OPENING ADDRESS
BY
H.E. MINISTER BOONCHU TRITHONG
AT THE INTERNATIONAL SEMINAR WORKSHOP ON ADVANCES IN WATER RESOURCES MANAGEMENT AND WASTEWATER TREATMENT TECHNOLOGIES
22 JULY 1996

Prof. Dr. Wichit Srisa-an, Rector of Suranaree University of Technology,
Distinguished Keynote Paper Presenters from Canada and France,
Thai and Foreign Participants
Ladies and Gentlemen

It is with great pleasure that I have accepted the invitation of Suranaree University of Technology to preside over this timely and important international seminar workshop on Advances in Water Resources Management and Wastewater Treatment Technologies. It is however with regret that equally pressing previous commitments in Bangkok have prevented me from being with you in person on this occasion. However, thanks to the wonders of teleconferencing and fiber optics technology, it is possible for me to still be amongst you " virtually and electronically".

I also would like firstly to congratulate Suranaree University of Technology on its Sixth Foundation Day Anniversary, specially for the great successes and innovations it has pioneered in the new system of university governance and management using the concept of public autonomous university which is characterized by self-governance and accountability.

Secondly, to commend its keen selection of the most appropriate theme of Environment and Technology for the anniversary as well as such most relevant and timely environmental issues as water resources and wastewater management. Even His Majesty the King has expressed interest and attention as manifested in his many projects on sustainable development of watershed areas in the country and for more integrated allocation and management of water resources for the equitable benefit of both rich and poor and of rural and urban communities.

In addition, I would like to also compliment Suranaree University of Technology for including in its mission the promotion of technology adaptation, transfer and development for the greater benefit of society. The strategy of enhancing university-industry linkage through the organization of industry-based seminars would strengthen such cooperation between these two institutions

which is crucial to the sustained economic and industrial development of the country.

In this connection, may I extend the appreciation and gratitude of the Ministry of University of Affairs for the cooperation of universities from Canada and France specially those of the Technical University of Nova Scotia, University of Guelph and the National Polytechnic Institute of Toulouse. I am equally pleased with the participation of experts and friends from China, Indonesia and the Philippines. It is indeed another manifestation of SUT's leadership in the internationalization of higher education in Thailand and the promotion of international cooperation for technical development and self-sufficiency of the region.

Ladies and Gentlemen,

Water is one of the basic requirements for life. It is a single limited resource. The atmospheric, surface and ground waters are not independent but form the same resource in the different phases of the hydrologic cycle. Thus, the disturbance and deterioration in quality of one will also affect all the others. The amount of surface and ground water is dependent on precipitation or rain. Diversion of surface waters may reduce the flow in rivers and the amount that percolates through the soil to recharge the ground water. The waterflow in rivers and streams is not only due to rain water but also the inputs from ground water. These various complex interrelations must therefore be properly understood and considered in the development and management of water resources.

With the ever increasing population and degree of industrialization, there is always competition for the available limited water resources between the use for drinking as well as basic hygiene and sanitation and the other uses like for agriculture, industry, power generation, navigation and transport, recreation, and discharge or carrier of waste. With the abuse and misuse of surface waters for the last function of carrier and discharge of wastes, the other important uses are being endangered or compromised. There must therefore be a rational basis for the equitable allocation of water for its various users.

Water resources development and management need to be approached in a comprehensive and integrated manner with the aim of achieving the best allocation scheme of this limited resource including the appreciation of the economic value of water as used differently by the community.

These are some of the reasons why I consider this seminar workshop of great value to universities, industries, government agencies and the general

public as it provides a forum for sharing of experiences and ideas for water resources planning, allocation, management and sustainable development.

Ladies and Gentlemen,

Most of the water supplied to cities and big towns is derived from river sources. This is true for Bangkok where the greatest bulk of the water is coming from the Chao Phraya river. Ground water is essentially for direct use in small housing subdivisions or rural areas. Extensive extraction of ground water could lead to land subsidence and salt water intrusion and therefore their use must be properly regulated. Excess river waters during rainy season are generally conserved in dams and reservoirs and released based on needs. Construction of dams could however modify the physiography of watershed areas and rivers. The quality and quantity of water available downstream could be reduced to the detriment of aquatic life and human activities in the downstream areas. The change in water flow rate and pattern could also adversely affect the aquatic flora and fauna. Construction of big dams has therefore become controversial and conflicts between interest groups arise.

There is thus a need for knowledgeable technical personnel both in government agencies and industries who could perform unbiased environmental impact assessment of the project and to advise decision makers as to the appropriate measures to be undertaken. Equally, the general population specially those who will be directly affected must be given proper information of the benefits and disbenefits of the project and be allowed to make their own decisions. Again, the university-industry-government partnership in these activities is of prime importance.

Advances in technologies like remote sensing, computer programs on GIS, environment auditing techniques and environmental campaign materials can be made available by universities to various agencies involved in such projects.

There is also a social dimension to water resources management. Many rural areas still do not have piped water supply. Rivers and open dug wells or direct collection of rain water are their only sources of water supply. This subjects the population specially children not only to water-borne diseases like typhoid and diarrhea but also it limits their means for personal hygiene and sanitation. The same is true for slum areas in the cities. The slum dwellers are generally dependent on illicit water connections or on public faucets or fire hydrants for their water supply. As previously mentioned, safe and dependable water resources must be provided for both the rural and urban communities and for both the rich and the poor.

At present, the need for a multidisciplinary, interdisciplinary and multicultural team for water resources management cannot be overemphasized. The economic, social, political and technological components and implications of water resource management must all be properly considered and balanced for the benefit of the greater majority. This international ethos and perspective as reflected in the participants of this seminar is what is needed as model for such undertaking of water resources management.

Ladies and Gentleman,

Corollary to the increase in provision of water supply is also the corresponding increase in the discharge of wastewater with concomitant risk of increased pollution of downstream waters. The pollution of Bangkok's canals and rivers comes from industrial wastes (27%) and domestic wastes (73%) from residential and commercial areas. Some kind of control can be imposed on industrial wastes but not with the domestic wastes. The consequent deterioration of water quality , damage to aquatic life and degradation of the aesthetic value of the river are inevitable. Residents of Bangkok are familiar with the clogged canals, the poor quality of the water in the klongs. Except for the few tolerant larvae of some insects, some worms and slime fungi and bacteria, diversity in the aquatic life is lost.

Equally, when river water passes through agricultural land, excessive use of ecological subsidies in the form of fertilizers and pesticides contaminates the water that flows back to the streams . The resultant eutrophication of the rivers lead to algal blooms and death of fish.

There is therefore an urgent need for integrated domestic sewage treatment system in the big cities and towns. With the application of modern technologies in wastewater treatment, water can be reused or recycled. This can supplement the ever increasing water demand as well as reduce the pollution of rivers and streams.

Water resources and wastewater management are usually the concern of several ministries and agencies like the Royal Irrigation Department, the Electricity Generating Authority, Department of Mineral Resources of the Ministry of Industry for the development and use of groundwater, the Municipal and Provincial Water Authorities, just to mention a few. There is a need for trained manpower as well as financial and other logistical support for them to undertake their responsibilities. More importantly there is a need to coordinate their activities. A seminar workshop like this would facilitate such exchange of information and coordination of projects.

In conclusion, it is evident in this paper, that the Ministry of University Affairs and myself, fully support the activities of universities like that of Suranaree University of Technology in fostering closer collaboration between various industries and government agencies for a more sustainable development of water resources and its equitable allocation as well as in the application of new technologies for treatment of wastewater so that the water can be reused and recycled.

I am therefore eagerly awaiting the publication of the proceedings of this Seminar Workshop together with recommendations and resolutions for better water resources management.

Lastly, I wish you all a fruitful and productive seminar and for our foreign guests, I hope your short stay at SUT and Thailand would be a very pleasant one and that you would continue your cooperation with your new Thai friends and colleagues.

Thank you.

REMARKS: Prof. Dr. Wichit Srisa-an

DINNER RECEPTION FOR THE SPEAKERS AND PARTICIPANTS OF THE INTERNATIONAL SEMINAR ON ADVANCES IN WATER RESOURCES MANAGEMENT AND WASTEWATER TREATMENT TECHNOLOGIES.

Allow me to reiterate my warm welcome to the paper presenters and participants of the international seminar on advances in water resources management and wastewater treatment technologies.

I hope your are enjoying the Thai buffet dinner tendered in your honour by the University as token of our appreciation of your participation in the seminar and visit to Thailand.

I was informed that the paper presentation during the rest of the day had been most informative and useful for the planning of water resources development and management in the region.

I wish you all a pleasant stay for the remaining days of the seminar and most of all enjoy the country side and handicraft stores during your field trip on Wednesday.

Once again, thank you for honouring our invitation and enjoy the rest of evening making new friends and renewing the old ones.

Thank you.

DUTIES OF RAPPORTEURS

* Obtain from speakers their abridged CV or information that they would like to be mentioned during the introduction.

*Give the above information to the Chair

* Check that slides and/or transparencies are in order

* Collect a copy of the complete paper from the speaker and submit it to the Center for International Representative - ie. the Director or Ms. Manthana or Ms. Sommai

* Remind the Chair of the time left for the speaker and the session

* Remind the Chair of the presentation of the token of appreciation of the University to the speakers

* Perform any other task that may be requested by the Chair

DUTIES OF THE CHAIR

* Introduce the speakers (information will be provided by the Rapporteur)

* Moderate the discussion after presentation of each paper if time permits

* Moderate the discussion after all the speakers have presented their papers, if time permits

* Present to speakers the tokens of appreciation from the University

* Thank the speakers and close the session

DUTIES OF THE MASTER OF CEREMONY

During the Opening Ceremony and Keynote Presentation

*** Request the Rector to Deliver his Welcome Remakrs**

*** Request the Speaker to present the keynote address or paper**

*** Announce coffee break and next activity**

DURING PLENARY SESSIONS

*** Introduce the Chair of the session**

*** Make the necessary announcements after the session**