

The Ecological Landscape and Development in Singapore

Prof Leo Wee-Hin TAN

President, Singapore National Academy of Science and Chairman, National Parks Board (1998 to 2007)

Despite its tiny size (700sq km) and a population of more than 4 million, the tropical island of Singapore has managed to achieve a dynamic balance between economic development and a liveable, green environment. How did this come about? What were the factors that contributed to the success of this tiny nation?

This presentation focuses on the bold practical and pragmatic approaches taken by policy makers and implementers, to ensure that the limited land and water resources were optimally utilised for sustainable growth and development, and at the same time, judiciously conserve our greenery to provide a conducive environment for us to work, live and play in. Examples of the integration of socio-economic and environmental policies and strategies will be given. Two notable ones are the creation of a 350 ha environmentally-friendly island from the sea to deposit incinerated municipal waste and the iconic 104 ha Gardens By the Bay on the reclaimed land at Marina Bay.

Prof Leo Wee-Hin TAN, BSc(NUS) (1968); BSc(Hons) (1969); PhD(NUS) (1974)

Academically, Prof Tan won a Graduate Research Scholarship from the National University of Singapore (NUS) from 1969 to 1972 and completed his PhD studies specialising in Marine Biology & Ecology studies in 1974. He was awarded an Honorary Degree (DSc) from Loughborough University in 2003. He started work at NUS in 1973 and progressed to head the S'pore Science Centre as Director & CEO in 1982. He returned to academia in Feb 1991 and was appointed Dean, NIE/Nanyang Technological University.(Mar 1991- Jun 2000) and Director, NIE/NTU(Feb 1994–Oct 2006). He is currently a Professor of the Natural Sciences & Science Education Academic Group, NIE/NTU.

Prof Tan sits on several Boards and International Organisations including the National Parks Board (Chairman), National Institute of Education Council (Member), Federation of Asian Scientific Academies and Societies (Immediate Past President), Pacific Science Association (PSA) Committee on Science Communications and Education (Chairman) and the Science Council of Asia (Founder Member). He is an Honorary Fellow of the Singapore Institute of Biology, President of the Singapore National Academy of Science and Chairman of the National Youth Achievement Award Council. In 2003/2004, he was Chair of the Task Force to establish the School of Physical and Mathematical Sciences for Nanyang Technological University.

A marine biologist by training, Prof Leo Tan has a 30+ year career that covers biology, museology, education and administration. His teaching and research interests include marine aquaculture and ecology, science communication and education and environmental studies. He has numerous publications in learned journals, including SCIENCE and NATURE. Because of Prof

Tan's broad knowledge, expertise and being well regarded in the education circle, he has been regularly invited as either a Keynote or Plenary Speaker at International Conferences on an average of twice a year for the past fifteen years.

Prof Leo Tan's interest in the education of school teachers and students began in the University of Singapore where he conducted marine ecology courses (on a voluntary basis) for teachers. This interest continued at SSC where he promoted consciousness and understanding among students and the general public of the relevance of science and technology in their everyday lives, through non-formal science education and experiential learning.

As a full-time teacher educator and administrator, Prof Tan has overall responsibility for the training of teachers from initial to in-service, including the research and flagship leadership programmes in NIE.

Prof Tan has been involved with youth and in youth activities for 3 decades as an educator of youth at NUS (1973 to 1982), at SSC (1982 to 1991) and at NIE (1991 to the present); and as a facilitator/supporter of youth in the Annual Singapore Youth Science Fortnight for all Singapore school students and Asia Pacific participants (1982 to 1991); National Youth Service Awards Panel (1982 to the present) and the National Youth Achievement Award Council (1992 to the present).

Prof Tan had received a total of 19 Awards and Fellowships from local and foreign Universities and Government Organisations, as follows:

1974	UNESCO/JAPAN Marine Sciences Fellowship, Hokkaido University
1975	UNESCO/ROCKEFELLER FOUNDATION Marine Sciences Fellowship, Duke University
1978	ICRO/UNESCO Biotechnology Fellowship, Indian Institute of Science
1984	Australian Government Cultural Award in Scientific Exchanges
1984	NZ-ASEAN Exchange Programme Award (Academic)
1985, 1992, 2002	French Government Scientific Exchange Award
1988	Singapore National Day Award, The Public Administration Medal (Gold)
1995	Singapore National Day Award, the Public Service Medal
1997	Singapore Ministry of the Environment Green Leaf Award
1999	The NSTB (A*STAR) National Science & Technology Medal
2001	Singapore National Day Award, the Public Service Star
2002	The French National Order of Merit (Officer)
2005	The Japanese Chamber of Commerce & Industry Singapore Foundation Inaugural Long Service Award
2005	Singapore Ministry of the Environment and Water Resources, Singapore Green Plan 2012 Award
2005	The National University of Singapore Distinguished Science Alumni

	Award
2006	"Distinguished Friend of Ngee Ann" Award
2007	Singapore National Day Award, The Public Administration Medal (Gold)(Bar)