

projects on BOT (Toll) basis, 25% on BOT (Annuity) basis and 15% on EPC basis. Currently out of 219 projects under implementation, 42% of the projects are under BOT (Toll) mode, 12% under BOT (Annuity) and 46% under EPC mode. In the year 2010-11 alone, so far 43 projects have so far been awarded out of which 41 are being undertaken with private sector participation in which the private concessionaire would construct and maintain the road as well for the period of the concession. Role of public sector is to provide Land, facilitate all utility shifting and undertake rehabilitation and re-settlement as part of pre-construction activities at public costs.

(d) No Sir.

#### **Import of large quantity of bitumen**

1631. SHRIMATI JHARNA DAS BAIDYA:

SHRI TAPAN KUMAR SEN:

Will the Minister of ROAD TRANSPORT AND HIGHWAYS be pleased to state:

- (a) whether India is importing large quantity of bitumen for construction of roads;
- (b) if so, the quantity imported during last three years;
- (c) whether any cost benefit analysis on life cycle and cost of bitumen and concrete roads, has been made;
- (d) if so, the details thereof; and
- (e) if not, the reasons therefor?

THE MINISTER OF STATE IN THE MINISTRY OF ROAD TRANSPORT AND HIGHWAYS (SHRI JITIN PRASADA): (a) and (b) This Ministry is not importing bitumen for National Highway projects.

(c) to (e) As per manual of specifications and standards for 4 laning of National Highways through PPP (IRC:SP 84-2009) flexible pavements are designed for a minimum design period of 15 years or operation period whichever is more and rigid pavement are designed for a minimum period of 30 years. The cost of construction of concrete and bitumen roads for National Highways is dependent upon several factors such as design period, sources of construction materials like aggregate, bitumen, cement, labour, construction technique and machinery used, terrain and traffic conditions etc.