

The State Govt. during January 2005 had proposed to avail loan from World Bank and JBIC (Japan Bank for International Co- operation) for improvement of the state roads. The proposals were sent to the World Bank and JBIC through the Ministry of Road Transport and Highways and Department of Economic Affairs, Govt. of India.

The proposals were approved by the **SLPMC on EAP** (State Level Project Monitoring Committee on External Aided Project), chaired by the Chief Secretary, Orissa, on 20.01.05. The preliminary proposals included 27 nos. of road project under World Bank Scheme and 14 road projects under JBIC scheme. The project cost proposed under **JBIC was Rs. 715.34 Crores for 805 Km** of state road and that under **World Bank Rs. 1642.44 Crores for 2197 Km** of state road.

The Department of Expenditure, Ministry of Finance, Govt. of India gave clearance to the proposed **World Bank project** in their letter dated 07.04.2005 addressed to the State Govt. (Finance Department). However, **the proposed JBIC road project has not yet been approved / cleared by the Govt. of India.**

After clearance from Govt. of India, a **full identification mission** from the World Bank comprising Dr.Binyam Reja (Task Team Leader), A.K. Swaminathan (Sr. Transport Specialist), Mohammad Hassan (Sr. Social Development Specialist), and Ernst Hunning (Institutional Development Consultant) visited the State from April 14-22, 2005 to initiate the preparation of the proposed Orissa State Roads Project (OSRP). The mission met with concerned officials of the Government of Orissa (GOO) and senior management of the Orissa Works Department (OWD), and carried out field visits to some of the proposed roads.

During the April 2005 World Bank Identification Mission, it was agreed that, detailed project preparation for the proposed road network shall commence in a phased manner in three phases i.e Phase-I, Phase-II & Phase-III (Para -11 & Para-27 (b) , (e) : April 2005 Aide Memoir of World Bank).

The World Bank team had discussed with the Finance Department for Plan provisions and necessary counterpart funding. After a detail discussion, the World Bank had agreed to:

- a. Fund a Project for improvement Road infrastructure amounting to Rs. 1200 Cr. Out of which state has to bear Rs. 200 Cr as counterpart funding. Total World Bank loan ceiling shall be US\$ 225 Million.
 - b. High density road corridors having sufficient economic viability of about 1200 – 1400 Kms shall be included in the project.
 - c. Balance roads shall be identified after carrying out a network analysis and economic viability from the balance 3700 Kms of State Highways in other phases subsequently.
- At the preliminary stage, identified about 825 Km of Road Stretches to be included in the Phase-I of the Project. These roads were selected from the earlier dropped project for which a full-scale techno-economic feasibility study was carried out.
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| 1. Jagatpur – Salepur – Kendrapara – Chandbali – Bhadrak (SH9 & SH 9A) | - 152 Km |
| 2. Bhadrak – Anandpur – Karanjia – Tongabilla (Jashipur) (SH 53 & SH 49) | - 142 Km |
| 3. Khariar – Bhawanipatna – Muniguda – Rayagada – Kereda (SH 16, SH 6 & MDR 48b) | - 213 Km |
| 4. Berhampur – Rayagada (SH 17 & SH 4) | - 201 Km |
| 5. Banarpal – Daspalla (MDR 18, MDR 18A & MDR 64) | - 89 Km |
| 6. Bhanjanagar - Aska (SH – 7) | - 38 Km |
- The World Bank however desired to check the viability of these roads by carrying out an updated **techno-economic feasibility study**.
- The project also includes identification of road stretches to be taken up in Phase – II of the project after carrying out **network analysis for all State roads**.

- Accordingly a **domestic Consultant has been** engaged from Govt of Orissa's own resources to carryout:

1. the Economic viability of Phase – I Roads;
2. the feasibility study & DPR of Phase – I Roads and
3. the network analysis of all State Highways of the State and identification of phase II roads.

□ **The World Bank Mission had:**

- Agreed for a Project for improvement of about 1200 – 1400 Km State Roads with a Project size of **Rs. 1480 Cr. (US\$ 315 Million)** with loan component of **Rs. 1175 Cr. (US\$ 250 Million)** and counterpart funding of **Rs. 305 Cr. (US\$ 65 Million)** ;

The World Bank team again visited the state during September 2005 and inspected the roads proposed by the State Government to finalise roads for inclusion in Phase-I of the project (Para -12 & Para-14 : September 2005 Aide Memoir of World Bank) . During the said visit, some of the important roads proposed under JBIC assistance (Japan Bank for International Co- operation) was included in the Phase-I list of World Bank roads after discussion with the World Bank, since the proposal submitted to JBIC was not cleared by the Dept. of Economic Affairs, Govt. of India.

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| 1. Jagatpur – Salepur – Kendrapara – Chandbali – Bhadrak (SH9 & SH 9A) | - 152 Km |
| 2. Bhadrak – Anandpur – Karanjia – Tongabilla (Jashipur) (SH 53 & SH 49) | - 138Km |
| 3. Khariar – Bhawanipatna – Muniguda – Rayagada – Kereda (SH 16, SH 6 & MDR 48b) | - 223 Km |
| 4. Berhampur – JK Pur _ Rayagada (SH 17 & SH 4) | - 202 Km |
| 5. Banarpal – Daspalla - Bhanjanagar - Aska (MDR 18, MDR 18A & MDR 64,SH – 7)) | - 201 Km |

Approval from Hon'ble Chief Minister to the roads proposed under Phase-I of World Bank scheme, covering a total length of 835 Km was obtained during October 2005, so as to proceed for detailed feasibility, economic analysis and other associated studies for Detailed Project Preparation and bidding. The major criteria used for selection of these roads were traffic volume, carriageway width, pavement conditions, economic activity in the influence area of the road, and connectivity of the roads.

Subsequently, after consideration of the Feasibility Study prepared by the DPR Consultant, the World Bank Mission during their visit to the State in November 6-10, 2006 have decided to improve the following roads in the Year – I of the Project.

1. Chandabali – Bhadrak – Anandapur
2. Khariar – Bhawanipatana
3. Berhampur – Taptapani

The World Bank had suggested to carryout detail economic viability and feasibility study for the 835 Km roads proposed under Phase-1 and Network Analysis of the entire State Highway Network (covering about 3955 Km, leaving 835 Km Phase-1 roads) for identification / prioritization of 1600 Km roads for improvement in Phase-II & Phase-III (Para -11 & Para-27 (a), (e) : April 2005 Aide Memoir of World Bank). They had suggested to use the latest traffic and road condition survey data so as to assess which roads should fall under rehabilitation, and which roads should fall under upgrading in the detailed economic analysis.

Accordingly, economic viability and detailed feasibility study for the 835 Km roads proposed under Phase-1 and Network Analysis of the entire State Highway Network (covering about 3955 Km, leaving 835 Km Phase-1 roads) for identification / prioritization of 1600 Km roads for Phase-II & Phase-III were carriedout with help of a domestic consultants. M/S CEG Ltd from Rajasthan. The economic justifications of proposed road improvements under Phase-1 have been analyzed by using the life cycle costing economic tool “ Highway Development and Management Model (HDM-4) version 1.3” of World Bank. The economic evaluation has been carried out on the basis of incremental costs and benefits comparing the total net benefits with various alternatives. The economic indicators like NPV (Net Present Value) and EIRR (Economic Internal Rate of Return) are then calculated. The final list of roads included in Phase-I alongwith summary of their techno-economic analysis with NPV, EIRR and ratio of NPV and cost etc. is shown at Annexure-I: The EIRR of each of the five corridors under Phase-1 varies from 30.53% to 17.28% with NPV of Rs 13172.8 million. It may be noted that the roads with EIRR more than 12% are considered financially viable under the World Bank loan.

□ The World Bank had further intimated that the Project shall include

- Institutional Reform of the Works Department, as per the Institutional Strengthening Action Plan (ISAP) prepared by the **Task Force** constituted by Government;
- Identification of Roads to be improved under Public Private Partnership (PPP) mode with Viability Gap Funding from Govt. of India and World Bank along with preparation of necessary legal frameworks and documents;
- Establishment of a Road Asset Management System for Works Department