STUDY TOUR TO CHINESE RAILWAY

Presentation by Geetha Thoopal, Addl. Member (Finance), Ministry of Railways, Head of Delegation

特等客运站－北京站夜景
The night view of Beijing Railway Station

TEAM MEMBERS

Smt. Geeta Thoopal, AM/B –Team Leader

Sh. Vinay Mittal, EDTT/M

Sh. G. N. Asthana, EDME/W

Sh. Mehtab Singh, EDRE

Sh. P.K. Sanghi, EDW

Sh. Ashok Kumar, EDP

Logistic Support by WORLD BANK

- **OBJECTIVES OF THE STUDY TEAM:**

  TO STUDY CR'S SYSTEMS AND PROBLEMS IN JUXTAPOSITION TO IR'S ,TO FIND OUT :

  THE AREAS OF SIMILARITIES;

  THE AREAS OF CONTRASTS;

  AND

  WHETHER IT IS POSSIBLE AND WORTHWHILE FOR IR TO BRIDGE THE GAPS IN THE AREAS OF CONTRASTS BY USING CR'S ACHIEVEMENTS AS BENCHMARKS.

SALIENT FEATURES

	Chinese Rly	Indian Rly
Gauge	Standard 1435 mm	BG 1676 mm
Route km National Local /JV	73002 60446 12556	63221
Electrified	18060 (30%)	16960 (26.8%)
Double line	24650 (40.8%)	16281 (25.7%)

ALL DATA IS OF 2003-2004

ASSET COMPARISON

	Chinese	Indian
No. of locomotives	16320	7817
Diesel loco	11335	4769
Electric	4622	3003
Steam	Nil	45
No. of Wagons	510327	228170
No. of Coaches	40487	35772

High reliability of assets, lack of speed restrictions and very few failures, continuous technology upgradation, very high standards of maintenance were reported by the field staff as well as by the higher management during our interaction.

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TRAFFIC – 2003-04

	Chinese	Indian
Freight (Million tonne)	2212	557
Net Billion tonne kms	1724	381
Passenger (Million)	973	5112
PKMs(Billion kms)	478	541
Productivity NTKM + PKM per employee	1452	686

INTENSIVE USE OF ASSETS ON MAINLINE AND DEDICATED FREIGHT CORRIDORS WAS REMARKABLE

r1 rb , 11/16/2005

REFORM OBJECTIVES
CR & IR

Increase capacity for both freight & passengers

Improve efficiency of transport operations by reducing unit costs of train operation

Compete effectively with other modes especially in passenger and multi-modal businesses

Generate internal financial resources to build a world class railway system.

HOWEVER,CR'S PLAN DISTINGUISHES ITSELF WITH LONG TERM MISSION AS WELL AS DYNAMIC RESPONSE TO CHANGING NEEDS OF RAIL USERS.

For instance, CR has devised 6 Step Speed Raising Measures for raising speed from 110 to 160/200 Kmph

- **Change of rails and sleepers**
- **Provision of Safety fencing, Overpasses**
- **Refurbished Signaling Equipments**
- **High speed Locos**

Total Usage of High Speed lines 16000 Kms

MAJOR RAILWAY REFORMS UNDERWAY IN CR

Treat CR as a separate financial entity and allow it to retain all profits for use as employee bonus and investments after paying income tax

Set up Diversified Economy Program – DECOs set up to provide employment to surplus staff. Great success, absorbed over 400,000 employees.

HIGH LABOUR PRODUCTIVITY BY REDPLOYMENT OF SURPLUS LABOUR.

MAJOR RAILWAY REFORMS -CR

Ministry structure streamlined (1998), departments reduced from 23 to 16, staff reduced significantly

All operational activities --infrastructure, rolling stock, train operation etc. consolidated under Transportation Department

BETTER CONTROL AND COORDINATION OF RAIL OPERATION AT 18 LOCATIONS.

MAJOR RAILWAY REFORMS –C.R

Separation of non core activities (1998-2004)

In 2000 Transferred to State Large Scale Enterprise Working Committee, major activities- railway engineering, civil construction, telecom and signal construction, rolling stock manufacture (LORIC North and LORIC South).

In 2004 container, special goods transport, postal and luggage services set up as companies

MAJOR RAILWAY REFORMS -CR

In 2005, a flat organisation introduced

44 sub-administrations abolished and number of RAs increased from 14 to 18.

Using available IT and communication facilities, train control offices and operational management consolidated at RA head offices

Most of the 60,000 employees at sub-administrations are surplus and need redeployment as offices and control centers have been closed

MAJOR RAILWAY REFORMS -CR

Steps towards separation of passenger and freight businesses

Passenger business separated on accounting basis and responsible for profitability

Pays for common services utilized

TARIFF REFORM-CR

Construction surcharge@30% used for railway construction only

Customers pay higher fare for more comfort and speed of passenger trains. Product mix changing

Pass fares raised substantially to cover costs. Increase of fares in busy seasons by 20%.

Freight tariff increase in 1990-2003 @ 4.7% per year that is less than 5.6% increase CPI

CHINESE RAILWAY PLAN

2005-2020

"FORWARD-LEAPING DEVELOPMENT STRATEGY OF C.R 2005-2020 PLAN"

- High Speed Passenger Trains.
- HEAVY AND LONG HAUL Freight Trains.
- High performance rolling stock.
- Double stack container operation on 16000 Route km.

"FORWARD-LEAPING DEVELOPMENT STRATEGY OF C.R 2005-2020 PLAN"

RAISING TRACK,COMMUNICATIONS AND SIGNALS TECHNOLOGY TO THE LEVEL OF ADVANCED INTERNATIONAL STANDARDS .

REALISING 'INFORMALISATION' OF THE C.R.

SEPARATION OF ENTERPRISE MANAGEMENT FROM ADMINISTRATION;SEPARATION OF CORE BUSINESS FROM NON CORE SECTORS.

TURN RAIL TRANSPORT INTO A MAJOR PLAYER OF MODERN COMPREHENSIVE TRANSPORTATION SYSTEM

CR'S SPECIFIC GOALS-2005-20

Rapid expansion of Railway Network

- Total length of network : 100000 km
- Passenger dedicated lines : 10000 km
- Mixed high speed line : 20000 km
- Inter city passenger lines : 2000 km
- Electrification : 32000 km
- Doubling : 25000 km

- Development of Rly network in Western Region
- International corridor construction

- SPEED OF PROJECT IMPLEMENTATION IN CR IS HIGHLY IMPRESSIVE.

EFFICIENT PROJECT MANAGEMENT

SOME MILESTONES

900 Kms Nanning-Kunming line completed in 9th Plan

10.5 Kms long double track bridge constructed in 3 years

18.5 Kms long Qinling tunnel had driving speed of 528 m/month by TBM

1142 Kms Golmund-Lhasa line started in June 2001 is nearing completion. Difficulties of permafrost, inadequate oxygen, extreme cold and delicate ecosystem

WHERE AND WHITHER IR – CAN IT CATCH UP WITH CR?

CONCLUSIONS:

IR CURRENTLY IS NOT IN THE SAME LEAGUE AS CR, BECAUSE----

. CR EXPANDING VERY FAST-"FORWARD LEAPING"

. GOING IN FOR THE BEST TECHNOLOGY

. NO APPARENT CONSTRAINT OF FUNDS

. NO CONFLICT OF OBJECTIVES BETWEEN MANAGEMENT AND LABOUR.

. INFORMATION TECHNOLOGY AND EXTENSIVE MECHANISATION HAVE BEEN ADOPTED AS THE TOOL TO IMPROVE EFFICIENCY.

BUT……IR IS ALSO REFORMING

IR'S FINANCIAL HEALTH HAS BEEN RESTORED TO NORMALCY AFTER REACHING NEAR BANKRUPTCY STATE.

IR'S INTERNAL GENERATION OF REVENUE HAS RISEN STEADILY DURING THE LAST FEW YEARS.

IR'S EXPERIMENTS IN SETTING UP CONCOR AND IRCTC ON COMMERCIAL LINES HAVE BEEN GREAT SUCCESS.

MODERNISATION PLANS IN THE AREAS OF TRACK, TRACTION, SIGNALLING AND TELECOM HAVE TAKEN OFF WITHOUT MUCH EXTERNAL AID.

ACCOUNTING REFORMS ARE UNDERWAY WITH ADB'S ASSISTANCE TO SEGREGATE SECTORWISE COST AND PROFIT/LOSS DETAILS.

IR'S MANPOWER PLANNING IS LESS DRASTIC AND LESS PAINFULL -HENCE MAY PROVE MORE FRUITFUL IN THE LONGTERM

IR ALSO HAS PLANS FOR….

Preparing a long term Railway Development Plan to meet growing demand arising from accelerating economic growth

Improving service quality

Reducing unit costs of transport

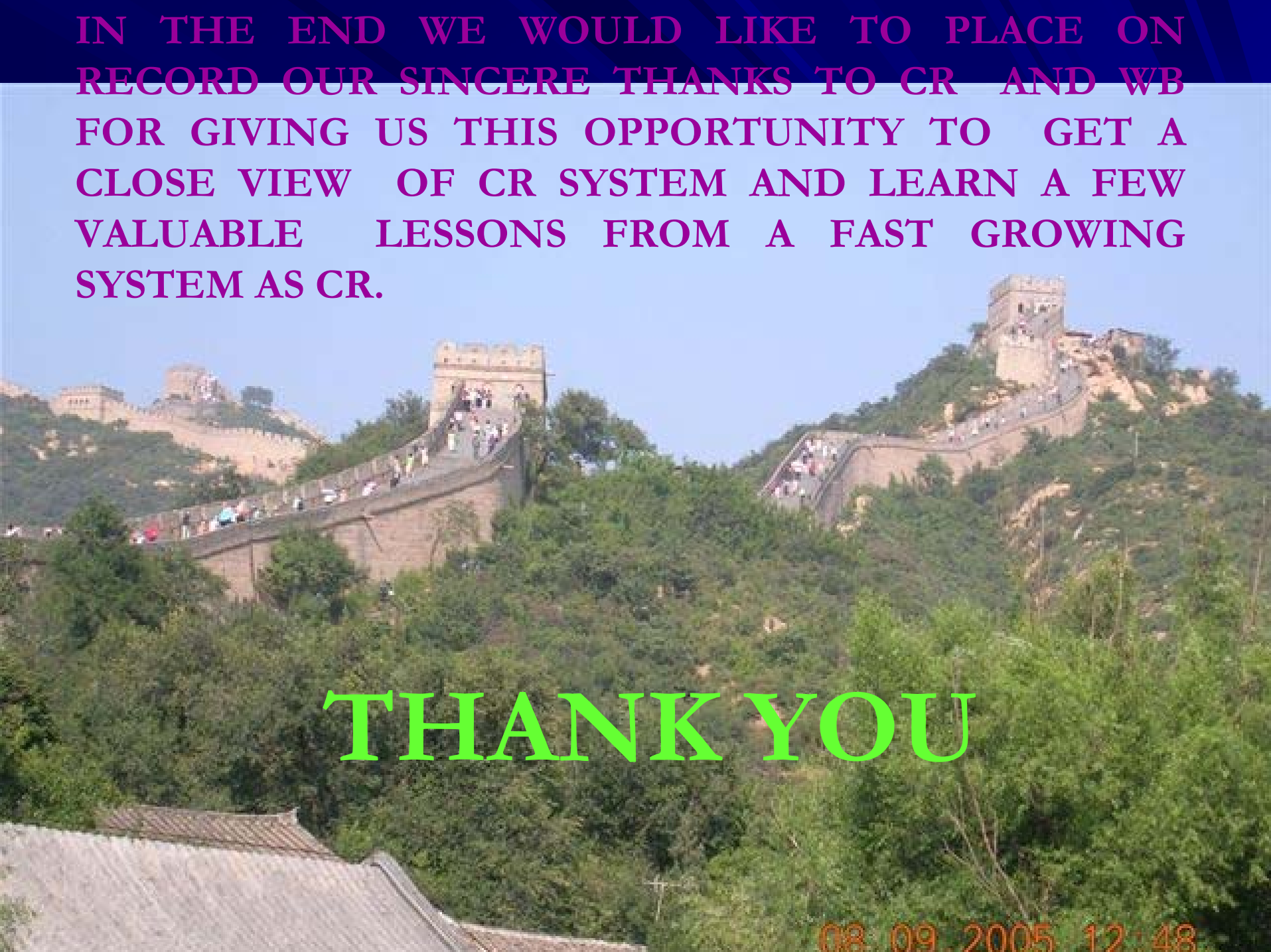
Improving asset reliability through higher maintenance standards

Increasing use of IT in Railway Management

Upgrading technology in rolling stock, track, signaling and operational management

Hiving off non core activities

IN THE END WE WOULD LIKE TO PLACE ON RECORD OUR SINCERE THANKS TO CR AND WB FOR GIVING US THIS OPPORTUNITY TO GET A CLOSE VIEW OF CR SYSTEM AND LEARN A FEW VALUABLE LESSONS FROM A FAST GROWING SYSTEM AS CR.



THANK YOU

TRACK MAINTENANCE
&
CONSTRUCTION
ON
CHINA RAILWAYS

TRACK ON CR

Total Track Kms	130709
Standard Gauge	129610
Main Operating Lines	86850

Speed Potential

Passenger	160-200 Kmph
Goods	80 Kmph
Container	120 Kmph

Track Standards

Rails	75, 65, 60, 45 Kg/m
UTS	800-980 Mpa
UTS Head Hardened	1230 Mpa
CWR Length	200-300 Kms
Sleepers PSC (no./ Km)	1667-1840
Ballast (in cm)	35-45
Ruling Gradient	
Heavy Haul line	1 in 250
High speed line>160kmph	1 in 80

Track Standards & Maintenance

High speed & heavy haul routes are World Class conforming to international quality standards.

Asset Reliability is very high, almost NO FAILURES

Fully Mechanised Maintenance-

- **Track Laying**
- **Tamping**
- **Rail Grinding**
- **Rail Flaw Detection**
- **Track Inspection**

CONSTRUCTION STATISTICS

	New Lines	Doubling
8th Plan 1990-1995	6800	5100
9th Plan 1996-2000	5660	4270
10th Plan 2001-2005 (planned)	6000	3000