

OCCUPATIONAL HEALTH AND NATIONAL DEVELOPMENT IN INDONESIA

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ABSTRACT

In Indonesia occupational health receives a good deal of attention. It forms part of the national development which lays emphasis on economic development and an annual growth of 7%. Despite the great importance of the country's agricultural sector, industrialization has made good progress, with considerable activities in mining, construction, transport and services. In this context occupational health is designed to make the working population healthier and more productive, and there have been notable increases in its annual budgets. Its programme covers the establishment of occupational health and industrial hygiene laboratories, personnel training and formal education, motivational information, services to enterprises, research and standards development, and compulsory implementation of regulations. In 1978 there were 6 laboratories, 11 institutes of occupational health, and 1 030 physicians trained in occupational health, while active services have been given to 3 140 enterprises. Permissible levels of physical and chemical factors in the work room air have been determined.

Indonesia is a country, where the occupational health programme is included in the National Development Plan. The programme was initiated in 1969, the first year of the country's first Five-Year Reconstruction Programme.

The present paper is expected to create a better understanding of the importance of including occupational health in a country's development programme. Exchange of experience could be of value for a further promotion of programmes of this kind.

NATIONAL DEVELOPMENT PROGRAMMES

Every five years, the People's Council of Indonesia meets to formulate the guiding principles of the country's development. The annual plans are then worked out by the Government with the consent of Parliament.

On the basis of the Five Pancasila Principles the country has been guided by what is called a trilogy composed of economic growth, political stability and a fair distribution of income resulting from the country's development. Thus the country's development efforts are aimed at economic, social, cultural and

political advancement and national security. Political stability is the most important promoting factor of economic, social and cultural growth, while economic development and social justice should go hand in hand for the greatest benefit of the national in general.

The following figures show some of the results achieved under the programme described above: the average annual economic growth has been 7%, i.e. three times the present population growth of 2.3%, with agricultural production increasing by 3%, mining by 5%, transport and communications by 10%, industry by 12% and construction and public works by 13%. The economic pattern shows a marked shift from agriculture to industry as can be seen from the following figures on their respective shares in the GNP: agriculture – 52% in 1965, 40% in 1973 and 36% in 1978; industry – 8% in 1965, 9% in 1973 and 11% in 1978. Income per capita increased from U.S. \$ 90 – in 1972 to U.S. \$ 240 – in 1976. In the sphere of social services, among other things more than 4 000 health centres have been built in addition to new schools and housing, new mosques and churches, etc. Reconstruction processes have been going on in every sphere of life spreading to all islands constituting our country.

The main industrial products are food, textiles, hides and leather, wood, paper, chemicals and drugs, rubber, non-metals, metals and tools. The chemical industry, now manufactures many new chemicals such as fertilizers, cement, sulphuric acid, petrochemicals, etc. In addition to car and motor-cycle assembling industries, there is an aircraft assembling industry. There are also many new industries processing agricultural products such as rubber, palm oil, copra, coffee, tea, cloves, pepper, cotton, tobacco, nutmeg, capok, chocolate, cane sugar and fibres.

In the mining sector, the production of oil has recently reached a level of more than 1.5 million barrels a day; the oil refining industry has expanded to include the production of carbon black, polypropylene, petrochemicals, fertilizers, methanol, etc.; other important mining products are tin (28 048 tons annually), nickel, bauxite (1.2 million tons annually), iron sand (400 000 tons annually), gold (300 kg annually), silver (8 500 kg), copper (250 000 tons, in the form of concentrate), coal and granite.

The number of the active population working in the organized sector is estimated to total 11–12 million. They all must be ensured effective labour protection which will see to the enforcement of labour standards, training and persuasion of having more collective labour agreement and company regulations, better employer – labour relations, better practices of hygiene, health and safety at work places, etc. The annual budget for national development totals about 6 billion dollars.

OCCUPATIONAL HEALTH WITHIN THE NATIONAL DEVELOPMENT

In the philosophical background of the national development, the human factors has a central position. It is both the subject and the object of the development plans and thus the programmes aim at improving the quality of life.

Making work more human is a clearly stated postulate of the country's Basic Constitution according to which the human factor must be enabled to maintain its dignity in the process of industrialization and modernization through the adoption of new technologies in many sectors of the economy including agriculture.

Increased production and productivity are essential components of the trilogy of development, and health is one of the prerequisites. Production and productivity in general, and work productivity in particular, can only be at the highest level if the labour force is in good health. It is generally realised that health and productivity are two closely interrelated things, and extremely important factors of a country's socio-economic advance.

Since the beginning of the programme, the country's development strategy has been directed towards the basic needs such as food, clothing, housing, education, health and employment, with occupational health being given an increasingly important role.

Within the National Development, occupational health is defined as a multi disciplinary approach making the working population healthier and more productive. This is sought to achieve by the following:

1. Preventive assessment, both engineering and medical, for the protection of the working population from the hazards of work.
2. Positive and constructive health approaches to make the working population fitter for their jobs and thus also more productive.
3. Ensuring a safe application of new technologies in order to protect both the workers engaged in the respective production processes and sometimes, the surrounding communities.
4. Making work more human by ensuring optimum conditions for work, comfort and labour welfare which, again, will help to raise the level of productivity.

The disciplines used are, among others, medicine, engineering, ergonomics, occupational nutrition and toxicology.

There are two kinds of occupational health activities: a government programme within the functions of the Department of Manpower, the National Institute of Occupational Health and the Directorate of Occupational Safety and Health, and private or other programmes, such as occupational health practices by enterprises, professional development by the groups concerned, occupational health training in higher education, etc. These two kinds of activities go hand in hand complementing each other for the benefit of the programme.

OCCUPATIONAL HEALTH BUDGET

The budget of occupational health is increasing constantly: from US \$ 2 000 in 1967 to US \$ 790 640 in 1978. The total amount spent on occupational health in the country (private sectors included) is estimated to be about 50 times the figure indicated above. By the end of 1978, the Government had invested more

than US \$ 3 million in the expansion of the occupational health and hygiene programme. The figure does not cover the amount spent on occupational safety.

The budgets for 1967 and 1968 were extremely low. This was the time when the new Government had just been established and the country was only starting preparations for its economic development programme. Year 1969 marked the official start of the country's economic reconstruction programme and, due to its importance for better health and higher work productivity, occupational health was included already in the first Five Year Development Plan, its programme being expanded early in 1972 to cover the entire country. In 1977, its budget was markedly increased due to the inclusion of occupational nutrition in its programme.

It is expected that the third Five Year Reconstruction Plan will give to occupational health considerable priority and that its budget will be increased from year to year.

PROGRESS AND ACHIEVEMENTS

The occupational health programme provides for the establishment of occupational health and industrial hygiene laboratories, manpower development through training and formal education, motivational information, services to enterprises, research and standards development, and compulsory implementation of regulations.

Under the programme, a central and six regional laboratories have been set up (Indonesia has 27 provinces) and provided with the necessary equipment, while about 15 vehicles have been bought or received from technical aid. Under the training and education scheme, 1 030 physicians, 472 paramedical staff, 84 technicians and 368 other occupational health workers have been engaged.

Under a ministerial decree it is now compulsory for physicians, to have an occupational health certificate if he or she is engaged in medical services for the working population. Another decree on the compulsory training of paramedical staff is now being prepared. Industrial hygiene and occupational health training and education are regarded as highly important aspects of the total occupational health programme and as an extremely valuable national investment.

In formal education, an M.Sc. degree has been introduced through co-operation between the National Institute of Industrial Hygiene and Occupational Health and the Medical Faculty of the University of Indonesia. Students from neighbouring countries also study occupational health in Indonesia.

Advisory activities and occupational health services are the responsibility of all those concerned including the National Institute of Industrial Hygiene and Occupational Health, industrial occupational health organizations, professional associations, and all individuals involved. These activities cover recognition, evaluation and correction of occupational hazards, monitoring of health and productivity levels of the working population, preventive as well as constructive health assessments, expert advice on factory meals, ergonomic practices, family planning within the factory community, etc.

Big establishments have themselves developed such services which are provided by their own occupational health organizations, while in almost all cases, training by and cooperation with the National Institute have expanded the respective programmes. Thus, the National Institute's primary concern have been medium and small enterprises which, due to ignorance, lack of finances, etc., have not done anything to protect and promote the health of the workers. By the end of 1977 the National Institute had rendered services to 3140 enterprises with 181280 workers.

Occupational hygiene and health standards should be developed in accordance with the characteristics of the country's working population and requirements, depending on the existing level of economic development. Indonesia is a tropical country and its inhabitants are a tropical people. The standards should therefore take into consideration these special conditions and the prevailing experience.

For setting up standards, the following criteria have been formulated:

- a. The adopted permissible levels should be determined on the basis of the technology used in the country. The respective technological processes have usually been introduced in the country in partially or totally ready forms.
- b. The permissible levels should be known to professional groups in Indonesia, and the necessary skills and other requirements for their implementation should be developed within the framework of the country's development programme.
- c. The standards should ensure the continuity of the existing production processes in respect of the employment objective, while helping to minimize or, if possible, fully control occupational hazards.
- d. The conditions should be assessed using the highest possible levels of monitoring in order to achieve the highest possible degree of safety for workers. Accordingly, standards of control for noise, heat stress, microwave, chemicals in the air, etc. have also been determined.

It should also be mentioned that more than 200000 books, journals, booklets, etc. have been published, the most important titles being the following: Textbook on Industrial Hygiene and Occupational Health; Indonesian Journal of Industrial Hygiene and Occupational Health; Textbook on Occupational Health and Safety in Forestry; Family Planning within Industrial Hygiene and Occupational Health; Occupational Health Seminars and Workshops (Mining, Plantation, the Timber Industry, the Chemical Industry, Transport and Communications, Tourism, etc.).

There are now several professional associations which actively promote the programme. They include the Indonesian Association of Industrial Hygiene, Occupational Health and Safety; Indonesian Professional Association in Industrial Hygiene, Occupational Health and Safety, and the Indonesian Occupational Health Paramedical Staff Association. Besides, close co-operation has been developed with international agencies and institutions in other

countries, and a number of international occupational health conferences have been organized in Indonesia.

WHAT NEXT IN THE THIRD FIVE YEAR PLAN

Much has been accomplished, but a great deal still remains to be done. The third Five Year Programme envisages further activities for the promotion of occupational health: at least 10 additional industrial hygiene and occupational health laboratories are to be constructed, to bring the total to 16; the number of trained industrial physicians is to be increased by 2000; the present number of industrial physicians with M.Sc. degree (20) is to be increased by 50, and more training is to be provided for paramedical staff, employers, and labour union leaders; the programmes for publications, standards development, participation of professional associations, etc. are to be expanded. The third Five Year Plan will give occupational health and industrial hygiene a more important role, because under the present guiding principles they belong to the economic field and no longer to the health sector, which is an aspect of the social and cultural field.

CONCLUSIONS

Occupational health in Indonesia is defined as a multi-disciplinary approach to ensuring a better health of the workers and improving work productivity. Regarded as an important economic factor, it has received a great deal of attention and been included in the country's Five Year Development Plans. Its programme covers the establishment of occupational health and industrial hygiene laboratories, manpower development through training and formal education, motivational information, services to enterprises, research activities, standard development, and compulsory implementation of regulations.

This paper is an appeal for more understanding and the inclusion of this particular field in the development plans of any country. It is also hoped that it will attract interest in further exchanges of experience.