

## Academic Seminar on “Industrial/Chemical Risk Management Strategies” by Prof. Jao Jia Horng, National Yunlin University of S&T, Taiwan

Policy Planning and Cross-cutting Division, NIDM

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The subject of disaster management is all encompassing and requires multi-sectoral and stakeholder involvements, inviting guest speakers form an important part of enriching our experiences. Such talks provide opportunity to get exposure to real-world life experiences from the position of renowned and eminent personalities.

Keeping this in view, the National Institute of Disaster Management (NIDM) organized a academic oriented guest talk on “Industrial/Chemical Risk Management Strategies” on 19<sup>th</sup> April 2018, NIDM at Conference Hall No. 2, Second Floor, NDCC-II Building, New Delhi. Prof Jao Jia Horng, Distinguished Professor at National Yunlin University of Science & Technology, Dept. of Safety, Health and Environmental Engineering, Douliou, Taiwan, was the invited guest speaker along with Prof, J P Gupta (formerly Professor at IIT Kanpur and former Vice Chancellor of Rajiv Gandhi Petroleum Institute University Bareilly and former VC of Gujarat Energy Institute University.



The session was attended by NIDM Faculty members along with representatives from NDMA, FICCI and NDRF.

Dr. Anil K. Gupta, Associate Professor & HOD, introduced the programme highlighting the vision of NIDM and important of the theme of the seminar. ED NIDM Shri B.H. Anil Kumar, Chaired the session. Prof. Jao Jia Horng gave a detailed presentation on “**Man-made and Chemical Related Accident Trends in the late 20<sup>th</sup> and early 21<sup>st</sup> Century.**” He briefed the audience about the current status of chemical usage in Taiwan and also informed that Taiwan has just established an all-hazard approach Ministry very recently in 2018 to cater to the needs and demand of this field. He further elaborated on the trends and usage of chemicals across Taiwan. Prof. Jao, further gave an insight about the outputs for both developed and developing countries for chemical manufacturing’s with an emphasis on the economic and financial implications as well.

Based on the research findings, Prof. Jao informed that, almost one-quarter of the world's production of chemicals take place in East Asia and this makes it imperative to have some global harmonization system developed including the concerns of transport of such hazardous chemical globally. He emphasized that, increased chemical emissions are resulting from major economic development sectors and that, most industrialized countries have set up their chemical emergency information centers (CERCs) for responders and poison control center (PCCs) for



hospitals. These centers provide 24-hour emergency call system to provide emergency response information. CERCs also provide chemical emergency information to responders of fires, spills and vapor dispersion —Level 1 emergency and they dispatch professionals to consult (Level 2) or assist on-site (Level 3) emergencies. In Taiwan, they are developing Emergency Response Teams (ERTs) to respond to different levels of chemical emergencies. Besides these, they have ventured into developing various training and certificate courses for capacity building for catering to domestic and foreign participants.

These courses focus on emergency response and include HAZMAT Guidelines. They have been working on developing Modules which are all skill based using 3 D simulations and have many stakeholders on board along with developing academic collaborations with universities, organizing International interactions and conducting seminars abroad. Prof. Jao quoted various examples of chemical terrorism from the 1990s with examples such as following:

- 1994 Matsumoto Sarin attack, 1995 Tokyo subway sarin attack (6000s victims), 1998 Wakayama arsenic, Niigate sodium-azide, Nagono cyanide incidents
- 2000 G8 Summit—organized fire and police, EMS, hospitals, self-defense force, Poison Information Center----All Hazard approach

He also informed about the ISO quality policy 2015 adapted by them which calls for “ Safe and timely assistance in responding to environmental Incidents; professional and effective in training, counseling, monitoring and acting”.

In continuation, Prof. J. P. Gupta emphasized on the need for holistic trainings including safety and engineering aspects to be well integrated including engineering and technology education. He was also of the opinion that research in safety needs due attention and that learning / best practices available in the related field are very few. ED, NIDM Shri. B. H. Anil Kumar was of the view that, all branches of engineering including chemical, civil, environmental, mechanical, etc. must include components of disaster management in their curriculum. He also emphasized

on the need for regular audits of risk management preparedness aspects in the Disaster Management (DM) Plans on a regular basis.

Brig. B. K. Khanna, representing FICCI spoke about chemical preparedness and about the elated Mock Drills where they also include participations from various industries. The housed discussed and agreed upon the importance of mitigation strategies and response measures in the



focus while working on chemical preparedness. It was also discussed about self certification of safety status for the chemical industry and part of DM plans must include community demand from neighbouring factories for safety and also make community aware. Crucial role of Insurance sector can be vital in dealing with safety and accident concerns. Further, impact of climate change needs to be integrated along with risk assessment studies while framing on-site and off-site plans for factories/industries. The session ended with vote of thanks to the guests and exchange of souvenirs.