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SPEECH BY DR AHMAD MATTAR, MINISTER FOR THE ENVIRONMENT
AT THE OPENING OF MEETING OF THE WORKING GROUP
ON PLANNING FOR CHEMICAL EMERGENCIES
AT ENVIRONMENT PENTHOUSE 10 APRIL 1989 AT 10.00 AM

Rapid technological advances over the last few decades have led to increased use and dependency on a wide range of chemicals. Correspondingly, the range of hazards these chemicals present have also increased.

Some one to two thousand new chemicals enter the market each year. This increase in the types of chemicals used is often not matched by an adequate knowledge and expertise to safely manage the hazards they present in many countries. The US National Research Council's survey showed that only 10-20 per cent of the 65,725 chemicals in common use today have complete health hazard evaluations. These do not include industrial accidents whose mass disaster effects were often learned only through real life situations. As a result, the consequences of industrial accidents involving such chemicals have been dire and tragic accidents continue to happen in spite of repeated warnings and alarms raised by the cautious environmentalists.

Accidents such as those that happened in Bhopal, Mexico City and Switzerland hold several lessons for the rest of us. The leak from a pesticide factory in Bhopal released toxic gases that killed more than 2,500 people and injured 200,000 more. Mexico City's disaster involving flammable gases killed a thousand people, leaving thousands more homeless. The River Rhine received the brunt of the warehouse fires in Switzerland, killing most of its marine life and threatening the drinking water supplies of West Germany and the Netherlands. Nothing can compensate for such loss of life

and property and serious environmental damage. Although these disasters involved different types of chemicals and hazards, all point to the need to site such installations away from densely populated areas and important water resources as well as the need for an established and working emergency plan.

For many of us, Bhopal and Mexico City are far away places and we tend to comfort ourselves that such accidents will not happen in our own backyard. Most people in industry will also assure us that industrial plants are after all designed and maintained in accordance with high industrial safety standards. Nevertheless, other factors are of equal importance in preventing industrial accidents.

A plant may be well designed and the probability of an accident occurring very remote. This does not mean that accidents will not occur. Through scientific, technological and engineering advances the risk of an accident occurring can be reduced. The unfortunate reality is that such risks, however minimal, remain and the hazards posed can never be totally eliminated.

Experience in many countries showed that accidents do not occur due to poor design or inadequate safety measures. Most investigations conclude that accidents were often due to human errors either during operation, in maintenance and even in response to emergencies arising out of an industrial accident. The man at the ground, who must not only know his job well, but also be vigilant at all times, is a key factor.

Increasingly, and ironically, the chemical risk has grown concomitantly with the quest for more chemical safety. The developing countries, like Southeast Asia, Latin America, Africa, have all shown significant growth in production facilities of industrial and other chemicals, while similar growth in developed countries has slowed down. The levels of understanding of the hazards posed by these chemicals among the operators and the general public are not high in these developing countries. In many of these places, the plant

personnel are not provided with the full information of the product and technology they handle. The danger is thus even greater.

Having accepted that some accidents cannot be totally prevented, we need to draw clear guidelines and emergency plans for potential industrial accidents. We also need responsible, matured and well-informed people to be in charge at all levels. Systematic procedures that help ensure public safety must be strictly followed. Public education and awareness are also important and should be included as an item in any emergency plan to improve community awareness. The extent of loss and damage depends to a large extent on the preparedness of the people involved and the community around such facilities.

The best of controls do not help if such installations are poorly sited. Next to densely populated areas, public exposure is great and the critical time required to muster an emergency response in an accident becomes even shorter. This calls for joint action by both government and industry to cooperate and strengthen national capability and ensure that public safety is not compromised. Risks and hazards must be taken into account in the initial decision of siting the chemical plants. Emergency plans should be tested regularly and important rescue resources should be readily available in the event of an accident.

The consequences of industrial accidents may not be confined within national boundary. The Basel industrial fire in Switzerland clearly demonstrated this international link. Neighbouring nations will need to cooperate with one another in emergency planning for accidents in hazardous facilities located within their territories by sharing information, technologies and equipment.

In Singapore, risk and hazard assessments of new industries are carried out at the planning stage. At this point in time, before even engineering plans and drawings are

ready, studies would be conducted to establish suitable sites for such installations. Through judicious planning and the establishment of suitable buffer zones we try to reduce as much as possible public exposure to the hazards of industrial installations. At the same time, the industry is required to incorporate in its design all available safety measures to reduce and mitigate the risk of an accident occurring.

Positive trends and developments in industrial safety and chemical emergencies have been seen following several major disasters in recent years. The various programmes of the UN agencies have been very useful in providing guidance and assistance to national environmental agencies in drawing up chemical emergency response plans. These included the information available from the data files of the International Register of Potentially Toxic Chemicals, the information disseminated through the International Programme on Chemical Safety, and the World Bank Guidelines for the Assessment of Hazardous Installations. The Regional Centre for the Promotion of Environmental Planning and Applied Studies has also organised a series of workshops and seminars on related subjects like chemicals and hazardous substances, environmental impact assessments, etc to enhance the awareness level of professionals in this region. This Working Group's recommendations would form an important input in the chemical emergency plans of countries in the region. Such preparation would lead to a better understanding of the hazards and thus to more preventive action.

Through discussions, meetings and conferences, it is hoped that future accidents can be prevented through greater awareness and if not, loss can be minimised through better preparedness. Only then can we convince ourselves that all the rapid technological advances made were to serve mankind.

On this note, I would like to declare this Meeting of the Working Group on Chemical Emergencies open and I wish you a fruitful meeting.

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