
SCIENCE NEWS

SILVER JUBILEE CELEBRATION OF NATIONAL ENVIRONMENTAL ENGINEERING RESEARCH INSTITUTE, NAGPUR

Shri Vir Sen, Union Minister of State for Environment & Forests inaugurated the three-day RAJAT JAYANTI celebrations of NEERI. On the occasion he declared open the Rs. 30/- lakh RAJAT JAYANTI BHAVAN and released the Silver Jubilee Souvenir. Justice S. W. Puranik of the Bombay High Court presided over the celebrations and Shri K. R. Bulusu, acting Director, NEERI, welcomed the gathering.

Dwelling on some national environmental problems which require urgent attention, Shri Vir Sen pointed out the enormous energy resource like municipal waste which could be fruitfully used. He said that major Indian cities generate about 8230 million litres of domestic waste per day. We have in India a cattle population of 237 million which gives 580 million tonnes of biomatter which has a potential to give a yield of 224 billion cubic metres of gas per year. Besides generating energy, the digested matter can be used as valuable manure.

Dr S. Varadarajan, Director-General, CSIR in his welcome address described the occasion as a "memorable day" and paid eloquent tributes to the founders of NEERI including the late Prime Minister Jawaharlal Nehru, Prof. Thacker, Prof. Shanti Swaroop Bhatnagar and to all the past and present employees of NEERI who have made NEERI a "very vibrant sector of CSIR".

Speaking on the national tasks ahead, Dr Varadarajan asked NEERI scientists to equip themselves to help the country to tackle the many gigantic problems which will confront the nation in the next 15 years. To meet the needs of the country, oil production will have to be increased from the present 39 to 95 million tonnes, and coal production from 50 to 400 million tonnes. He envisaged that by 2000 AD there would be a massive conglomeration of cities with high population density. To meet the growing needs, India would require more energy and food and efficient transport systems.

Shri Banwarilal Purohit, Managing Editor, *The Hitavada*, released the two special publications including the commemoration volume and "NEERI Research in Retrospect" and recalled the Bhopal gas

episode. He underlined the need for the nation's decision makers and planners to abide by the views and data of environmental scientists and engineers. He regretted that often warnings of scientists are taken lightly as only opinion and not considered in decision making.

Narrating the problems of Nagpur, Shri Purohit urged Nagpur Corporation to join NEERI to restore Ambazari to its pristine glory by establishing a mini-authority on the lines of Ganga Authority and to remove the population hazards due to the growth of numerous chemical industries in the Hingna Industrial Estate.

Delivering the keynote address at the Seminar on "Pollution Control and Environmental Management", Dr S. Varadarajan said that judicious use of scarce resources like water and application of new technologies like bio-technology and genetic engineering will enable the country to meet the enormous national needs of food and energy by 2000 AD.

He cited the example of Israel where water is treated as national property. By judicious use of water, Israel has turned the blazing desert into luscious greenery and is today an exporter of vegetables and flowers. In contrast, we find in the Ganga delta of India, food production per hectare is low despite abundant water resources. In Punjab we find that with proper water management crop production is higher.

To increase food production from the present level to that required by 2000 AD would require enormous financial inputs in the form of fertilizer. We also have to develop new technology for power generation and change to alloy steels from ferrous and non-ferrous metals.

Dr Varadarajan also dwelt on the urgent need to use the mass media like radio and TV to educate children and people about environmental problems. We have today 10 million children mainly in rural areas who are unable to attend regular schools and have to work in the fields.

Dr T. R. Krishna Rao, Chairman and Managing Director, Hindustan Dorr-Oliver, inaugurating the Seminar, urged industries to consider their waste

products as resources. These wastes can be turned into useful products by research. He cited the example of molasses which was considered in the past as a waste but today is a valuable resource material for production of alcohol. He urged industries to adopt a strategy and aim of attaining zero pollution by converting

waste into useful by-products.

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NEWS

THE VALUE OF IMPERFECT INFORMATION

. . . "George M. Humphrey, the former Secretary of the Treasury, is quoted as saying, 'There are no hard decisions, just insufficient facts. When you have facts, the decisions come easy.' When confronted with the need to decide in situations where the consequences cannot be precisely predicted, most people want more or better information before acting. There are costs associated with gathering facts, or additional information. They may be in the form of staff effort diverted from other activities, cash outlays for expert assistance, or opportunities foregone while information is collected and analyzed. Regardless of the cost to collect, only rarely will unequivocally 'perfect' information be obtained. It is desirable, therefore, to know

what effect additional information (we already know it will also be more or less ambiguous or 'imperfect') will have on the outcome of the decision, and how to extract maximum utility from whatever information is currently available. Ironically, in most situations there is usually a considerable amount of information available that is not fully exploited prior to reaching a decision."

[(S. Michael Malinconico (New York Public Library) in *Library Journal* 110(4):63-5, 1 Mar 85). Reproduced with permission from Press Digest, *Current Contents*®, No. 17, April 29, 1985, p. 7 (Published by the Institute for Scientific Information®, Philadelphia, PA, USA.)]

THE SNOW THAT KILLS

. . . "While snow is beautiful, it can also kill. Those white streaks [on a mountainside] are avalanche trails. Already this year 26 people have died in avalanches in the Swiss Alps. The worst year recently was 1951, when 98 people perished, most of them when tons of snow crashed down the slopes and inundated their villages in the valley below. 'We have been able to decrease the danger by a factor of 10, but there is still an awful lot we don't know about snow,' says Claude Jaccard [Swiss-Federal Inst. for Snow & Avalanche Research]. There is a lot of room inside a snowpile, which is three-quarters air and one-quarter ice. All of the freezing, melting and changing shapes lead to instability, movement and avalanches. . . . Jaccard and his staff of 31, perched [in Weissfluhjoch], 8,737 feet above sea level, measure snow's water content.

Using remote microphones, they listen to snowdrifts for sounds that indicate that the underlying snow may be ready to shift. They also slice snow blocks into thin sections and analyze the blocks' structure on a computer. They throw snow down a little chute to simulate little avalanches. They design and test fences to stop the snow. And some 60 volunteers, including a priest in the hospice at Grand St. Bernard, telex in reports on conditions every morning, which are assembled into avalanche warnings."

[(Philip Revzin in *Wall Street Journal* 6 Mar 85, p. 1, 28). Reproduced with permission from Press Digest, *Current Contents*®, No. 16, April 22, 1985, p. 12 (Published by the Institute for Scientific Information®, Philadelphia, PA, USA.)]