



## **China's Bullet Trains**

**Speaker:** Mr. Kyle Chan

**Chair:** Mr. M V Rappai

**Venue:** Seminar Room, ICS

The seminar began with the chair's introductory remarks. He welcomed the speaker and informed the audience about his background. The chair also explained the agenda of the seminar and gave brief overview of the topic. In the introductory remarks, Kyle Chan thanked the Chair and also discussed how his interest to understand the delivery of public goods done by the state, encouraged him to study the bullet trains and know about the history, financing and other non-technical aspects of the bullet train project.

Kyle Chan began his presentation by showing some pictures of Chinese bullet trains and the stations which were clicked by him. The introduction of his presentation explained how just like Airlines system in India, China's bullet train operations are carried out. There are security checks, and entry and exits to the stations are strictly monitored. The fare structure is set in a way that it is competitive with that of airlines. The bullet train system connects almost 80% of the population in China and completes approximately 4000 trips a day. Adding to this he also informed that the high speed railway network size in China is more than any other network.

Coming to the history part of the bullet trains Kyle highlighted that it was 1990's when the work for R&D on indigenous High Speed Railway (HSR) started. Following that there were six rounds of "speeding up campaigns". There were some freight bottlenecks in the country especially for coal transportation. In order to speed up the process of transportation, the vision of bringing in a technology that would increase the efficiency of this project was undertaken. In 2003 Liu Zhijun, the then railway minister decided to take "Leapfrog Development strategy" and

developed a national HSR plan. This plan which was adopted in 2004 aimed to make 12,000 km of HSR track by 2020. He also discussed that after the financial crisis, China undertook a massive fiscal stimulus plan and allocated almost 1/4<sup>th</sup> of the funds for railway. The railway sector also provides the highest employment in China. All this was considered very important by the government to build trust amongst the people and gain legitimacy. Even at all the odds, this project was considered as a big priority because this was the area where the government could show off the rising cutting edge technology to the rest of the world. It was considered to be a leap forward as the US failed to develop any such technology. He mentioned that HSR is considered to be special purpose vehicles (SPVS) and for its construction there are project companies who take equity from government and the Railway Bureau. After that, the company is not involved in the construction activities but it allocates the work to contractors, oversees the contracts and processes and allocates funds.

The speaker informed us about the strategy of the Chinese in order to acquire new technologies. They work on a principle of Acquire -> Renovate -> Introduce. China offers to provide market access in exchange for technology. Although the speaker informed that this strategy now might not work or fall into some type of controversy due to the ongoing trade war. He argued that he believed that all large developing countries must undertake this strategy for developmental projects.

Speaking about the organizational structure, he explained that Chinese railway industry has a Central Planning Agency and regulations to keep check on National Rail Operator. China's Railway Infrastructure Contractors follow a system of "Managed Competition". Under this system basically there are two parent companies present China Railway Engineering Corporation (CREC) and China Railway Construction Corporation (CRCC) who have many subsidiaries and also fight amongst themselves for getting contracts.

Coming to the land acquisition done for the bullet trains, most of the tracks for bullet train are elevated (about 60%) and the remaining tracks are present in tunnels. The model was inspired from the Japanese who always try to minimize land use. During the process of land acquisition it was easy to acquire land in rural areas due to less political interference as compared to urban areas. He asserted that the process of land acquisition was considered to be one of the toughest part of bullet train construction process. One key feature while laying the tracks was that construction of

bridges and tunnels were going parallel.

Coming to the most important part that is funding Kyle discussed that the annual investment done in the bullet train project is five times of that of Indian Railway spending. All of the investment done in this project is debt, which is a big issue. Most of the debt taken is either domestic debt or from state banks. He concluded that China Development Bank holds 1/3<sup>rd</sup> of railway debt. The worst part is that most of the tracks are loss making except some with very high traffic.

Apart from drawing out implications on Chinese urban clusters and India-China relations, the speaker also shared some of his observations while he was interacting with various Indian engineers in the past, who revealed that Indian government not only got the expensive deal of bullet train construction from Japan, but also there was loss in a sense that no technology transfer was taking place between the two countries.

Report prepared by Bhavana Giri, Research Intern, Institute of Chinese Studies, Delhi.