

## **My Professional Life Experience: A Continuously Rising Learning Curve**



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Born in present Pakistan (on 12 December, 1934), I was in 8<sup>th</sup> class when Pakistan was formed. Due to the travails of the Partition, our family suffered heavy loss of life (I lost my father and three small brothers) but somehow my education continued and in 1952 I joined Punjab Engineering College, then running as a guest institution at Roorkee (it shifted to Chandigarh in 1954) and passed my degree in Civil Engineering (then designated as B.Sc (Hons.) in 1955. I had topped in the Punjab University in both the Intermediate and the Engineering Degree examinations.

I appeared for the Central Engineering Services Examination of the UPSC in 1955 and being successful, joined Indian Railways (Indian Railway Service of Engineers) in May 1957. In the meantime, I had worked as Asst. Engineer (Design), PWD (Punjab), Chandigarh from April 1956 to February 1957.

### **Professional Experience on the Indian Railways**

I had the most enriching experience in various positions during my service with the Indian Railways and I had the privilege of superannuating from its highest position as Chairman, Railway Board, on 31 December, 1992. During the course of my nearly 36 years of service, I had the opportunity to work on Southern Railway, on North-east Frontier Railway, then in Research Design and Standards Organization (RDSO, Lucknow), on North-east Railway, in Railway Board, on Northern Railway, on Central Railway, and again in Railway Board. During my service on the Railways, I passed through the various hierarchical levels as Asst. Engineer, Executive Engineer, Deputy Director (Research), Deputy Chief Engineer, Divisional Superintendent, Addl. Chief Engineer, Director in Railway Board, Chief Track Engineer, Divisional Railway Manager, Chief Engineer, General Manager (Northern Railway, & Central Railway), Member (Engineering) in Railway Board and retired as Chairman, Railway Board, and ex-officio Principal Secretary to Govt. of India.

Thus, I had the opportunity to work at various levels in the 'Open Line' (for maintenance of railway track and bridges and all other civil structures for the running of train services), 'Construction' (new lines, bridges, gauge conversions, and surveys, and major works on the Open Line), and the prestigious administrative posts on Open Line and in Railway Board, and in Railway's R&D centre. While my whole service on Indian Railways has been an inspiring curve of continuous learning, I can recall the following as my most notable experiences during my service:

- 1959-65: I could make major contributions as AEN and XEN for construction of 38 km long new BG railway line from Old Malda to the bank on the Ganges opposite Farakka, for conversion from MG to BG of strategic line from Katihar to Sinhabad, and for construction of BG line from Kishanganj towards New Jalpaiguri, all these in record time targets on NF Railway. The innovative steps also included developing wagon ferry crossing arrangements opposite Farakka on the

Ganges, particularly during the 1962 Chinese War when, this being the only Broad Gauge route then available towards Assam, the ferry crossing capacity was raised from two to eleven ferries per day in the shortest possible time.

- 1965-72: I could make important contributions towards setting up and expanding track research, testing and monitoring systems in the RDSO, Lucknow, particularly for introduction of the first higher speed Rajdhani route from New Delhi to Howrah. Also, during 1969-70, I was sent as a member of the expert R&D team by Indian Railways for the upgradation of speeds on Bangkok - Sila-at north line of State Railway of Thailand. It had been a rare experience.
- 1972-77: As Deputy Chief Engineer (Construction) on NE Railway, I could bring about major changes in construction methods, including those for track construction and bridge rebuilding, during conversion of Samastipur-Sonepur section from MG to BG. For conversion of the first section from Samastipur to Muzaffarpur (52 km), the usual conversion method was totally changed. Earlier, many months were taken to convert a section under traffic and it was opened at low speeds which were raised gradually as the BG track structure got stabilized. For the first time, a 10 day complete traffic block was imposed and a welded track structure was provided and opened at near final speed after being tamped with on-track machines. This was a revolutionary change in the method of gauge conversion on IR. However, there was also a very tragic incident because Shri L.N. Mishra, the Railway Minister, was killed in a bomb attack at Samastipur station while inaugurating the first BG train to Muzaffarpur on 1 January, 1975.
- 1981-84: As Director (Track) in Railway Board, made special efforts towards setting up of concrete sleeper factories and introduction of concrete sleepers on a mass scale on IR. This not only introduced a massive upgradation in track structure (to a long-welded track laid on prestressed concrete sleepers with elastic fastenings and a deeper ballast cushion) but also the concomitant changes from manual to mechanized track maintenance and track laying systems.
- 1984-89: On NR, as CTE and CE, pushed through modernization of track structure and mechanization of track maintenance particularly on the Mughalsarai-Ghaziabad trunk route, which could yield higher line capacity in terms of train speeds and loads.
- 1989-90: As General Manager (Central Rly) I could get the work of remodeling of the Victoria Terminus station revived, which had been stalled for a long period. This remodeling was necessary to reduce the minimum time interval between successive local trains so that the line capacity could be raised. However, due to the likely heavy dislocations during the work of remodeling it had been practically shelved. The proposal was revived and work was started while I was there, and thereafter it was successfully completed.
- 1990-92: As Member (Engineering) and as Chairman, Railway Board, I sponsored and pushed through the revolutionary Uniguage programme for the conversion of nearly 9,000 km from MG/NG to BG, including 6,000 km being converted @ 1200 km per year within the Eighth Five-year Plan itself. The proposal was presented before the Prime Minister himself and was soon approved. This introduced the project of gauge conversion on a mass scale on Indian Railways. Basic changes were introduced in procedures for sanction of specific proposals without delay and in guidelines for conversion procedures and its execution. Also, I could get the work started on the construction of rail-um-road Chittauni-Bagaha bridge connecting U.P. and Bihar across the Gandak river, which project had been practically shelved after its foundation stone had been laid

in 1973 by the Prime Minister herself. This had been done due to the fear of the risks involved in the success of the proposed river training system. The problem was reconsidered and successfully resolved. The project proved to be a great success in establishing a direct rail-cum-road communication between east UP and north Bihar, and also in reclamation of a large area of flood affected lands.

### **Foreign Experience**

During service on the Indian Railways (1957-1992), I also had the opportunity of visiting many foreign countries on officially sponsored professional assignments. I was sent to Switzerland by IR for 1-month training on Swiss Railways (1969). Again, I was deputed to Thailand for seven months as a member of the Experts Team from Indian Railways (RDSO) to study and upgrade their Bangkok -- Sila-at North route during 1969-70. I was deputed to visit China on a brief Seminar-cum-study tour of Chinese Railways in 1986. Again, I visited Germany, UK, USA and Canada on official assignments to review the advanced procedures of track management (1988). I was privileged to visit USSR to attend meetings as Co-Chairman of the Indo-USSR Railway Working Group (1991) and to be deputed for visits to Paris, Lisbon, Brussels, Frankfurt to attend meetings of UIC/ORE and IRCA (1992). Just before my retirement I had the unique opportunity of going on an official visit to Pakistan as head of a team from IR in November, 1992. There, I led discussion with the Pakistan Railways including a meeting with their Minister for Railways. Soon after retirement too, I was officially invited to attend an International Railway Seminar (April, 1993), held at Tehran, Iran, and there I presented a Paper on 'Problems, Opportunities and Perspectives of the Indian Railways as a National Transport System'.

### **Academic Qualifications & Professional Memberships**

While working in various positions on the Indian Railways I also kept pursuing further studies and was awarded Ph D by IIT, Delhi, in the subject of 'Waste Management' in 1991. I had also studied for and obtained Post-Graduate Diplomas in 'Gandhian Studies' in 1984 from Punjab University and just after retirement in 1993 in 'Econometrics' from Annamalai University.

During the course of my service, I also acquired many professional memberships and took active interest in their proceedings. These include: Fellow, Indian National Academy of Engineering; Fellow, Institution of Engineers (India); Life Member, Indian Building Congress; Life Member, Solar Energy Society of India; Fellow, Indian Institute of Bridge Engineers; Fellow, Institute of Urban Transport (India); Fellow, Indian Arbitration Council; Fellow, Institute of Rail Transport; and Fellow, Indian Inst. of Permanent Way Engineers (India).

### **After Retirement from Indian Railways—Professional Experience**

After retirement from the Indian Railway service I have remained involved in professional (engineering) activities even while I gradually moved progressively towards the Gandhian field. Soon after retirement, I worked with the UNDP on a 10-week assignment for a study on India's Transport Sector (1993). I was also associated with the Asian Institute of Transport Development as a Senior Research Scholar from April 1993 to May 1996. During this period, I also participated actively in a project to upgrade the design of Cycle Rickshaws and wrote articles on transport-energy issues and non-motorized transport in journals as well as jointly authored books on 'Non-motorized Transport of India: Current Status and Policy Issues' (1996) and 'Transport energy Nexus – Towards Sustainability' (1999), both published by the AITD.

Soon after retirement, I was actively associated in setting up an INAE Study Group, named as 'Indian

Engineering Heritage (Railways)', and constituted by highly experienced recently retired railway officers from all branches. It remained active till 2015, holding periodic meetings regularly and collecting historical information and data since the inception of Indian Railways in 1850s covering its all branches of engineering and train operation. The Group has published four reports, the fourth being titled, 'Role of Technology in Capacity Augmentation and Railway Development' in 2015.

Because of my deep interest in the subject of 'Waste Management' I had been trying for the setting up of an appropriate institution for taking up practical projects in this area. Finally, with the initiative of Vigyan Bharati, I succeeded in having the 'International Institute of Waste management' set up in Bhopal in 2009 and functioned as its first Chairman during 2009-2010.

I have also been a Member of the INAE's 'Technology Foresight and Management Forum' since it was set up in 2012. The Forum has nine members who hold discussions and take up and work on selected areas of technology. As a part of my contribution, I had finalized a short thesis, titled 'Issues in Waste Management' (published by INAE in 2015). In the same context, my detailed paper, titled 'Cleanliness-Sanitation: Gandhian Movement and Swachh Bharat Abhiyan', has been published in the RITES JOURNAL, vol.17/ 2, July 2015.

After retirement, I have been honoured as an 'Engineering Personality' by Institution of Engineers (India) in 2004, with 'Outstanding Contribution Award' by Indian Building Congress in 2010, and with the 'Alumni Achievement Award', 2013, by the National Academy of Indian Railways, Vadodara.

### **After Retirement from Indian Railways--Experience in the Gandhian Field**

Since retirement, I have also been closely associated with a number of Gandhian institutions and studies in Gandhian thought. I joined the Governing Body of the National Gandhi Museum (and Library), Rajghat, New Delhi, in 1994 and then worked as its Director for ten years from June 1996 to July 2006. I had the opportunity to participate in an International Conference on Gandhian Concept of Non-violence, in Santa Cruz, USA (1995), in an International Seminar on Gandhian Concept of Freedom, in University of Calgary, Calgary, Canada (1997), and in a Seminar on Gandhian Political Thought in University of Trieste, Italy (2000). On invitation by Indian Council of World Affairs, I delivered Keynote Address on 'Gandhian Legacy: Its Relevance in the 21<sup>st</sup> Century' at IIRd Spain – India Dialogue Forum 2007 at University of Valladolid in Spain on October 16, 2007.

At present, I am a Life Member of the Indian Society of Gandhian Studies; Vice-Chairman, Working Committee, Gandhian Seva & Satyagraha Brigade, New Delhi; Member, High Level Dandi Memorial Committee (under Ministry of Culture, Govt. of India); and Hon. Fellow, Centre of Gandhian Studies, GITAM University, Visakhapatnam.

During this period I have written a number of papers related to Gandhian thought. My published books and compilations in this field include: *The Essential Relationship between Netaji Subhas Bose & Mahatma Gandhi* (1997); *Birth of Free India's National Anthem: A Gift from Netaji Subhas Bose* (1997); *Non-violence in a Violent World: A Gandhian Response* (1995); *What Mahatma Gandhi Said about Atom Bomb* (1998); *Mahatma Gandhi & the Railways* (English and Hindi editions, 2002); *Mahatma Gandhi on Lord Buddha and Buddhism* (2003); *Mahatma Gandhi and Art* (2003); *Mahatma Gandhi and Satyagraha: a Compendium* (2006); *Albert Einstein and Mahatma Gandhi: The Centenary of Physics, War, Satyagraha and Peace* (2006/2010); *Mahatma Gandhi's Works and Interpretation of the Bhagavad Gita* (in 2 Volumes) (2009); *Gitapadarthakosh* (by Mahatma Gandhi), trans. into Hindi (2010); and '*Historical background to Mahatma Gandhi's taking up Satyagraha against Salt Tax (1930), as the Key*

*Issue for the Civil Disobedience Movement for Poorna Swaraj* (published by Ministry of Culture, GOI, 2015, also by IIT, Mumbai).

After retirement, along with other colleagues I had also set up in 1994, 'GODHULI', an NGO for educating non-school going slum children in Delhi, and since then I have been functioning as its Chairman. At present, it runs four such centres and provides preliminary school education to over 400 children.

### **Conclusion**

As explained above, I have had a very varied professional experience in multiple fields since I passed my degree in Civil Engineering from Punjab Engineering College, Chandigarh in 1955. I consider myself privileged to have had nearly 36 years' experience of service on Indian Railways, starting as an Asst. Engineer and retiring (on 31 December, 1992) from the topmost position of Chairman, Railway Board. After retirement, I have remained deeply involved in both the professional and the Gandhian fields through my association with prestigious institutions/ activities and my continuing studies. I have been a student throughout and continue to remain one. Throughout my service on Indian Railways as well as my professional involvements after retirement I have continued to learn and the learning curve continues to grow along with the experience, for which I remain deeply grateful to all institutions and to everyone with whom I have had the privilege to be associated.