

K. R. Rao Bio (to be used in “Talking Points” for “the 80th Birthday celebrations)

Family and Early Childhood:

- Born in Guntur Kugler Hospital on May 9, 1933 at 10:40 AM on Vaisakha Purnima Day (Buddha Jayanthi) parents celebrated it with musical concert that included songs by Janaki who later became known as the celebrated “SOWKAR JANAKI”.
- Father K. Satyanarayan Murthi MA (hons) was the officer of the Imperial Bank and mother Annapoorna was the Founder Secretary of the Guntur Women’s Club which was later affiliated the family of with the famous Andhra Mahila Sabha of Durgabhai Deshmukh.
- KR Rao was called “Pedda Baba” and was the fifth child of three sisters and three brothers. All of his siblings got higher education, eldest brother Sundereshwar Rao and an older sister earned Meenakshi got M. Sc, another older sister Parvathi was the recipient of the Manorma Gold Medal for standing first in all Bachelor Examinations of BHU in 1955. She later earned a Ph. D. and was the recipient of the coveted Rockefeller Fellowship for post-doctoral work at Kansas Medical Center, USA. His oldest sister Seetha got MD and was a professor in Physiology. His younger brother Subrhamaniam got the Chancellor’s Gold Medal for getting the highest percentage of marks in all of the Master’s Examinations of Banaras Hindu University in 1957. He was invited with a Fellowship by John Hopkins Medical Center, USA for his doctoral program and earned a D. Sc. (Bio-Statistics).
- His early years were in Chennai up to 1941 and family moved due to the Japanese bombing of Chennai to Rajahmundry where he stayed till his family moved to Bombay in 1942.
- His father being a bank officer susceptible to transfers it was decided to move the family to Banaras so that all of the siblings could get higher education at the citadel of learning, Banaras Hindu University (BHU). He stayed at Banaras up until the completion of his engineering education in 1957.

Education:

- KR Rao was in the Merit List in his High School and Intermediate Examinations with chosen concentrations being Maths, Physics and Chemistry and distinguished himself in Mathematics.
- KR Rao did his undergraduate studies in Civil and Municipal Engineering from Banaras University, India in 1957.
 - As a part of the curriculum he was selected to visit Australia, at the invitation of the Exchange Scheme between Australia and India for the 4-month undergraduate practical training at Hydro Electric Commission and Hobart City Council, Tasmania.
 - As essential part of this program was to be a ‘student-ambassador’ and as such was accorded a Civic Reception by the Lord Mayor of Hobart that was recorded and relayed on April 2, 1956 by BBC, London as a part of the “day’s events” in Australia.
 - Banaras Hindu University was the only Engineering selected by the National Australian University Students out of the entire British Commonwealth.
- His employer sponsored him in 1962 while working as an officer of the Government for a two-year study program, with all expenses and salary paid as a resident full-time student at the School of Planning and Architecture, New Delhi that he completed with a Masters in Planning in 1964.
- He participated in 1966, as the “officer” of his employer the Government of UP in the Seminar sponsored by the USAID, IIT (Kanpur), and a consortium of Universities led by Carnegie Mellon, Stanford, Harvard and MIT on the “Economic and Industrial Development of Kanpur Region”. This was supposed to be “prototype’ for developing nations.

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- Based on his contribution for the success of this Seminar, the USAID officers invited him to University of Pittsburgh with a Fellowship for a doctoral program in Planning, where he earned his PhD, from University of Pittsburgh, PA in 1976.
- He also completed Graduate Engineering courses at Carnegie Mellon University, Pittsburgh, PA.

Professional Training, Activities, Experience and Recognitions:

- After KR Rao's graduation in 1957, he was selected as one of the eight from all over India, for the 'coveted 18-month TATA Training Program' and there upon was recruited by Tata Locomotive and Engineering Company till he resigned in 1959 to join as a 'gazetted officer' of Uttar Pradesh (UP) Government.
 - KR Rao's initial assignment was to prepare 'physical development' schemes that included surface drainage, water distribution network and regional development schemes of the area within the jurisdiction of UP government to support the "National Capital Region (NCR)".
 - Because of the success of these development schemes the UP Government sponsored KR Rao for Masters Studies program at the School of Planning & Architecture, New Delhi, 1962. This culminated in KR Rao's Master's Thesis at the School of Planning and Architecture in 1964 where he addressed the implication of NCR for UP Government.
- While in UP Government KR Rao was completely responsible for the 1000 seating capacity, two - level auditorium "Ravindralaya" that was one such structure for each State in the country. This was meant for performing arts commemorating the 100th birth anniversary celebrations of the Indian Nobel Laureate Rabindranath Tagore. This design was done in the pre-computer and Finite Element Analysis (FEA) days using a 'slide-rule' and the 'Hardy-Cross Method' of moment distribution. KR Rao was appreciated by the States Chief Minister and was promoted in 1964, to the senior Executive Cadre of the government.
- K. R. Rao's professional experience in the US was as a part time student in 1972-'74 with the Urban Design Associates, Pittsburgh; later the School encouraged his application for 'Green-card' to supplement his Fellowship funds.
- To gain industry experience as a civil engineer KR Rao worked with Pullman Swindell, Pittsburgh, Pa as a senior engineer and was responsible for industry building designs in Minnesota for "Land-of-Lakes", ALCOA, Bethlehem and the US Steel. His assignments included design of major steam generator foundations in the US, Venezuela, Australia and Africa. This involved overseas visits to Algeria and several installations in California and New England.
 - The professional experience gained in India and the US ensured KR Rao finishing successfully his PE exam in the very first attempt in 1976.
- Dr Rao has professional accomplishments in analysis, designs, and constructions that span across Asia, Australia, Africa, Europe, North, South and Central America in the fields of Civil Engineering, urban planning, Aluminum and Steel industry, hydro-electric, fossil and nuclear power generation.
- Based on KR Rao's experience as a Civil Engineer, Westinghouse Electric Corporation offered KR Rao a Senior Engineer position at the Generation Technology Division (GTD). In this capacity he was in-charge of FEA methods of GTD and was awarded Westinghouse Electric's Technical Excellence Award in 1982 for the design of NANO Building at Beznau Nuclear Reactors, Baden Switzerland. Based on the efforts of KR Rao and other team members Westinghouse Electric was awarded the year's biggest contract of \$100m.
 - At Westinghouse KR Rao was responsible for Spent Fuel Designs for re-racking at several of Westinghouse plants around the country.

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- KR Rao was also the Westinghouse expert for seismic qualification of pipe-way framing for Diablo Canyon, CA.
- K.R. Rao joined Middle South Utilities at New Orleans in 1989 that later became what is now known as Entergy Operations Inc. Jackson and he retired as a Senior Staff Engineer in 2002 at the corporate headquarters at Jackson, MS.

Professional Affiliations, Awards and Recognitions:

- Dr. Rao is a Registered Professional Engineer in Pennsylvania and Texas. He is also a Chartered Engineer.
- Dr. Rao's professional affiliations include Fellow ASME, Fellow Institution of Engineers, India. He is a past Member of Operations Research Society of America (ORSA).
- Dr. Rao has several publications in policy analysis, technical divisions of ASME, and is the editor of “Companion Guide to the Boiler & Pressure Vessel Code” and “Energy and Power Generation Handbook” published by ASME.
- Dr. Rao is a recipient of several professional and industry awards.

Voluntary Activities and Hobbies

- KR's first voluntary activity involvement was when he was nine years old as a member of the elementary school's Red Cross.
- KR's real world involvement was when his school principal asked the middle school students in 1946 to collect money for the installation of a marble statue of Madan Mohan Malaviya, founder of BHU.
- In 1984 KR President, Telugu Scientists of North America (TSA) got a certain amount of recognition for inviting NT Rama Rao (NTR), Chief Minister (CM) of Andhra Pradesh, India to USA. NTR was the first Indian CM's to visit USA to solicit Non-Resident Indian's (NRI's) help for industrial development of AP. This eventually got AP becoming an attractive hub for IT investment including Bill Gates. KR Rao's involvement made the Indian Prime Minister Mrs. Gandhi's Foreign Secretary to instruct the Indian Counselor General, New York visited Pittsburgh, Pa to advise KR Rao not to interfere with Indian Politicians!
- KR was Vice President, Southeastern Region of ASME International. He has been active in National, Regional and Technical Divisions of ASME.
 - He has been the Chair, Director, and Founder of ASME EXPO(s) at Mississippi Section that raised \$50,000 for MSU.
 - He was a member of General Awards Committee of ASME International, a pinnacle Awards Committee of ASME.
- Chair of Codes & Standards Technical Committee, ASME Pressure Vessels & Piping Division.
- KR was President India Association of Mississippi in 2003, when with the help of his committee raised funds for installation of Gandhi Statue at Millsaps College. At that time this bronze statue was the first full size standing statue installed at any educational institution in the US.
- KR Rao is an avid stamp collector which he started with his younger brother Subrahmaniam in May 1948 and has now 250,000 stamps worth thousands of dollars.
- KR's interests include gardening and now has his own private park with bronze statues imported from India, fountains and water fall.