all regulations within the manpower scope. Furthermore, the matters are found here and there in the Safety Law (1970), Ratified ILO convention No. 120, and other regulations based on the mentioned laws. In addition, there are also Workmen's Compensation Law, Public Nuisance Law, and others, which at least, have something related to occupational health. As a matter of fact, there have been enough basic and general regulations on occupational health.

ii). Regarding the standards for work environments, there is already an Industrial Hygiene Code (1964), which for the time being is good enough. This code contains sufficient provision on sanitary and hygiene requirements. The problem however, is the implementation, that needs certain skill of the inspectors to recognize and evaluate the hazards. The Project is supposed to solve this problem.

iii). As for the health care and practice of occupational health, they are still lacking due to the absence of regulations concerning the medical care for the Government employees and the Social Security Fund for the factory workers. The latter still operates on voluntary basis.

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## THE ORGANIZATION PATTERN OF OCCUPATIONAL HEALTH SERVICES IN INDONESIA \*\*

### I. INTRODUCTION

Like in any other developing country, occupational health in Indonesia is growing. Its organization, generally speaking, reflects the philosophy and attitude of both the Government and private sectors, which have shown more interest in the field. This growing attention is due to the understanding that occupational health is an important factor for the improvement of work productivity through the maintenance and promotion of workers' health, more hygienic and healthier workplaces and procedures.

The recent progress of occupational health in this country is marked by the existence of different groups of organization as follows :

1. Government agencies at national, regional and local levels.
2. Inplant health services.
3. Private organizations.
4. Occupational health organization in Medical Faculties and School of Public Health.

Each of them has certain functions, and therefore performs any activities that may cover one or more of law enforcement, training or teaching, research and services. Although not all of them, however, they still contribute to occupational health services. Occupational health training is of course separate from services, but it is essential for the development of inplant health services which conditio sine qua non require personnel properly trained in occupational health. Research works will augment the services. And occupational health legislation will push the development of local occupational health services as required by the laws. Therefore all of those organizations should manifest themselves as best partners in attempting satisfactory occupational health practices at the workplaces.

As mentioned before, occupational health organization in Indonesia depends on the administrative pattern of the country. Since occupational health is closely associated with safety, it is always considered as one aspect of labour problems. The Basic Labour Law (1969) includes occupational health in the scope of labour protection and indicates the need for the Ministry of Manpower to issue standards on the matter. Therefore it would not be surprising, if most occupational health organizations are attached to this Ministry. Putting this fact forward does not at all say about the most suitable place of occupational health in Government administration. One system which has worked very well in one country does not necessarily work well in others. The historical development of occupational health in Indonesia has been as such, that a lot of works have been done within

\*\* Presented in the W.H.O. Inter-Regional Seminar on Occupational Health Training and Services, Jakarta, 1971.

the Ministry dealing with labour affairs, and this process continues. As for the recent situation, where extensive public health services are needed to take care of the health of the labour force, it has created more strengthened cooperation between the two Ministries concerned.

### II. GOVERNMENT'S AGENCIES

As Government's agencies at various levels, there are :

1. The National Institute of Industrial Hygiene and Occupational Health within the Directorate General of Labour Maintenance and Protection, Ministry for Manpower.
2. The Division of Industrial Hygiene and Occupational Health within the Directorate of Occupational Hygiene, Health and Safety, under the Directorate General of Labour Maintenance and Protection.
3. The Division of Labour Health within the Directorate General of Health Promotion, Ministry of Health.
4. The Social Security Fund within the Directorate General of Labour Maintenance and Protection.

The National Institute of Industrial Hygiene and Occupational Health was founded in 1957, but has only since 1966 been called according to its recent name.

Its function are as follows :

1. Training of occupational hygiene and health personnel.
2. Research in occupational health.
3. Services in occupational health and related fields.

The Central Institute is located in Jakarta. Its branches are in Bandung, Semarang, Jogjakarta, Surabaya, Denpasar, and Padang. According to Government policy a Regional Institute will be established in every Province. In the near future the branches in Makassar, Medan and Palembang will be inaugurated. The Central Institute is headed by a Director. Under the Director, there are Training, Research, Field Services and Laboratories Sections, and Secretary. This pattern is also reflected in the regional Institutes.

The Central Institute is planned to have industrial hygiene, ergonomics, industrial toxicology and occupational medical laboratories complete with necessary equipment. The plan also includes a national occupational health library as reference materials for those working in occupational health. The Central Institute employs now 26 technical and administrative staff consisting of physicians, engineers, physiologist, psychologist and others. This number is expected to grow rapidly in the years to come due to the possible recruitment of more health personnel to work in occupational health as stated in the Joint Decree of Ministries of Health and Labour. The Regional Institute will be equipped with field work devices to accomplish more services in the region. Each of the Regional Institutes now has physician and technical staff. Both the Central and Regional Institutes are purposed



to support and stimulate the development of inplant health services both in big and medium enterprises, and to render services to small-sized establishments unable to have their own occupational health programme. In these last three years the Institute has made services to about 352 enterprises and has examined about 4500 workers. The Institute also publishes journal and brochures on occupational hygiene, health and safety disseminated to interested bodies or persons. Further, the Institute has convened about 10 informational Seminars and workshops in different provinces. It cooperates with agencies and bodies more or less involved in occupational health activities. As the Institute is financed by the Government budget, it renders services, at free cost.

The Industrial Hygiene and Occupational Health Service with its future inspectorates in provinces and regencies have the inspecting power. I mention the future inspectorates, because such an inspectorate has existed only in Jakarta. The authority is based on the existing occupational hygiene and health legislation. In the field of industrial hygiene, there is already an Industrial Hygiene Code (1964), which is for the time being good enough but needs more specification and completion. The code contains provisions on sanitary and hygiene requirements. The problem, however, is the implementation, that needs certain skill of the inspectors to recognize and evaluate the hazards caused by the physical and chemical factors of the work environments. As for occupational health, the legislation is still lacking due to the absence of regulation concerning the medical care for the factory labourers and the preventive aspects of occupational health. There is also no labour law on the minimum health requirements. Such regulations that will facilitate the recruitment of physicians to industry, the promotion of occupational health practice, and the specialization in the field are urgent necessities. Although these Services and Inspectorates have nothing to do with services, but they may play significant roles in pushing the development of health services for the working population.

In the Ministry of Health, the Labour Health Service was established in 1966. Its function seemed to help arrange the placement of physicians in industries, plantation and minings. Unfortunately, however, the service has been not active, due to the fact, that occupational health has been handled by the Ministry of Manpower. Recently serious thought is being given to the possibility of establishing a bureau in the Ministry of Health to carry out the function.

The Social Security Fund, which covers 20.000 workers in the scheme of health insurance, has 7 branches and 20 clinics mostly located in large cities. Its main operation is medical care, whereas preventive measure have not yet been covered in the programme. It would be very much helpful, if in the next future, this Fund will broaden its scope by doing preemployment and periodical health examinations, by recognizing and solving the hygiene and health problems that emerge from the segments of the working population that it serves. Or cooperation between the Institute and the

Fund would be of much value in combining curative efforts and preventive activities.

The description of Government occupational health organization would be incomplete without mentioning the National Committee on Occupational Health, which has been recommended by Dr. Batawi. The trend is actually moving towards this direction. The situation, however, still makes it rather difficult to have such a committee due to the general attitude in the country to have simplified Government administration, which therefore only justifies the formation of any Committee of utmost importance.

### III. INPLANT HEALTH SERVICES

I always consider that inplant health services are the actual indicator of occupational health activities. It is the inplant health organization that directly renders occupational health services to the working population.

According to my experience, large and medium establishments usually organize inplant health services according to their capacities and needs. Very large plantations and industries provide medical care for the workers by having clinics, sometimes hospitals, and employing physicians on fulltime basis. As examples, let me take the National Oil Company that employees more than 50 physicians and is building one of the best hospitals in the country. Public Railways Enterprise has 13 physicians. Similarly mining sectors employ many physicians for their mine health services. In addition, they also have done a lot to develop the preventive parts of occupational health. They carry out preemployment and periodic health examinations, immunization/vaccination, nutrition programme, environmental sanitation, etc. And many of them have started occupational hygiene activities and ergonomics.

In many cases, medium sized factories establish clinics that are attended by part-time physicians twice or three times a week. There are about 500 physicians working in this system. They sometimes perform medical prevention, but usually do not carry out industrial hygiene activities. In small sized enterprises, however, there are generally no such provisions for medical care, therefore they benefit much from the presence of Public Clinics in the surrounding or insure their workers in the Social Security Fund. In this case, it would be hopeful to extent public health services to working population primarily of the small sized establishments. As to health service on cooperative basis, it is always recommended, but education is still required in order for the management to take action in this direction.

As indicated earlier, inplant hygiene service in the actual sense is not to be found in Indonesia. No single industrial hygienist is now employed in industry. Despite the fact, a few establishments have now started the programme by providing themselves with simple devices for the evaluation of noise, heat, lighting, etc. And fortunately, the idea of industrial hygiene practice is now more and more attracting management's interest.



#### IV. PRIVATE ORGANIZATIONS

The following private organizations exist in Indonesia :

1. Industrial Hygiene Foundation in Surabaya.
2. Industrial Hygiene Advisory and Consulting Body in Bandung.
3. Indonesia Association of Occupational Hygiene, Health and Safety.
4. Indonesian Association of Occupational Health Nursing.

The Industrial Hygiene Foundation was founded in 1966, whereas the Industrial Hygiene Advisory and Consulting Body was established a year later. Seen from their organizations and functions points of view, both of them are very similar. They are supported by big industries particularly those under the Directorate General of Chemical Industry, University people, and other interested institutions. As private groups, they give services and the establishments pay for the services. In agreement between the two organizations, the Industrial Hygiene Foundation is intended to serve enterprises in the Eastern part of Indonesia, and the Industrial Hygiene Advisory and Consulting Body is for those of the Western part.

The Indonesian Association of Occupational Hygiene, Health and Safety actually dates back to the time just prior to the Fourth Asian Conference on Occupational Health 1964. The latter undoubtedly played a notable role in enhancing the foundation of the Association due to the requisite that it was non-governmental organization that became the host for Conference. The Association was then named the Indonesian Association of Industrial Medicine. Being inactive until July 1971, the Association was reorganized on July 27, 1971 and the recent name has been given to the Association. The primary function of the Association is to develop professionalism through private organization. Although it has nothing to do with direct services, but it certainly contributes much in the promotion of occupational hygiene and health services at the local level.

The Indonesian Association of Occupational Health Nursing has also very recently been organized. Its function is also to grow professionalism through private institution.

#### V. ORGANIZATION IN MEDICAL FACULTIES AND SCHOOL OF PUBLIC HEALTH

As usual, Medical Faculties in several cities and School of Public Health in Jakarta have some organizations of occupational health. In medical schools, occupational health is taught as part of public health teaching for under graduate students. Introductory and theoretical lectures are given at the 3rd and 4th classes. At the 5th and 6th classes, those students carry out practice work in the study areas. They are trained to do some activities such as data collecting or services to industrial population. In School of Public Health, the postgraduate students also perform practice training in the field especially purposed for the completion of their dissertations as required for their academic degrees. There have been a few students who have chosen occupational health as the themes of their dissertations.

Since occupational health teaching is still part of public health such as in medical school, and only a section of environmental health in case of School of Public Health, these activities are too much diluted by the whole programme or curricula of public health in general. Close cooperation between these Universities and the National Institute has been in operation for a long time. Speaking about the teaching staff, it is only in Jakarta that occupational health lecturers are fully qualified in the field. In the rest of the medical schools, the subject is given by public health lecturers.

#### VI. CONCLUSION WITH REGARD TO THE PATTERN

In concluding the description of pattern of occupational health organizations in Indonesia, the following remarks might be of value :

1. Occupational health organization has much more developed within the Ministry of Manpower due to the historical growth of the field and the existing labour legislations. The recent trend, however, indicates that Ministry of Health is becoming more and more involved in the problem and endeavours to extend public health services to the working population. Cooperation between the two Ministries is essential and the Joint Decree reflects this fact. This cooperation could be considered as the embryonic form of the National Committee on Occupational Health as the manifestation of the inter-departmental approach to occupational hygiene and health.
2. The pattern of the organization is characterized by the existence of 4 different groups :
  - a. Government's agencies at national, regional and local levels.
  - b. Inplant health services.
  - c. Private organizations.
  - d. Occupational health organization in medical Schools and School of Public Health.

The full-fledge function and best cooperation among them are indispensable in facilitating the occupational health progress in this country. Although not all of them render direct services to the working population, their functions will contribute to the better hygiene and health practices in different occupations. Therefore, simultaneous and harmonious development of all of them is always recommended and has, actually, been our endeavours.

3. It is here considered that inplant health services are relatively very important. They are indicators of the actual occupational health activities. For this reason, they need guidance for improved fulfillment of their tasks. To reach this aim, the Central Institute with full capacity and its regional centres with field service facilities are essential. Training of inplant health personnel is the function of the Institute. Furthermore, the problems of medium and small sized establishment need to

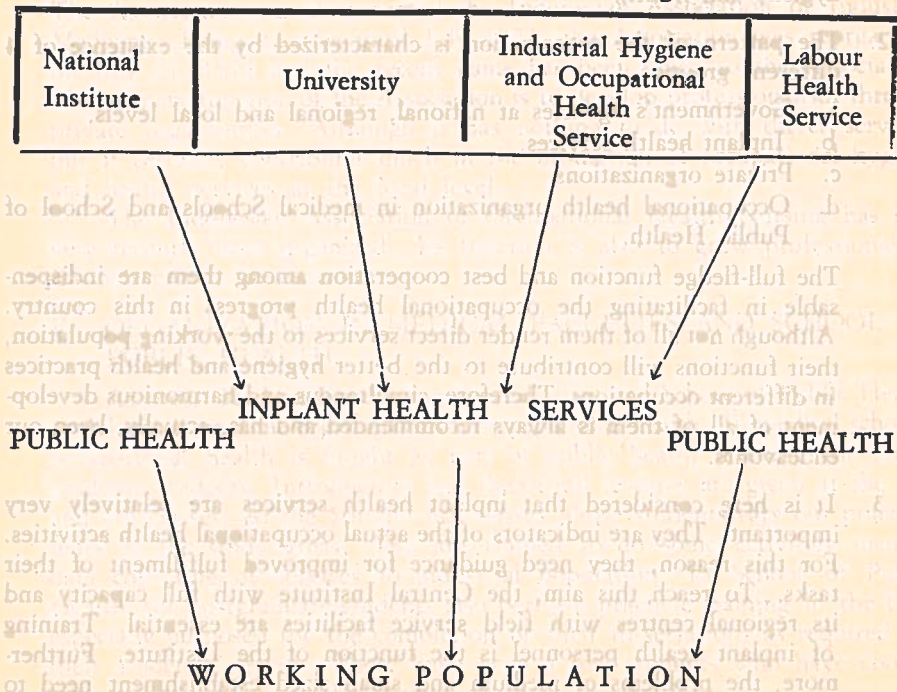


be solved. To meet the challenge, the Regional Institute should promote their action directed to this need, the Social Security Fund should more actively increase its coverage among the working population and also start its preventive aspect of health programme, and public health services should be extended to the agriculture and industrial establishments.

4. So far, public health facilities with several thousands health centres and a hundred of hospitals have not been fully used as health services for the working population. If occupational techniques are trained to health personnel working in these health centres and occupational health practice is also included in public health activities through the centres, this programme, I am sure, will lead to a remarkable achievement in term of health of the labour force. The programme will be very effective especially for the agriculture sector, and medium and small sized industrial establishments.

5. Occupational health services are also performed by Medical Schools and private Institutions. There are 13 Medical Schools in Indonesia located not only in Java, but in other islands as well. Impetus should be given to these faculties to accomplish more services as practice and field training for students. Besides that, other interested bodies should also be stimulated to the same.

**Inplant health services as supported by several organizations.**



**Organization, function and degree of adequacy**

Level	Organization	Function	Adequacy
National	1. National Committee	Highest policy making body Training, Research, Services	In embryonic form In rapid development
	2. National Institute of Industrial Hygiene and Occupational Health		
	3. Industrial Hygiene and Occupational Health Service	Inspection	Needs more specific legislations, personnel, skill and equipment.
	4. Labour health service		
	5. Coordinating medical officers in Ministries	Recruitment of health personnel Coordination	To be activated Requires more professional guidance
	6. Indonesian Association of Occupational Health	Development of professionalism	Very recently established.
Regional	1, 2, 3, 4, 5, 6, 7. Private bodies 8. Universities	Idem Services Teaching, services	Idem Expected to perform more services Hoped to perform more activities
	Inplant health services	Services	Need training Most of them are part-time health personnel. Too much emphasis on curative aspect. The problem of medium and small sized establishments
	Local		



## TRAINING OF INDUSTRIAL PHYSICIANS AND OCCUPATIONAL HEALTH NURSES IN INDONESIA \*\*

### I. INTRODUCTION.

Occupational health activities include training / teaching, services and research on one side, and law enforcement on the other. In comparison, training is relatively very important among those activities. This fact is well understood in Indonesia, so that the Five Year Programme in Occupational Health has the focus on training as means for occupational health skill development.

I would better first of all describe the difference between occupational health training and teaching as it is understood in this country as follows : Training is not, whereas teaching is, connected with formal education. Occupational health training is the responsibility of the National Institute of Industrial Hygiene and Occupational Health, as for occupational health teaching is the responsibility of the School of Public Health and Medical Faculties.

Training is purposed for industrial physicians, occupational health nurses, technicians, work physiologists, industrial psychologists, employers and workers.

Teaching is destined for post graduate and undergraduate students.

This paper will only discuss the occupational training with regard to policies and methods, but limited to the industrial physicians and nurses.

### II. OCCUPATIONAL HEALTH TRAINING POLICIES.

We have some policies with regard to training of physicians and nurses :

1. All physicians and nurses rendering services to the working population need training. This policy has been only recently taken. Beforehand, all of the health personnel working in industries did not have to be familiar with occupational health practice. This policy will lead to the issuance of a Government Decree requiring only those health personnel certified in occupational health are licensed to work in industries.
2. Certification of occupational health personnel is one of the function of the National Institute of Industrial Hygiene and Occupational Health.

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3. In deciding the length of training, short term courses stressing on practice knowledge are more preferable. One year-course leading to an MPH degree seems not to meet the needs on several disadvantageous reasons a.o. the unavailability of the physician to get away for 1 year from his job, the prevalent parttime nature of the physician's contract, and the big number of physicians that need training in short period of time.

4. The curricula are as far as possible adapted to the requirements in the country. The emphasis is much more on practice things directly encountered in practice rather than on theoretical side. Complicated and sophisticated techniques unapplied in daily works should be minimized or avoided.

5. The most important aim is orientation in occupational health with regard to principles and practices, understanding simple techniques of evaluation and correction of environmental factors, in ergonomics, industrial psychology, and family planning for industrial population.

### III. TRAINING CURRICULA FOR PHYSICIANS.

The total time of training for physicians is 68 hrs. Its curricula include clinical lectures (54 hrs.), laboratory works and factory visits (6 hrs. + 8hrs.).

Further specification is as follows :

No.	Subject	Number of hrs.	Syllabus
1.	Occupational health problems in Indonesia	2	<ol style="list-style-type: none"> <li>a. Public health and occupational health.</li> <li>b. Health conditions of the working population.</li> <li>c. Organization pattern.</li> <li>d. Occupational health training, services and research.</li> <li>e. Occupational health development programme.</li> <li>f. Some historical progress of occupational health.</li> </ol>
2.	Inplant health organizations	4	<p>Panel discussion :</p> <ol style="list-style-type: none"> <li>a. Trend in big sized establishment.</li> <li>b. Problems in medium and small enterprises.</li> </ol>



No.	Subject	Number of hrs.	Syllabus
3.	Public health practice in occupational health	2	a. The practice of preventive medicine in industry. b. Medical prevention. c. Technical aspects of occupational health. d. Guidance in preemployment and periodic health check-up. e. Other disciplines as applied to prevention.
4.	The budgeting of inplant health services.	2	a. Guidance in budgeting techniques in inplant health services. b. Problems that usually arise such as the growing health cost. c. Standardizing the drugs.
5.	Preemployment and periodic health examinations.	4	<b>Panel Discussion :</b> a. How to do preemployment and periodic health examinations. b. Standards as to forms, the examination, medical-ethics, etc. c. The responsibilities of physician and of personnel department. d. The use of the data in prevention.
6.	Occupational hygiene, health and safety legislation.	6	a. General labour legislations : Basic Labour Law, Labour Act, etc. b. Existing occupational hygiene and health legislation. c. Existing occupational safety legislation. d. Occupational hygiene and health legislations that need development. e. The implementation and future of Workmen's Compensation Act.
7.	Diagnosis of occupational diseases.	2	a. Definition of occupational diseases. b. Methods of diagnostics. c. Special cases of various occupational diseases. d. Needs to develop skill in recognition and evaluation of the hazards.

No.	Subject	Number of hrs.	Syllabus
8.	Statistics as applied to occupational hygiene and health.	2	a. Reporting and recording. b. Vital statistics and health indexes. c. Statistical hypotheses and tests. d. Current problems.
9.	Pneumoconioses	2	a. Definition and classification of the disease. b. Various pneumoconioses. c. Diagnostic aspect of the disease. d. Preventive measures. e. The magnitude of the problems in Indonesia.
10.	Occupational dermatoses.	2	a. Definition. b. Its causation and the magnitude of the problems. c. Diagnoses and treatment of the disease. d. Prevention of the disease.
11.	Hearing conservation programme in industry	2	a. Occupational hearing loss. b. Medical and industrial hygiene prevention. c. The techniques of using some measuring instruments and hearing evaluating devices.
12.	Industrial hygiene	10	<b>Panel discussion :</b> a. Definition of Industrial hygiene. b. Physical factors : lighting, heat regulation, noise, and other factors. c. Chemical factors : Industrial toxicology, T.L.V., evaluation and correction of the work environments, etc. d. Magnitude of the problems.  <b>Laboratory works :</b> a. Light intensity measurement. b. Heat stress evaluation. c. Noise level measurement. d. Dust appraisal. e. Gas detection. f. Laboratory procedure in cases of pesticide intoxication.



No.	Subject	Number of hrs.	Syllabus
13.	Practicle Ergonomics	2	a. Definition. b. Roles of ergonomics in occupational health. c. Application of ergonomics.
14.	Phychosomatic diseases and psychological fatigue in industry.	2	a. Definition of industrial fatigue. b. Definition of psychosomatic diseases. c. Magnitude of the problem. d. Preventive aspect.
15.	Psychological evaluation in industry.	2	a. Definition of industrial psychology. b. Psycho-test as applied to occupation. c. Psychological factor as causation of ill-health. d. Practical application.
16.	Several diseases as related to occupational condition	4	a. Deteriozation of disease due to occupation. b. Heart disease and work. c. Kidney disease and occupation. d. Tuberculosis problem in industry.
17.	Industrial hygiene	4	a. Industrial waste disposal. b. Standards with regard to factory layout and building. c. Standards of housing for the workers.
18.	Research in occupational health.	2	a. Research problems in occupational health. b. Methods of research. c. Hypothesis and statistical tests. d. Literature works.
19.	Family planning in industry	4	a. Family planning national programme. b. Roles of industrial health service.

#### IV. TRAINING CURRICULA FOR NURSES :

The total training time for nurses is 34 hrs. The training is done in classical lectures. The curricula are as follows :

No.	Subject	Number of hrs.	Syllabus
1.	Occupational health	2	a. Definition, scope and objective. b. History of occupational health. c. Organizational pattern. d. Health condition of the working population. e. Occupational health and national development.
2.	Public health.	2	a. Definition, scope and objectives. b. Relationship between public health and occupational health. c. Public health practice in industry.
3.	Occupational nursing as profession.	2	a. Definition, scope and objectives. b. Difference between industrial nursing and hospital nursing. c. Standing orders. d. Training and certification of nurses working for industries. e. Experience in foreign countries. f. Indonesian Association of Occupational Health Nurses.
4.	Principles of occupational health nursing.	2	a. The importance of preventive measures. b. Nurses as mother in industry. c. Function, responsibility, qualification of occupational health nurses. d. Health education. e. Home visits.
5.	Medical labour inspection.	2	a. Objective of medical labour inspection. b. How to perform inspection.
6.	Occupational health and hygiene legislation.	2	a. The need for legislation. b. Existing labour law on hygiene, health and safety. c. The roles of nurses in the implementation of regulations.



No.	Subject	Number of hrs.	Syllabus
7.	Occupational health statistics.	2	a. Recording and reporting. b. Data analysis. c. The role of nurses in industrial health statistics. d. Hygiene and health indicators as expressed by statistics.
8.	Accident prevention.	2	a. Accident statistics. b. Accident analysis and cause of accidents. Roles of occupational health in accident prevention.
9.	Industrial nutrition.	2	a. Relationship between food and productivity. b. Calory and food intake as required by different job activities. c. Cantine in workplaces. d. Health education. e. Curent problems.
10.	Occupational diseases and its prevention.	2	a. Definition of occupational diseases. b. Preventive measures with regard to the disease. c. Deteriozation of general illness by occupation. d. Several occupational diseases such as pneumoconioses, industrial dermatoses, etc.
11.	First aid.	2	a. Objective of first aid. b. First aid as practiced in industry. c. Practicle knowledge on first aid. d. Requirements as indicated by legislation.
12.	Industrial hygiene.	2	a. Definition, scope, and objective. b. Industrial hygiene techniques with regard to ligthing, heat regulation, noise, dust, gas, etc.
13.	sanitation and air pollution.	2	a. Definition. b. Legislation on industrial sanitation and air pollution.

No.	Subject	Number of hrs.	Syllabus
			c. Some introduction with regard to technical know-how in sanitation and hygiene engineering. d. Roles of occupational health nurses.
14.	Teaching technics.	2	a. How to motivate people. b. Practice of health education. c. Audio-visual aids.
15.	Human relation in industry	2	a. Labour unions. b. Labour-employer relation. c. Effect of industrial relation on ill health of the workers. d. Industrial peace. e. Mayo's experimentation.
16.	Family planning in industry.	6	a. National programme of family planning. b. Demography. c. Role of nurses in family planning programme.
17.	Nursing ethics.		a. Confidential nature of medical data. b. Nurse-physician relationship. c. Good cooperation with existing medical facilities.

#### V. CONCLUSION :

1. Training of industrial physicians and occupational health nurses is an essential part of occupational development programme in Indonesia.
2. Training of occupational health personnel is the responsibility of the National Institute of Industrial Hygiene and Occupational Health.
3. In the future, only physicians and nurses already trained in occupational health will be entitled to work in industries.
4. Short-term courses are more preferrable and considered to meet the needs rather than one-year course leading to a degree.
5. Curricula with practicle knowledge and techniques are deemed suitable.
6. Training is a continuous process which needs adjustment in accordance to the requirement.



# INDUSTRIAL HYGIENE, OCCUPATIONAL HEALTH AND SAFETY LEGISLATIONS IN INDONESIA \*

## I. INTRODUCTION.

This paper is an attempt to describe the legislations in the fields of industrial hygiene, occupational health and safety in Indonesia. There have been some writings on the matters scattered here and there, but none of them has treated the problem comprehensively. In addition, there have been recently some changes in the legislation, which have not been — considered in the previous papers.

Beside that, the paper is also intended to shed light on the need, if any, for the further development in the legislations. In this connection, we believe, that legislations, which have the compulsory power, and therefore always stimulate the growth of the fields, would always keep up with current situation and expectation of the future as well.

Furthermore, by presenting the paper in the Sixth Asian Conference on Occupational Health, valuable information exchange on the matters would have taken place for the mutual benefits in endeavouring better legislation in the respective countries.

## II. HISTORY.

Looking back into the past, there had been no regulation whatsoever until 1852, when the first boilers law was enacted. The Dutch Authority at that time considered the importance of having the law, because the number of boilers had been tremendously increasing to meet the need for the industrial development. Afterwards, more and more bigger industries had been built, so that the First Safety Law was promulgated in 1905. This law was replaced by the new Safety Law in 1910. For illustration, the number of factories between 1910 and 1920 was 1500, and it became 5585 in the next decade, which clearly showed the remarkably rapid growth. In the mining sector, Police Mine Regulation was issued in 1916, this law a.o. contained provisions for hygiene requirements concerning mining operations. In 1927, the Public Nuisance Law came into being. Later on, the Dutch Government revised the boilers law in 1930. The years 1931 - 1936 was a period of economic depression and no further development could be seen in that particular time regarding the legislation. Similarly until 1942, when the Dutch era had ended, no notable remarks could be considered important in the matter. Likewise was the period of the Second World War from 1942 to 1945.

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In 1945, Indonesia declared her independence. Two years later in 1947, the Accident Compensation Law was enacted, and then in 1948 the Labour Law passed the Parliament and gradually became effective. These two laws provided only general measures, but not in a more specific manner, therefore Government or Ministerial decrees were required for the implementation. Due to many reasons, it was only in 1964, the Ministerial Decree No. 7 on Hygiene and Health Requirements at Work places was issued. Further on, Indonesia has become ILO member since 1950, therefore in 1969 the Country ratified ILO Convention No. 120 concerning hygiene in offices and trades. This fact broadened the scope of inspection, from those engaged in labour-management relations, to those like the self employed, to those engaged in trades, etc. It was easy to observe, that two kinds of legislations, first, the ones inherited from the Dutch time, and second those which had been newly enacted during the independence, were still effective. To change the system, the philosophical background should change, hence the enactment of the Basic Labour Law in 1969. This Law is now the source for all regulations concerning the labour problems. Since industrial hygiene, occupational health and safety are three aspects in the labour maintenance and protection, these matters are mentioned in the Basic Law. One year later, in 1970, new Safety Law that replaced all of the previous has since become effective.

## III. BASIC LABOUR LAW (1969).

In the consideration of this law, it is stated :

- 1). that manpower is the resource and agent for the Development of the Pancasila Society.
- 2). that the main objective of the Development is the welfare of the people, including the working force.
- 3). that for the labour force as executor of the Development, their rights shall be secured, their responsibilities shall be regulated, and their productivity shall be developed.  
The Law covers :
  - 1). The definition and basic principles concerning the manpower.
  - 2). The manpower management includes :
    - a. the supply, distribution, and utilization of the labour force,
    - b. the skill development,
    - c. the labour protection,
    - d. the industrial relation,
    - e. inspection of the implementation.
  - 3). In labour protection there are two articles saying that :
    - A). A worker has the right for protection with regard to safety, health, morality, work morale and treatment in harmony with human dignity and religious ethics.



B). The Government develops labour protection covering :

- a. the norms for occupational safety ;
- b. the norms for occupational health and industrial hygiene ;
- c. the norms for works ;
- d. the compensation, medical care for and rehabilitation of occupational accident.

4). Further explanations regarding industrial hygiene, occupational health and safety are as follows :

- a. Occupational health and industrial hygiene norms cover the maintenance and promotion of the health of the workers, accomplished by regulating the medical care, by regulating the workplaces, work methods and work conditions that fulfill occupational health and industrial hygiene requirements for the prevention of diseases, either of occupational origins or of general nature and by establishing the requirements to housing for the workers.
- b. Occupational safety norms include the safety related to machines, engines, work tools, materials and their processings, the work place and its environments, and workmethods.

As a basic law, the Basic Labour Law contains only the general principles and is not expected to specify the details with regards to implementation. The basic Labour Law has declaratory function. The advantage of having industrial hygiene, occupational health and safety mentioned in the Law is that the fields are in the picture of manpower scope, therefore they could be regarded as important aspects. It is necessary to know, that in the Basic Law for Health no single word mentions occupational health and safety.

#### IV. SAFETY LAW (1970).

The Safety Law was enacted in 1970 and has since replaced the Safety Regulations promulgated in 1910 and its further regulations.

In the consideration of the Law, there are following statements :

1. Worker in doing the job has the right for safety protection, purposed for his welfare, and the promotion of national production and productivity.
2. Any other person in the work place is also entitled for safety protection.
3. Any production resource needs to be used and utilized safely and efficiently.
4. Therefore efforts should be attempted to develop the labour protection norms.

The Safety Law contains :

1. Definition of the terms used.

2. The scope of the Safety Law.
3. Occupational safety requirements.
4. Supervision.
5. Guidance.
6. Health and Safety Committee.
7. Accident reporting.
8. Right and obligation of the worker.
9. Responsibility of any person on entering the work place.
10. Responsibility of the employers.

The scope of the Law is occupational safety in all workplaces, on the ground, underground, on the water surface, under water and in the air, within the jurisdiction of the Republic or Indonesia Further specifications indicate that the workplaces are those, where :

1. machines, engines, tools, equipments, devices, or installations which are hazardous or potentially may cause accidents, fire or explosion, are made, tested, used or utilized.
2. materials or goods which are explosive, easily catch fire, are irritating, toxic, may cause infection, are of high temperature, are produced, handled, used, utilized, sold, transported, or stored.
3. the construction, repair, maintenance, cleaning or demolition of a house or a building including water works, channels, or underground tunnels, etc. or the preparatory stage of the mentioned work is being done.
4. activities regarding agriculture, plantations, forestry, wood processings and other forest products, cattle raising, fishery and establishments related to health are performed.
5. activities in the field of mining and processing of gold, silver, metal or other ores, stone, gas, oil or other minerals, are performed, on or under the ground ,or on the bottom under the water.
6. goods, animals, or men are transported on land, through tunnels, on the water surface, under water, or in the air.
7. loading and unloading cargos in/on ship, boat, quays, docks, station, or ware house, are performed.
8. activities of diving, collecting of goods, and other activities under water are performed.
9. activities are conducted above the ground or the water level.
10. activities involving risks of being buried, hit or struck, of falling, stumbling or being dragged, are done.
11. activities are performed in tanks, wells or holes.



12. there are heat, high humidity, dusts, dirt, fires, smokes, vapours, gas, draught, wind of high speed, bad weather, radiation, noise and vibration.
  13. activities are related to education, training, experiment, research or the use of technical apparatus.
  15. electricity, gas, oil or water, is generated, produced, stored and distributed.
  16. films, performances and other recreation using electric or mechanical apparatus are shown.
- By using Government of Ministerial Decrees, the safety requirements shall be more specified.

Those decrees shall include :

1. The norms for the prevention and elimination of occupational accidents.
2. The norms for the prevention, elimination and suppressive measures for fires.
3. The norms for the prevention and elimination of the hazards caused by explosive materials.
4. The regulation concerning the rescue in case of fire and other dangerous situations.
5. The aids given at the event of an occupational accident.
6. The standards for the personal protective devices.
7. The preventive measures at the source and the prevention of the spread of heat, humidity, dust, dirt, smoke, gas, draught, bad weather, radiation, noise and vibration.
8. The prevention and the control of the cause of any occupational illness due to physical or psychological factors, poisoning, infection and its contagion.
9. The standards for adequate illumination.
10. The standards for temperature and humidity.
11. The norms for cleanliness and good house keeping.
12. The norms for harmonious adjustment between man and tools, and work procedure and processes.
13. The safeguarding of the transportation of men, animals and goods.
14. The safeguarding and maintenance of all kinds of buildings.
15. The safeguarding of loading/unloading, handling and storage of goods.
16. The norms for prevention of hazards due to electricity.
17. The intensification of safeguarding for works with increasing risk of hazards.

In addition, safety requirements concerning the planning, production, transportation, circulation, trade, installation, use, utilization, maintenance

and storage of the materials, goods, technical products, and production apparatus which are or may potentially be hazardous shall be issued (Safety Law, article 4).

The Law is administered by the Ministry of Manpower, and the inspectors supervise the implementation. In his job, the inspector is assisted by person qualified or expert in safety who is appointed by the Minister of Manpower (articles 5 and 6).

Regarding the development of good safety practice, the Law provides the following clauses :

1. The employer shall inform every new employee about :
  - a. the conditions and hazards which occur or may occur in the workplaces.
  - b. the protective measures and personal protective devices used or prescribed.
  - c. the safe work methods for conducting the job.
2. The employer is only justified to employ the workers who have understood how to work safely according to the labour agreement.
3. The employers shall guide his employees to prevent accidents, to eliminate fires, to promote safety and health, and to render first aid help.
4. The employer shall fulfill and observe the effectiveness of the terms of health and safety conditions in the workplaces (Safety Law, article 9).

As for the health and safety committee, the Safety Law, article 10, states :

1. The Minister of Manpower is entitled to appoint safety and health committees for the development of cooperation, mutual understanding between, and effective participation of the employers and employees in the promotion of safety and health.
2. The organization of the committee shall be regulated by the Minister.

Regarding the accident reporting the employer shall report any accident at the workplace under his control to the authority appointed by the Minister of Manpower (Safety Law, article 11).

The obligations and rights of the employers and workers are as follow :

1. The obligations of the workers are :
  - a. to provide correct information to the inspector or safety expert, in case requested,
  - b. to wear the personal protective devices,
  - c. to obey the obligatory terms of employment related to safety and health.
  - d. to object the employment where the safety and health requirements and the personal protective devices are in doubtful condition.
2. The responsibilities of the employer are :



- a. to place the written health and safety obligation at the workplaces.
- b. to hang the safety pictures and other guidance at the place easily seen by the workers,
- c. to provide the workers and other persons entering the workplaces with personal protective devices and the necessary instruction regarding the use of the devices.

As stated above, the Safety Law (1970) has replaced the Safety Law 1910, hence the regulations based on the Law as well. According to article 17 of the Safety Law, all of those regulations/codes are still effective until the issuance of the new ones. Under here are the regulations still considered valid :

#### V. SPECIAL REGULATIONS :

1. **Special Regulation AA** that covers the first aid for occupational accidents.
2. **Special Regulation B** which regulates the electrical installations.
3. **Special Regulation CC** on sugarplants.
4. **Special Regulation D** regarding reservoirs for compressed air used as starters for motors or engines.
5. **Special Regulation E** concerning factories and workplaces where inflammable materials are used, produced or sold.
6. **Special Regulation FF** that deals with factories producing and compressing gases.
7. **Special Regulation G** that regulates the installation of film projectors.
8. **Special Regulation HH** regarding factories using or producing lead-white.
9. **Special Regulation II** concerning the installation of acetylene producing plant.
10. **Special Regulation K** regarding factories producing, using or handling explosive substances.
11. **Special Regulation L** that regulates the safety measures regarding the operations of driving and floating tanks.
12. **Special Regulation N** that contains provisions on glass factory.

#### VI. ACT AND REGULATIONS WHICH ARE WHOLLY OR PARTIALLY VALID :

1. Safety Act of 1910, statute no 406, which regulates the safeguarding of factories and workplaces.
2. Safety Ordinance of 1930, statute no 255 and Steam Regulation on 1930, statute no. 339.

3. Electricity Ordinance of 1890, statute no. 190, regarding the installation of high voltage-electricity.
4. Enterprise Railway Ordinance of 1938, statute no. 595 and Enterprise Railway Regulation of 1939, statute no. 39.
5. Firework Ordinance and Regulation of 1932 and 1933.
6. Lead white ordinance of 1931, statute no. 509.
7. General regulations concerning the use of railways as common transportation, statutes of 1926 no. 334, and 1927 n. 295.
8. Mine Police Regulation that contains the safety requirements in mining.

Up to present time, the Industrial Hygiene Code (1964) is regarded as a regulation containing the most complete sanitary and hygiene standards for he workplaces.

This code contains :

1. Standards for cleanliness.
2. Standards for the building and the floors of the workplaces.
3. Standards for sanitary facilities such as latrines, drinking water, bath-rooms, canteens, etc.
4. Standards for workmethods.
5. Standards for ventilation.
6. Standards for illumination.
7. Etc.

The Mine Police Regulation (1916) deals with the hygiene and safety on the mining sector. Supervision of the law is done by the Ministry of Mining. As has been described above, the Safety Law (1970) covers also the Safety in underground works, hence the mining hygiene and safety. Therefore, new regulations should be issued to comply with the new development.

#### VII. WORKMEN'S COMPENSATION LAW (1947 — 1951).

This law is usually called Accident Law, which is a misnomer. It was enacted in 1947, but began to be effective, 4 years later, in 1951. The Law regulates the compensations for occupational accidents and diseases. Seen from the inadequate amount of benefit obliged for the compensation to keep up with the high rate inflation in the past, this Law should have undergone several revisions. Similarly if it is seen from the disability evaluation, which only considers the anatomical loss, but not the psychological and socio-economical components.

1. Under here are listed several important provisions of the Law such as :
  - a). In a benefit-liable undertaking the employer shall be bound to pay compensation to any employee who suffers from and considered as an accident.



- b). Any disease caused by employment shall be considered as an accident.
- c). When the employee dies to such an accident, the above obligations shall apply to the employee's family.
2. The further specifications of the benefit liable establishments are :
- undertakings in which one or more machines are in use,
  - undertaking employing liquefied or compressed gases that liquefy by pressure,
  - undertakings utilizing solids, liquids or gases which are of high temperature or are inflammable, and materials which are corrosive, explosive, poisonous, infectious, or in any other way dangerous or injurious to health,
  - undertaking as for the generation, transformation, distribution or storage of electricity,
  - undertakings for the production and processing minerals,
  - undertaking for the transportation of men or goods,
  - undertaking for the loading and unloading operations,
  - undertakings for the construction, repair or demolition of buildings, tunnels and roads,
  - forestry undertakings,
  - undertakings for radio-broadcasting,
  - farm undertakings,
  - estates undertakings,
  - fishery undertakings.
3. The compensation shall consist of the following :
- free transport for the injured to his home or to hospital.
  - free medical treatment and hospitalization from the date of injury until the end of temporary disability.
  - Cash benefits as follows :
    - temporary disability (in this case, the cash benefits equal to the daily remuneration shall be paid for each days from the date on which the whole or part of the employee's remuneration until a maximum of 120 days, afterwards the daily benefit shall be reduced to 50%).
    - permanent partial disability (in this case, the cash benefit following a certain table of percentages shall be paid beginning from the termination of cash benefit for temporary disability).
    - permanent total disability (in this case, the cash benefit shall be paid according to 50% of the daily remuneration, or 70%, if the employee is on constant dependency of another person, beginning from the cash benefit of temporary disability).

- the monthly benefits can be converted to a lump sum with maximum of 48 times the monthly benefit. In this case, the employee or the surviving family will not be left in need after the payment of the lump sum.
- if an employee dies, the widow shall receive 30% of the daily remuneration, every child 15% etc.
- compensation payable for permanent partial disability :

Loss of	Percentage daily remuneration
Right arm from the shoulder	40
Left arm from the shoulder	35
Right arm from or above the elbow	35
Left arm from or above the elbow	30
Right arm from or above the wrist	30
Left arm from or above the wrist	28
Both legs	70
One leg	35
Both feet	50
One foot	25
Both eyes	70
One eye	30
Auditory capacity of both ears	40
Auditory capacity of one ear	10
Thumb of right hand	15
Thumb of left hand	12
Fore finger of left hand	9
Fore finger of right hand	7
Any other finger of right hand	2
Any other finger of left hand	3
One big toe	4
Any other toe	3

#### Notes :

- For left-handed persons the words "right" and "left" in case of loss on an arm, hand or finger are to be reversed.
- In the event of loss of more than one limb the various percentages are to be added, the total percentages, however, in no case shall exceed 70.



VIII. I.L.O. CONVENTION NO. 120 CONCERNING HYGIENE IN OFFICES AND TRADES.

The Convention was ratified in 1969. The supervision is carried out by the Ministry of Manpower. By having ratified the Convention, the scopes of industrial hygiene and occupational health have expanded from those factory workers and miners to those engaged in administrative works such as employees in the offices and trades.

The most important contents of the Convention are :

1. All premises used by workers, and the equipment of such premises, shall be properly maintained and kept clean (article 7).
2. All premises used by workers shall have sufficient and suitable ventilation, natural or artificial or both, supplying fresh or purified air (article 8).
3. All premises used by workers shall have sufficient and suitable, natural lighting (article 9).
4. As comfortable and steady temperature as circumstances permit shall be maintained in all premises used by workers (article 10).
5. All workplaces shall be so laid out and workstations so arranged that there is no harmful effect on the health of the worker (article 11).
6. A sufficient supply of wholesome drinking water or of some other wholesome drink shall be made available to workers (article 12).
7. Sufficient and suitable washing facilities and sanitary conveniences shall be provided and properly maintained (article 13).
8. Sufficient and suitable seats shall be supplied for workers and workers
9. Suitable facilities for changing, leaving and drying clothing which is not worn at work shall be provided and properly maintained (article 15).
10. Underground or windowless premises in which works is normally performed shall comply with appropriate standards of hygiene (article 16).
11. Workers shall be protected by appropriate and practicable measures against substances, processes and techniques which are obnoxious, unhealthy or toxic of for any reason harmful. Where the nature of the work so requires the competent authority shall prescribe personal protective equipment (article 17).
12. Noise and vibrations likely to have harmful effects on workers shall be reduced as possible by appropriate and practicable measures.
13. Every establishment, institution or administrative service or department thereof, to which this Convention applies shall, having regard to its size and the possible risk :
  - a). maintain its own dispensary or first-aid post ; or

- b). maintain a dispensary or first aid post jointly with other establishments, institutions or administrative services, or departments thereof ; or
- c). have one or more first-aid cupboards, boxes or kits.

IX. REGULATIONS - CONCERNING MEDICAL CARE.

There have been no special regulations dealing with medical care for factory labourers. There are laws, however, which are concerned with Government employees and plantation and forestry workers. In addition, there is voluntary health insurance for the workers under the Social Security Foundation, Ministry of Manpower.

Presidential Decree on the Health Care for Government Employees and the retired employees and their dependents regulates among others :

1. 5% of the basic salary is collected in the Welfare Fund that finances the health care cost for the employees (article 12). Beside that the Fund is receiving aid from the Government or collecting some money from its business (article 12).
2. The Government employee is entitled for the following services :
  - a. Treatment/hospitalization/immunisation by :
    - 1) physician/dentists, both Government and private.
    - 2) clinic or hospital, both Government and private.
  - b. Confinement in Delivery Hospital by a physician/midwife, both Government and private.
  - c. medicine from Government or private pharmacy according to prescription by physician.
  - d. medical devices which have healing effects according to physician's prescription.
  - e. the purchase of eye glasses beneficial from the health point of view and prescribed by physician (article 3).
3. The examination by the specialist is justified if referral is done by a general practitioner (article 4).
4. The treatment/hospitalization in the hospital/delivery hospital in the third class, the examination/treatment by physician, including specialist, medicines and clinics, the drugs, the eyeglasses (including the frame) are fully paid by the Fund. The hospitalization in the second class is 60% reimbursed, and in the first class 40% (article 8).

Effective for plantation and forestry workers, there are Supplementary Planters Regulation 1938 art. 13 and Panglong Health Examination 1920 art. 21 and 1929 art. 20.

The Social Security Foundation operates based on Decree of the Ministry of Labour No. 15 (1957) providing for care and/or cash benefits to employee and their dependents in cases of sickness, pregnancy, confinement or death.



The Decree among others states :

1. a. With the agreement of the Board and of the employees concerned, an employer may insure the employees, working in his undertaking, in the Foundation.
- b. The foundation may accept insurance only for an amount of wages up to and including Rp. 1000,— per month for any one employee ; any portion of wages which exceeds such amount shall be disregarded.
- c. Employees shall pay contributions to the Foundation equal to 1% of their wages, through the intermediary of the employer.
- d. Employer shall pay contributions to the Foundation equal to 3 percent of the wages of the employees.
- e. The Ministry of Manpower grants a subsidy to the Foundation every month equal to 2% of the wages of the employees.
2. a. Employees and their families shall be entitled to care and/or cash benefits in cases of sickness, pregnancy, confinement or death.
- b. When an employee is sick, he shall be entitled to free care in the form of medical examinations, treatment and medicines in a polyclinic belonging to or designated by the Foundation and to hospital care where necessary in a hospital designated by the Foundation. The care shall be provided for a period not exceeding six months and shall start from the first day of sickness. Where after six months an employee has not recovered, the Board may decide to extend the period of care, at most, for another six months.
- c. In the event of pregnancy, a female employee shall be entitled to free care in the form of consultations (prenatal examinations) in a polyclinic belonging to or designated by the Foundation. Within a period after her confinement, a female employee shall be entitled to free care in the form of examinations or herself and for her newborn child.
- d. The same right applies to the member of the family or the insured employees.
- e. Where an employee is incapacitate for work for more than two days as a result of sickness and for this reason he is not in receipt of wages, he shall be entitled to receive sickness benefits.
- f. Where a female employee is confined, she shall be entitled to a confinement grant from the Foundation.
- g. Where an employee dies, his surviving spouse shall be entitled to a funeral grant.

The Foundation started with pilot projects in 1908 and it has now covered about 20.000 workers all over Indonesia. The scheme is still voluntary, but intends to move towards a compulsory basis by which the

Foundation will hopefully give adequate medical care for the labourers, especially of the medium and small sized establishments.

Despite the fact, that no overall legislation concerning the medical care for the factory labourers, at the plant levels there are Director's Decrees that arrange the health care for the workers, and often for their dependants as well, according to the financial capacity. Such an arrangement could be found in big establishments like the National Oil Company, Textile Public Enterprise, Railway Public Enterprise, etc.

## X. OTHER LAWS.

### A. The Labour Law (1947 — 1951).

The Labour Law was enacted in 1947 and declared partially effective by a Government Regulation in 1951. This Law regulates the workhours, annual leaves, for female workers, the employment of children, youth, women, workconditions, etc. Seen from industrial hygiene and occupational health points of view, it is only the article 16 that has relationship to the matters. This article states that employer shall provide workplaces and housing facilities that fulfil health requirements. Unfortunately, However, this article has never been effective. An interesting provision of this Law, is that women workers shall not be compelled to work on the first two days of her menstruation period (article 13).

### B. Public Nuisance Law (1927).

The Public Nuisance Law was enacted in 1927. The Law is purposed as preventive measure for any hygiene and health disturbance to the community resulted from the establishments. An article of this Law indicates, that without licence it is prohibited to establish the following workplaces :

1. in which machines using steam or gas engines will be installed, similarly the ones with electric power and other workplaces where steam, gases or compressed steam are utilized.
2. which are destined for manufacturing, handling and storing amunition and other explosive materials, including the factories and storage places for fireworks as well.
3. which are purposed to manufacture the chemical substances, in which match factories are included.
4. which are purposed for manufacture, handling and storage of volatile substances.
5. which are used for the dry extraction without water of the materials of plant or animals origin and to handle the products of the mentioned processes, in these the gas factories are included.
6. which are purposed for the production of fats and raisins.
7. which are used to store and process the wastes (soyabeen wastes or garbage).



8. used for the production of bean sprouts, of any kind, bean, spiritus, vinegar, flour, bread, and fruit syrups.
9. used for the slaughter of animals, skinning, handling of inner organs of the animals, drying, smoking and salting of materials of animal origin, and tanning.
10. used as porcelain and ceramic industries, used for the heating process for glass production, the heating of limestone and the crushing of the limestone.
11. for the melting of metal, casting, and metal workshops.
12. for the crushing of stone, woodsawing, and oil refinery.
13. for the dockwork, stone carving and wood sawing.
14. for the rent cars and milking.
15. for shooting training.
16. for hanging tobacco leaves.
17. for tapioca manufacturing factory.
18. for factories processing rubber, and other materials containing rubber.
20. for trading shops, and other establishments, which may cause loss and disturbances.

The licence shall not be given in case of a) hazards, b) damage to the property of the community of the enterprise, or health, c) severe nuisance, such as scattered waste and extensively bad smell. The Law is administered by Ministry of Interior, using the local Government for the execution. The latter always works in consultation with the local health service and the local manpower office.

#### C. Hygiene Law For General Establishments (1960).

The Law was enacted in 1960. Its emphasis is on hygiene requirements concerning the products of industry and the effects of industry to the community. No provision, whatsoever, concerning industrial hygiene, health and safety is covered by this Law. The administration of the Law is by Ministry of Health.

### XI. DISCUSSION.

1. Seen from the existing legislations, industrial hygiene, occupational health and safety have received considerable attention in Indonesia. Those fields are described in the Basic Labour Law (1969), which is the source of all regulations within the manpower scope. Furthermore there are Safety Law (1970), Ratification of the I.L.O. Convention No. 120 and other regulations based on the mentioned laws. In addition, there are also Workmen's Compensation Law, Labour Law, Public Nuisance Law, and others. Generally speaking, there have been enough

basic or general regulations on industrial hygiene, occupational health and safety.

2. The history of Indonesia has been as such, that two kinds of legislation, **first**, those inherited from the Dutch era, and **second**, those newly enacted ones during the independence, are still effective. This fact indicates the mixture of the old fashioned and the modern ones. Fortunately, however, the philosophical background has recently changed completely. The situation is now favourable for the development of better legislation in harmony with the present needs.
3. In the field of safety, it is felt of urgent need to have further specifications on the implementations by giving more detailed Government or Ministerial decrees containing safety standards according to the types of establishment, number of workers or machines used, work-procedures, operations, etc. Those standards include :
  - a. The standards for prevention and elimination of occupational accidents.
  - b. The standards for the prevention of fires.
  - c. The standards for explosive substances.
  - d. The standards regarding the safeguarding of transport used for men, animals, or goods.
  - f. The standards concerning construction.
  - g. The safety standards for loading/unloading, handling and storage of goods.
  - h. The safety standards for operations related to electricity.
4. In the field on industrial hygiene, there is already an Industry Hygiene Code (1964) which for the time being is good enough. This Code contains sufficient provisions on sanitary and hygiene requirements. The problem, however, is the implementation, that needs certain skill of the inspectors to recognize and evaluate the hazards caused by the physical and chemical factors of the environments. It is therefore, the Government c.q. the Ministry of Manpower, is now developing this skill by having a project on industrial hygiene skill development within the Five-Year Development Programme.
5. As for occupational health, it is still lacking due to the absence of regulation concerning the medical care for the factory labourers. Such regulation that will stimulate the recruitment of physicians to industry, the promotion of skill in occupational health, among practitioners rendering services to the labour force, either on fulltime or on parttime basis, and the specialization in the field, and any other advantageous effects, is of urgent necessity. For this purpose, the standards regarding the occupational health practice shall be specified in the regulation. Despite the fact, it is very encouraging that there are already Presidential Decree on the medical care for the Government employees and



the Social Security Foundation for the factory workers. It is our hope that the Security system will become compulsory, instead of voluntary, in the near future.

## VII. REFERENCES.

1. Basic Labour Law (1969).
2. Safety Law (1970).
3. ILO Convention No. 120 concerning Hygiene in Offices and Trades.
4. Workmen's Compensation Act (1947 — 1951).
5. Labour Law (1948 — 1951).
6. Public Nuisance Law (1927).
7. Mine Police Regulation (1916).
8. Special Regulation AA - N.
9. Ministerial Decree no. 7, (1964).
10. Presidential Decree on Medical Care for Government Employees and the Retired (1969).
11. Other regulations and decrees related to occupational hygiene, health and safety.
12. Suma'mur P.K. : A brief history of occupational health in Indonesia. (Indonesian Journal of Industrial Hygiene and Occupational Health Vol. IV, No. 1).

## OCCUPATIONAL HEALTH RESEARCH IN INDONESIA.

### I. INTRODUCTION.

An occupational health programme includes training and education, services provided to the working population, enforcement of the laws and regulations specifying the minimums of occupational health requirements, and research or surveys. For Indonesia, stress has been given to training, services and law enforcement. Research receives next priority and is primarily purposed to feed and improve the previously mentioned activities. Consequently, the choice is rather on the assessment of the problems than on the basic or sophisticated studies.

Research in occupational health may be classified according to areas that cover occupational health administration (organization pattern, training, legislation, etc.), occupational pathology, occupational hygiene, ergonomics, occupational toxicology, occupational nutrition, occupational health nursing, occupational psychology, and so on. These areas may be referred to different economic sectors or further to occupational characteristics reflecting the possible variations in problems and emphasis.

The following description presents a brief account on the occupational health research in Indonesia.

### II. RESEARCH ON OCCUPATIONAL HEALTH ADMINISTRATION.

In a study on the organization pattern of occupational health services in Indonesia, Suma'mur P.K. described the existing organizations involved in the occupational health programme at the national, regional and plant levels, their functions and degrees of adequacies at the time of investigation. The study indicated the need for training of the occupational health personnel at the plant level, who are mostly part-time physicians; guidance for more preventive activities, and the problems of the medium and small sized industries. Mention was made on the significance of more coordinated efforts among institutions at the national level composed of the National Institute of Occupational Health, the Directorate of Occupational Safety, the Coordinating Medical Officers in the Departments and the Indonesian Association of Occupational Health. The potential roles of the Universities at the regional level have been pointed out by the study.

In studying the industrial hygiene, occupational health and safety legislations, Suma'mur P.K., Sumargono and Agus Setiono report the following :  
1. Seen from the existing legislations, industrial hygiene, occupational health and safety have gained a good deal of attention. Those fields are described in the Basic Labour Law (1969), which is the source of all regulations within the manpower scope.



Furthermore, there are Safety Law (1970), Ratification of the I.L.O. Convention No. 120 and other regulations based on the mentioned laws. In addition, there are also Workmen's Compensation Law, Labour Law, Public Nuisance Law, and others. Generally speaking, there have been enough basic or general regulations on industrial hygiene, occupational health and safety. 2. The history of Indonesia has been as such, that two kinds of legislations, first, those inherited from the Dutch era, and second, those newly enacted ones during the independence, are still effective. This fact indicates the mixture of the old fashioned and the modern ones. Fortunately, however, the philosophical background has recently changed completely. The situation is now favourable for the development of better legislation in harmony with the present needs. 3. In the field of industrial hygiene, there is already the Industrial Hygiene Code (1964), which for the time being is good enough but requires more specifications on various standards. The problem is, as usual, the implementation what needs certain skill of inspectors, equipment and finance. 4. As to curative component of occupational health, it is still lacking due to the absence of regulation concerning the medical care for factory labourers. Such regulation that will stimulate the recruitment of physicians to industry, the promotion of skill in occupational health in practitioners giving services to the labour force, and any other advantageous effects, is of urgent necessity. The standards of medical practice at workplace should be specified in details.

With regard to training of occupational health personnel, particularly physicians and nurses, after a careful observation in the field, Sumamur P.K., reports :

1. All physicians and nurses (also true for engineers) rendering occupational services to the working population need training. This observation has led to a policy previously not taken. Beforehand an industrial physician did not have to be familiar with the occupational practices.
2. Certification of the occupational health personnel is the function of the National Institute of Occupational Health which is responsible for the occupational health training programme.
3. In deciding the length of training, short-term courses are preferable. One-year course leading to a master degree in occupational health seems not to meet the needs on several disadvantageous reasons among others the unavailability of the physicians to get away for 1 year from his job, the parttime nature of the physician's contract, and relatively big number of physicians that need training in short period of time.
4. The proposed curricula as adapted to the requirements of the country were given. The selected subjects include the principles and practices of occupational health, simple techniques of evaluation

and correction of the environmental factors, the applicable principles of ergonomics, the practical knowledge of occupational toxicology, applied industrial psychology, and family planning services for the industrial population.

The surveys and observations attempted to pinpoint the most urgent needs for the development of occupational health within the framework of the Five Year Development Programme have shown the importance of establishing the occupational health laboratories as infrastructure for training, services, law enforcement and research. The major activities in the first have been as in the Second will be the establishments of the following laboratoria :

1. the complete laboratorium Central Institute, Jakarta,
2. medium-sized Laboratorie at Medan, Surabaya and Ujung Pandang,
3. small scale laboratories at each Provinces.

### III. OCCUPATIONAL PATHOLOGY.

Data collections on non occupational illnesses have revealed that, in agriculture, industrial and other sectors as well, the infections and parasitic diseases are the most prevalent maladies in the working population.

Diseases of the respiratory apparatus such as influenza and bronchitis constitute 30 — 40% of all the cases. Intestinal infections or parasitic affections occupy 15 — 20% of the total occurrences of illnesses. TBC incidence rates are high varying from 3,5 — 8% of the working population concerned as diagnosed by X-ray pictures and clinical findings. Parasites such as ancylostomiasis and malaria, are still problems especially in plantations and mining operations. In addition, smallpox and cholera might still occur among the labour force. Beside that the health disturbances due to general illnesses are usually deteriorated by unhealthy working conditions, such as the increased prevalence rates of TBC that correlate with the magnitude of unbearable stress and strain in the job. From the observations made in 1966 — 1967, the absenteeism rates due to sickness were in the range between 3 — 8% of the workers daily. The rates have been recently shown around 2%.

Occupational maladies such as pneumoconioses, occupational poisonings, occupational dermatoses, mental diseases, and others have been actually found in the working population and more reports from direct observations or surveys in the fields have been presented. To illustrate the cases, a few or published data are here quoted. In a study on respiratory dust diseases in miners, it had been shown that 1/2% of them had silicosis. In 1559 tobacco and 457 rice mill workers, there were respectively 73 and 23 cases of chronic bronchitis many of which with asthmatic episodes. An investigation carried out on 20 carders in a textile spinning mill revealed 2 cases of bronchospasm associated with the job, 1 case of repeated attacks of



bronchitis and two cases of chronic bronchitis. Health disturbances in those exposed to dusts are of considerable magnitude like the ones observed in exposure to tobacco dusts with high prevalence of fever, coughs and headache. Deaths resulted from poisonings have been reported, although the actual number of the intoxicated are still unknown due to the incomplete reporting and recording. Poisonings due to pesticide have caused several deaths. In a survey to the logging enterprises in Kalimantan, many cases with several deaths have been revealed from the intoxication of wood preservatives. Generally speaking, chronic effects caused by the prolonged exposures to toxic substances are not understood by employers and employees, despite their recognition of gradual decrease in health conditions after a long in period of work. Occupational dermatoses have been particularly seen in those handling chemicals, both in industry and agriculture. In the latter, fertilizers and few of pesticides have been proved as having caused affection on the skin. In this connection, an organomercurial compound used as fungicide has been banned due to its highly irritating nature.

#### IV. OCCUPATIONAL HYGIENE AND TOXICOLOGY.

The work environments often do not fulfil the requisites for the optimal productivity, and, more than that, they are frequently in hazardous levels with regard to their intensities or concentrations. In hundreds of measurements conducted by the Institute, temperatures, humidities and air movements resulted in the effective temperatures above the comfort zone, and together with the tropical climate, here and there the heat stress indexes were often unbearable. Lighting as a requirement for doing the job is not seldom neglected leading to eye fatigue and decreased work efficiency. Noise is often above 85 dB; this intensity does not only reduce the productivity of the workers but is hazardous as well. Several surveys have indicated the hearing loss as resulted from these exposures. The atmospheres of the workplaces are often polluted with dusts, gasses, vapours, fumes, smokes, etc., which affect both productivity and health of the workers in question. The concentrations of the pollutants are many times higher than the threshold limit values. These factors have been shown e.g. from the measurements of rice dusts or carbon black in the air, gasses such as SO<sub>2</sub>, H<sub>2</sub>S, NH<sub>3</sub>, and others. The findings together with illhealth conditions of the labour force at risk which have been epidemiologically assessed have been used as guidance in justifying the suitability of the safety levels. There is no intention, of course, to repeat research and surveys to establish threshold limit values, because such activities will only consume time, energy and finance that are usually scarce in developing countries.

Similar basic principles have been applied to research in industrial hygiene toxicology. No animal or human experimentation has been or will be conducted to study toxicities of substances just for scientific interests. Industrial hygiene toxicology laboratories are under construction to test chemicals as required by standard for the safeguarding of the workers in

production processes. Information on toxicology of any chemical substance is abundantly available from reference books and other literatures published in highly industrialized countries.

The Stockholm Conference on Human Environment has created a good deal of awareness among policy makers and technical people on the importance of healthy environment as a basic human need. Actions have been taken to collect data on the potential pollution in the environment of the workplaces of mining operations and related industries. The measurements of air pollutants due to the industrial establishments and traffic have been done in Jakarta that notably has higher concentrations of e.g. CO. In principle, early recognition, evaluation and practice will substantially prevent the negative effects of adoption of modern technology in the future.

#### V. ERGONOMICS.

Ergonomics is a component of occupational health. It is very important due to its direct contribution to labour efficiency. It is understood, that ergonomics is the application of human biological sciences in technology and engineering aimed at the adaptation of man at his work the benefit of which is measured by highest degree of work comfort and labour productivity. The major attempts of ergonomists and interested persons to apply the subject in practice and these are reflected in their research works, are: 1. to suit the physiological workload according to the degree of fitness of the workers, 2. the economization of efforts, 3. man and machine design, and 4. the creation of physical and mechanical factors in compliance with human comfort and efficiency. To adjust to the condition of the country and in early pioneering works, a group of interested persons have used simple means and techniques to carry the activities. Despite the fact, the common sense as very important component of ergonomic practice has produced encouraging results of research works in the field.

To illustrate the achievements, pulse rate measurements before, during and after the work daily are simple means to consider the physiological workload. Optimal weight to attain the highest productivity levels in carrying loads should be around 20 kg. Many operational processes have been modified according to ergonomics principles after direct field surveys and services; the modifications have been reported to cause the increase of 50% more in productivity. Fatigue in workers at various places has been found to be corrected by improvements of work methods, conditions and environment.

The establishments of ergonomic laboratories are underway. More characteristics of human work capacities in tropical climate as characterized by hot temperature and high degree of humidity will be clarified in the next future.

#### VI. OTHER SPECIALIZATION ON RELATED FIELDS.

Several surveys on occupational nutrition have been done. The background is to endeavour better work capacity. Several dietary surveys have indicated the intakes of low protein as low calories together with insufficient



vitamins contents. Many food habits such as custom of not having breakfast before going to work are disadvantageous with regard to productivity. There important factors effecting the occupational nutrition are the following : 1. financial capabilities of the establishments which are reflected in the wages, 2. attitudes that include habits of the employers and employees, and 3. work load and work environmental stresses. Many observations on the latter have indicated that work load which exceeds the work capacity will lead to reduction of the body weight. Five-kilogram-difference has been found between two comparable groups but different in respect to stress and strain of the job. Parasitic diseases resulting in unfavourable nutritional status are considered as an additional environmental stress in a broader sense. Drinking water essential for the protection against the loss of fluid in not work environment is usually neglected. In one of the studies, milk has been found to be effective in productivity improvement at the stage of low protein intake but no further benefit after required amount of protein has been given.

Viewed from mental and psychological conditions, workers have passed through social and political unrest with the climax of the last 30th September Movement and have now first reached a phase of improvement resulted from the political stabilization programme of the Government. Industrial relation is directed toward a peaceful maximal participations of both employers and employees in the spirit of mutual understanding and benefits. Labour movement is at the stage of establishment of a compact and strong federation rather than many diversified small unions and its philosophical outlook is more on trade unionism. Labour policies on wage, social security, etc. are hopeful to meet the needs of economic development. In such a situation, it is most opportune to develop occupational psychology, which is now only known by big sized industries and the psycho-test is exclusively practised for preemployment health examination. Industrial psychology is not yet used as workers to mental, emotional, social, and cultural adjustment of the workers to their jobs. Employers are not yet aware of the potential contribution of psychology to work comfort of the employees. With this background in mind, a number of observations and surveys have been made. A study has stressed on the influence of work organization on productivity, another on the relationship between music and work output, etc. Unfortunately, however, that not many papers on these matters have appeared in publication.

Although occupational health nursing has gradually been developing to a specialized field and professional group in nursing, no reportable research in this particular area has been accomplished. Nurses in industry are usually loaded with, a lot of daily practice work no leaving enough time for scientific investigations. Several observations have appeared in the Journal of Occupational Health and Industrial Hygiene on the guiding principles that typify practices of occupational health nursing and various problems attached to the profession. Nurses rendering services to the labour force

have modified function and responsibility, both qualitatively and quantitatively, keeping up with the development and progress of occupational health in general. The guiding principles approved by the Occupational Health Nurses Associations are now still under evaluation to fulfill the requirements as expected.

## VII. OCCUPATIONAL HEALTH RESEARCH IN THE SECOND FIVE YEAR DEVELOPMENT PROGRAMME.

Research and survey in occupational health have played important roles in planning, programming, and execution on occupational health activities in the First Five-Year Development Programme. The surveys and research carried out in 1968 to 1973 have made satisfying contribution to the development and progress of this health field by :

1. Emphasizing the importance of occupational health as one of the infrastructures of economic development and as one of the means for better labour efficiency and productivity. Hence the inclusion of occupational health project in the Development Programme.
2. Pinpointing the top priority in occupational health development. The establishments of occupational health laboratoria are the focus of the project.
3. Helping formulate the suitable methods of occupational health training, services, and law enforcement. Policies with regard to these activities have been taken after analyses of the problems have been made.
4. Indicating the magnitudes of the problems at workplaces and ways of assessing them. In this connection, services by the National Institute of Occupational Health should be considered as local surveys at the enterprise level.
5. Stimulating research workers to conduct more fruitful works in occupational health as related fields.
6. Backing up the scientific elements of professional growth in occupational health.
7. Keeping the Journal of Occupational Health alive as one of the communicating media in occupational health profession.

In the Second Five-Year Development Programme the Significant of Occupational Health Research will be more recognized due to the needs of the users (management), professional development, and for better policy making as well as legislation. The emphasis will be on : 1). more detailed problems assessments of occupational health in all economic sectors, 2). establishments of occupational health standards, that secure the conditions of the country, and 3). basic studies on the characteristics of human physiology and psychology in tropical climate. Speaking about executing institu-



tions, those involved in research works include both governmental and private sectors, which in the last years the former has overweighed the latter. This fact should be reversed by more participation of the private sectors namely the local occupational health services or interested individuals. The progress in occupational health development in the previous years will be good foundation for research activities in the years to come.

The permanent media to communicate the reports of the occupational health research or surveys in Indonesia are as follows : 1. the Journal of Occupational Health which is published quarterly by the National Institute of Occupational Health, 2. National Seminar on Occupational Health held every three years starting since 1969.

## CONSENSUS OF THE FIRST NATIONAL SEMINAR ON OCCUPATIONAL HEALTH.

„HEALTH IN PRODUCTIVITY IMPROVEMENT”

HELD IN JAKARTA

MARCH 23 — 26, 1969.

### I. HEALTH AND PRODUCTIVITY.

#### 1. Introduction :

- a. Development and health are two closely related things ; they are inter-related and they support each other. More-over in the more specific scope of the relationship between occupational health and industrialization, industrial hygiene and occupational health are important factors in increasing the production ; and in return, the increased productivity will enable the enterprise to improve industrial health services.
- b. In order for occupational health to be directed effectively towards their goals, it is indispensable to develop its skills and equipment in line with the development in the Five Year Development Plan. In this connection, the National Institute of Industrial Hygiene and Occupational Health will carry out this responsibility at the national level.

#### 2. Purpose :

Industrial hygiene and occupational health aim at ;

- a. Labour welfare, particularly in regard to their health,
- b. The promotion of efficiency in work performance leading to economic gains.

At the national level, these objectives will mean that industrial hygiene and occupational health are important parts for the implementation of the Five Year Programme, and in addition, they are factors in social justice in a prosperous society that we aim at.

#### 3. Means :

- a. Industrial hygiene and occupational health movements, in Indonesia, are a living reality, which is reflected by the growing numbers of physicians, engineers, physiologists, and psychologists engaged in inplant health services and private of public institutions/agencies for occupational health.
- b. The inplant health services, the private and public institutions would be in a good cooperation in order to improve the quality of health services for the labour force.



c. Pioneers of industrial hygiene and health would be regarded as qualified manpower that have developed their knowledge and skills from their experience of medical practice in industry.

4. **Infrastructure :**

To facilitate the inclusion of occupational health in the curricula of several Faculties and Academies, an instruction by Ministry of Education and Culture to those Schools is deemed necessary.

5. **Targets :**

In line with the ideal of the Nation that is a social justice in a prosperous society, the working conditions would not be a tedious and heavy burden for the labourers, but dynamic, healthy and productive ones.

6. **Implementation :**

a. To implement the productive aspects of occupational health, more physicians, engineers, physiologists and psychologists, would be recruited to industry.

In regard to physicians and other health personnel, the Ministry of Health is hoped to assist the industry in fulfilling the needs.

b. The uniformity of :

1. the organization of inplant hygiene and health services,
2. their functions, and
3. their scope,

is highly recommended, so that, by following a certain pattern, in national scope, these services would exert optimal impact on labour welfare and productivity.

b. 1). a. The chief of the inplant hygiene and health service would be directly responsible to one of the Directors of the enterprise.

b. 1). b. This service would consist of qualified personnel each of which are responsible to the chief of the service according to their respective fields of specializations.

The latter would be a university graduate or an academician, qualified in the field. In this connection a physician, although not a requisite, is more preferable.

b. 1). c. In regard to general/public health, an industrial physician would consider his responsibility to the local health service, ethic codes and religious morality.

b. 2). a. The function of this service would be in line with its composing elements of specializations, and directed towards the occupational health objectives.

b. 2) b. The specific functions of the medical personnel, but still flexible according to the special conditions of the enterprise, are .

1. to protect workers against possible hazards that arise from working environments and affect health and productivity,

2. to assist workers in their physical and mental adjustment with particular reference to the adaptation of jobs to the workers and the placement, that guarantees the healthy and productive labour,

3. to reach and maintain the highest labour health service the maximum productivity.

b. 3). The scope of industrial hygiene and occupational health would depend on the type of industry and its special conditions.

7. **Development and Supervision :**

a. To make all industrial physicians and other industrial hygiene personnel in more coordinated effort for the success of the Five Year Plan, the establishment of a "National Association of Industrial Hygiene, Occupational Health and Ergonomics", that binds altogether physicians, engineers, psychologists, physiologists and others (such as social workers) is very necessary.

b. Applied research in occupational hygiene and health would be performed in a coordinated manner among the related agencies and institutions. Any duplication would, as far as possible, be avoided.

c. The "Indonesian Journal of Industrial Hygiene, Occupational Health-Safety, and Social Security" would become coordinating means for all industrial health activities.

8. **Support :**

The huge number of Seminar participants, composing of labour, employers, government, scientists, represents the tripartite support and scientific backing, to the practice of occupational health, where as the development of industry is already prepared to accept it.

II. **THE MOST EFFICIENT AND EFFECTIVE SYSTEM OF MEDICAL CARE.**

1. Several systems of medical care which have revealed to be most efficient and effective in different conditions of enterprises are ;

- a. The system of compulsory sickness insurance.

- b. The system of medical care that provides health facilities, either on individual, or cooperative basis.

- c. The system of health care outside the inplant health facilities but with certain restrictions.



2. The curative components of labour health would be, in the long run, covered by a health insurance program, whereas industrial hygiene and occupational health as its preventive elements would facilitate the effectiveness of these curative activities.

### III. THE IMPLEMENTATION OF INDUSTRIAL HYGIENE AND HEALTH IN SPECIAL CONDITIONS OF INDUSTRY.

(See appendices)

#### The formulating committee :

Chairman Dr. Suma'mur P.K., M.Sc.

Vive chairman I : Dr. Marwoto R. Martohusodo.

Vive chairman II : Dr. Siddharta Widijatmoko.

Members Ir. Afiat.

Dr. Mahmudi.

Dr. Soelaiman.

Dr. Imbalo.

Dr. Djohar.

Dr. Surya Abadi.

Dr. Gani.

H.W. Tampubolon, M.Sc. O.R.

Dr. Topo Karsono.

Dr. Djarot.

Dra. Psych. Harles Tendokusumo.

Dr. Soenartadji.

Mr. Siahaan.

Dr. Yeny.

Mr. Djamtani.

### A P P E N D I X 1.

#### SPECIAL CONDITIONS IN PUBLIC ENTERPRISES UNDER THE MINISTRY OF INDUSTRY, WITH PARTICULAR REFERENCE TO CHEMICAL INDUSTRIES.

- I. The implementation of industrial hygiene and health in Public Enterprises within the Ministry of Industry.

##### A. Principle.

1. The accomplishment of industrial hygiene and occupational health covers coordinated activities between technological and medical sciences with an understanding that the starting point of its performance is not merely the presence of a full or part-time physician, that takes care of curative treatment of the labourers, but the

personnel responsible for industrial hygiene would be an active element of the enterprise and shares the responsibility for the maintenance of the highest productivity by providing hygiene and health services through ;

- a. engineering preventive measures,
- b. medical prevention,
- c. the preventive efforts by sanitation.

2. The application of hygiene and health in public enterprises would be based on micro-economics-ground, so that :

- a. for an economically-strong enterprise, the implementation would be in full capacity,
- b. whereas for the economically less-strong, hygiene and health services of cooperative basis together with subsidies are recommended.

##### B. Basic guide-lines.

Besides the literature and the possible experience, special industrial hygiene guides for chemical industries formulated at the First Industrial Hygiene Seminar in Indonesia, held by the Coordinating Body for Chemical Industries in Bandung, October 15 — 17, 1964, may be used.

##### C. The implementation.

1. In general, the industrial hygiene implementation has not been fully accomplished due to several unfavourable situations faced by industry ; it is hoped however, that sound management in the future will improve it.

2. The Government would issue :

- a. Decrees indicating the minimum standards for industrial hygiene and health practices.
- b. Decrees that would improve the ones mentioned at point a considering the industrial development.

##### II. The development of industrial hygiene and health practice.

- a. The needs for the active hygiene centres continuously performing :
  - research
  - developmental activities by counselling, training of personnel, etc.

- b. The existing centres would be :

- utilized
- improved

- c. So that :

1. The National Institute of Industrial Hygiene and Occupational Health.



2. The Industrial Hygiene Foundation is Surabaya,
3. The Occupational Health Consultation Body in Bandung, would be used for the benefit of industry.
- d. If industrial growth requires several additional centres at other plaies, the establishments of such centres are justified.

### III. Pollution.

A disadvantageous effect resulted by industry to community is pollution of air, water, and soil.

The industrial wastes may contain substances hazardous to human being, animals, plants and property. The occurrence of industrial pollution would be evaluated by studying the statistical data regarding the magnitude of the effects.

The preventive measure against such hazards are :

1. proper industrial waste disposals eliminating any possible exposure to the waste.
2. industrial waste treatment that transforms waste into a harmless form.

Special regulations concerning waste disposal and industrial pollution would be issued.

### IV. The organization of an Inplant Industrial Hygiene service.

1. In industrial organization, occupational health service would be placed at the level of technological elements and directly responsible to the Board of Directors.
2. The chief of this service would be a university graduate qualified in the field. A physician is recommended to be the chief of this service.
3. In connection with public health, the chief of this service would consider his responsibility to the local health service.

## A P P E N D I X 2.

### SPECIAL HEALTH CONDITIONS IN P.N. PERTAMINA.

1. In P.N. Pertamina, the Division of Health deals with the health care of the labourers and assists the operational tasks of the enterprise.
2. The head of the Division is directly responsible to and has functional relationship with the President Director.
3. The Health Division has four sections :
  - Preventive Section,
  - Sanitary Engeneering Section,

- Medical Logistic Section and
  - Curative Section,
- each of which is headed by a qualified person in the field concerned.
4. The structure of organization mentioned in points 2 and 3 is the basic pattern of health organization in units and in field.
  5. The preventive measures are directed to :
    - a. Work environments.
    - b. Environment outside the working places.
    - c. Workers and their dependants.
  6. To facilitate the preventive activities aimed at the work environment, each physicians are obliged to have the idea on work-methods in the operational field in order to recognize the industrial hazards arising from the operations. In this connection, health off shore-operations are relatively new for P.N. Pertamina.
  7. Every physician would receive upgrading course abroad or in the country to fullfil the requirements of points 5 and 6.

### SPECIAL HEALTH CONDITIONS IN TIN MINING.

Generally speaking, the function and authority of a physician working for tin mining d not differ much from those of a physician attached to other fields.

To them, an authority with certain limitations is given to carry out health care in a broad meaning, securing the workers a high degree of health and productivity.

Health service is now still of curative nature whereas preventive activities are not yet extensive. Geographical location of mines cretes certain special conditions. The operations are performed at three islands, that are far from each other and have different characteristics, especially in cultural and economical backgrouds, which show some effects on the growth of the mining.

## A P P E N D I X 3.

### SPECIAL CONDITIONS OF OCCUPATIONAL HEALTH IN AGRICULTURAL/PLANTATIONS.

In agriculture health, special attention would be given to public health service and the safe handling of chemicals (pesticides and fertilizers). Before the extensive use of chemical its toxicity must be first considered by the Institute for Plantation Research (B. P. P. B.).

The safety efforts would cover :



- transportation
- warehousing/keeping
- utilization
- protective devices
- guides for first aid.

#### A P P E N D I X 4.

##### HEALTH RELATED TO SERVICE SECTOR.

The implementation of occupational hygiene and health in service sector would be adapted to the existing factors such as :

1. the types of work
  2. the work operations
  3. the work output
  4. the influences of work environments to work productivity.
- ad. 1). **Types of work :**
- a. work in the form of mental activity.
  - b. work in man-machine relation ship
  - c. work of physical nature.
- ad. 2). **Work operations :**
- a. individual activity
  - b. group or interdisciplinary activity
- ad. 3). **Work output :**
- a. output in material form
  - b. output in immaterial form
- ad. 4). **The influences of work environment to work output :**
- a. the influence between man and man
  - b. the influence between man and works procedure
  - c. the influence between man and tools/equipment
  - d. the influence between man and physical condition of the work environment.

These influences are interrelated.

The scope occupational hygiene and health would cover :

1. The preemployment health examination that includes :
  - a. the clinical examination by an industrial physician,
  - a. the psychological evaluation by an industrial psychologist,
  - b. the collecting of personal background information of the future employees.

2. Job analysis, necessary in the effort of achieving a full picture of the proper placement according to needs of manpower and their work environment and satisfaction.
3. The implementation of good curative and preventive measures combined with good industrial health administration.
4. The improvement of the work environments atmosphere and methods, as far as possible.

#### A P P E N D I X 5.

##### SPECIAL CONDITIONS OF HEALTH RELATED TO MARINE ACTIVITY AS ONE ASPECT IN COMMUNICATION SECTOR.

In improving manpower efficiency and productivity, the principles of hygiene and health in marine economic activity, as one aspect within the scope of the Department for Communication, would be formulated. Marine works consist of five major categories :

1. Harbours
2. Sailing/ships
3. Signals
4. Dockyards
5. Salvage and underwater works.

Hygiene and health activities could be directed to :

1. the manpower
2. the work environment
3. the health facilities
4. the training and research.

##### 1. **The manpower :**

Several important labour aspects would be considered such as ;

- at harbours or warehouses, the labourers work day and night loading and unloading the ships, these activities have great impact on the economy of the country by effecting the flows of goods,
  - the sailors sail across the ocean facing many different changes of the seas,
  - a ship machinist works in a room of 45° C,
  - the signal workers are obliged to leave their families for months
  - the signal workers are obliged to leave their families for months and spend their times on small islands,
  - the labourers of a dockyard bathe in the sunshine and are exposed to the sparks of the welding apparatus,
  - those who have to lift wrecked ships and dive deep under the water.
- All of them require very good physical and mental health.



Therefore the following things would be accomplished ;

1.1. The health examinations on the first and the following placements according to the types of occupation as follows :

- the organic labourers/employees
- the honorary workers
- the workers on daily or contractual bases.

For these examinations, the roles of the specialists would be in line with the existing regulations.

1.2. Periodic health examination (which is a form of preventive measures) would be done properly according to the needs at the frequency of at least one a year.

1.3. If periodic or repeated examination reveals an inadequacy of a worker's health, these following items would be considered ;

- a. the offer of a sufficient opportunity for best treatment within certain time limit
- b. a new placement to another occupation most suitable for the worker.

## 2. The work environments.

Two kinds of work environments would be distinguished ;

2.1. The primary work environment is that in which the worker is working.

2.2. The secondary work environment is that where the worker stays or lives.

2.1.1. The factors that influence the productivity level are ;

- a. good ventilation
- b. comfortable temperature
- c. sufficient illumination
- d. optimal humidity
- e. optimal climate
- f. good human relation
- g. sanitation a.o. :
  - good sewerage system
  - sewage disposal
  - hygiene fresh water supply
- h. periodic test.

2.1.2. The public and individual appliances include ;

- the safeguarding of equipments
- the personal protective devices such as ;
  - masks
  - goggles

- aluminium/mental hats
- safety belt.

2.2. The factors that effect the labour productivity are ;

- a. mental health
- b. sufficient time for rest
- c. recreation
- d. social life
- e. good mental environments.

## 3. The health facilities.

3.1. The curative health facilities would cover ;

- a. The first aid room/kit for every small units with trained working personnel.
- b. The provision of clinics for every work centre that employes more than 500 manpower, and in ships according to the needs.
- c. The establishment of auxiliary hospital for cases that are not treated in clinics, such as injuries due to accidents.

3.2. Preventive facilities would include ;

- a. The environmental sanitation, that cover sewage and garbage disposals, with particular emphasis to the limited workplaces such as in ships. Healthy fresh water would be adequately provided.
- b. The periodic health measures such as immunization, masschest-secreening and the like.
- c. The incidental health activity in relation with the secondary environment, such as an intensive immunization at an outbreak of an epidemic.
- d. The prevention or eradication of the communicable diseases by treating or isolating the source of infectin.
- e. The special diseases such as alcoholism, drug addiction, sexual anomaly, etc.
- f. The health education.
- g. The standardization of food requirements, according to job.

3.3. The recording and reporting system.

Certain standardized reporting and recording systems would facilitate the effort of evaluating the effectiveness of the preventive measures and facilitates the evaluation of the effectiveness.

## 4. Training and research.

4.1. The upgrading of health personnel by refresher's courses in occupational health would enhance the specialization process in the field.

4.2. The research and development in industrial hygiene are deemed necessary.



## A P P E N D I X 6.

### SPECIAL ASPECT OF RADIATION HYGIENE.

The occupational radiation hazards may be of external or internal origins. The former are resulted from direct external exposure to radiation, whereas the latter are caused by radioactive material passing through the G.I. tract or respiratory apparatus, such as due to the inhalation of the polluted air, drinking the polluted water contaminated by the radioactive substance. The predominant occurrence of these hazards is reactor installation.

The prevention of these hazards and accidents by safety techniques is a necessity. The workers would be protected by protective clothing, gloves, respiratory mask in exposure to radioactive gasses and vapours and decontaminating measure at a crucial even. In addition, workers would wear monitoring devices that detect radioaction qualitatively and quantitatively and also be protected by shielding. For this purpose the maximum allowable concentrations of radioactive substances in water, food, and air would be chosen, so that no health and work disturbances are resulted.

Due to specific characteristics of occupational radiation exposure, allowances/compensation a.o. by extra meal at work, and by health insurance which can be broadened to life insurance, are recommended.

## A P P E N D I X 7.

### INDUSTRIAL HYGIENE AND HEALTH IN EDUCATION.

To disseminate occupational hygiene and health, theories and practices, the subject would be included in the curricula of Universities, Faculties and Academies listed below :

#### School of Public Health.

- Medical, Dental and Veterinarian Faculties.
- Academy of Health Controllers.
- Academy of Textile.
- Academy of Agriculture.
- Academy of the Army and Training Centres of Ministry of Defence
- Academy of Management.
- Technical Faculty majoring in Machinery and Construction :
  - Safety Engineering.
  - Industrial Hygiene Engineering.
- Technical Faculty Majoring in Chemistry :
  - Industrial Toxicology.
- Faculty of Pharmacy :
  - Industrial Toxicology.

— Faculty of Psychology :

Industrial Psychology.

— School of nursing.

In addition to theories, practical trainings such as laboratory work, training research and periodic health examination would be given.

The lecturers would be those who have dedicated themselves to the practice of industrial hygiene and health. These qualified people will periodically meet in either local or national seminars for the exchange of experience and information.

## A P P E N D I X 8.

### INDUSTRIAL HYGIENE IN THE AIRFORCE.

The special hygiene and health conditions in the Airforce cover :

- I. Aviation Medicine, Flying Safety and S.A.R. (Search and Rescue).
- II. Health related to Rocket and Radar.
- III. Health related to field operation, parachute and survival.
- V. Outer-space medicine.

I — IV are the responsibility of the Directorate General of Health, as for V is within the function of Directorate General/Institute of Outer Space Medicine. In this Seminar, the primary emphasis is on the industrial hygiene and health.

#### I. Purpose.

The industrial hygiene is purposed a.o. for the health care of the technical and logistic units in the Airforce.

#### II. Health preventive measures are associated with :

1. Noise
2. Paint
3. Vibration
4. Toxic substances
5. Silica dust
6. Humidity
7. Fume
8. Grease
9. Barometric pressure
10. Heat
11. Fatigue
12. and the like.



### III. Activities.

To eliminate the negative effects of the factors listed above, several preventive measures would be taken :

- a. Medical prevention, both curative and preventive.
- b. Prevention by sanitation.
- c. Preventos by psychological evaluation.
- d. Engineering control as preventive performance against the environment.
- e. Health education.
- f. Personal protective devices together with safety equipment.

IV. Beside the above mentioned activities cooperation with other agencies, outside and within the Airforce, is done in performing research on physical, mental, social, and economical elements effectuating health of the employees.

## CONSENSUS FORMULATED IN THE SECOND NATIONAL SEMINAR ON OCCUPATIONAL HEALTH HELD IN JAKARTA July 3 — 8, 1972

The Second National Seminar on Industrial Hygiene, Occupational Health and Safety held on July 3 — 8, 1972, in Jakarta, having the theme on the: "ACCELERATED GROWTH OF OCCUPATIONAL HEALTH PROFESSION FOR THE SUPPORT OF THE NATIONAL MODERNIZATION" and attended by 300 industrial physicians, occupational health and safety technicians coming from all over Indonesia, representatives from the Government, management and labour unions, after considering the speeches of :

1. H.E. the Minister of Health.
2. H.E. the Minister for Manpower.
3. H.E. the State Minister of People's Welfare.
4. W.H.O. Representative in Jakarta.
5. I.L.O. Representative in Jakarta.

and technical working papers of :

1. The Director of the National Institute of Occupational Health and Industrial Hygiene.
2. The Chairman of the Association of Industrial Hygiene, Occupational Health and Safety.

agrees on the following formulations :

### I. INTRODUCTION.

1. The National Development up to the year 2000 is essentially a modernization process, through the choice of better agricultural technology, industrialization and city development that are properly planned. Industrial hygiene and occupational health are a specialization in the field of health closely related to production of goods and services beneficial for the national development and modernization. Experience anywhere have shown, that occupational health is itself a product of modernization, but, on the other hand, well conducted practise of occupational health could support the accelerated progress of modernization.
2. The Era of Reconstruction of Indonesia is characterized among others by the formation of the professional groups stimulated by the responsibilities of the said professionals to attain the better future of the Nation.



They recognize their functions and tasks in the country reconstruction. To dedicate to the accelerated modernization, the occupational health professionals are aware of the needs for the accelerated growth of their profession to keep up with the challenges that should be met.

## II. THE ACCELERATED OCCUPATIONAL HEALTH GROWTH.

### 1. Objective :

The accelerated occupational health professional growth is finally aimed at the objectives of occupational health as follows :

- a. the increase of the living standards and the welfare of the working population,
- b. the creation of harmonious and peaceful working environments.

### 2. This objective should be attempted by the following activities .

A. Training and formal education on industrial hygiene and occupational health for the personnel are important for the professional development and of urgent priority. To implement these, it is necessary :

- a. to supplement the training facilities of the National Institute of Occupational Health and Industrial Hygiene and extend the activities to the regional areas,
- b. to form industrial hygiene and occupational health as a major subject in the School of Public Health,
- c. to open widely the opportunity for the occupational health personnel at the plant level to participate in the training and formal education, both in the country and abroad as well.

B. The Faculties of Medicine and Technical High-Schools play very important roles in the building up of the industrial hygiene and occupational health profession. It is therefore recommended, that the consortia include occupational health as extensive as possible in the curricula.

C. For the optimal implementation of occupational health, sufficient health personnel are required to serve the working population and with regard to physicians an understanding from the Department of Health is significant. In this connection, the Joint Degree of the Ministers for Manpower and of Health No. 168/Kpts and No. 207/Kab/B.Ch/1971, should be further worked out.

D. The function of the Association of Industrial Hygiene and Occupational Health in the programme of professional acceleration is of considerable magnitude. The activities should include :

- a. the creation of opportunities for the members to exchange experience in scientific discussions or meetings,
- b. the policies for accepting new members based on the qualification,
- c. the promotion of practice of medical ethics and the feeling of having a common profession,
- d. the standardization of medical practice based on the available experience,
- e. the acceptance of the profession by the community.

E. It is agreed that regulations have an important role in the promotion of the profession. Based on this principle it is felt necessary to promulgate laws or regulations providing :

- a. the health organization at the plant level,
- b. the compulsory training for the occupational health personnel,
- c. the further actions with regards to Joint Decree of the Ministers of Health and for Manpower No. 168/Kpts and No. 207/Kab/B.Ch/1971,
- d. the specifications of the Compensation Law regarding the diseases of occupational origin.

F. The applied research which usually sustains the professional growth should be conducted as follows :

- a. the implant health services should have research programmes in a coordinated manner,
- b. every enterprise should collect and analyze the existing data on the characteristics of illnesses in workers as a community, their impacts to the productivity levels focusing on the analysis of absenteeism, and the evaluation of the physical and chemical conditions of the work places.

G. The large enterprises generally own a relatively complete medical services with sufficient numbers of health personnel and increasing emphasis on more preventive occupational health programmes. On the contrary, the medium and especially small establishments are still in unfavourable conditions. In such cases, it is indicated to organize the Group Occupational Health Services as a way-out to the problems.

H. Occupational health is not an exclusive discipline, but is closely related to other fields such as industrial pollution, and others. Those related fields should conform the development of occupational health.



I. Family Planning is of benefit for the increased labour welfare. It is stressed that the industrial physicians should maximally participate in the programme.

J. The Industrial Hygiene and Occupational Health Journal should become a common medium for every occupational health workers. The participation of the industrial physicians should be encouraged so that more of their experiences could be published.

K. The community acceptance both in general population and especially of the industrial sector is a great support for the occupational health professional development. Every effort should be established to create and promote this interest.

L. Since The 7<sup>th</sup> Asian Conference of Occupational Health, that Indonesia has got the honour to host it, is a national prestige and an instrument for the promotion of the profession in this country, it is felt as a duty for those involved in this field to make it a success.

This consensus is a guiding principles for the occupational health professional development covering the trineal period of 1972 — 1975.