

SOUND FINANCIAL MANAGEMENT & RELIABLE SOURCES OF FUNDING – KEY ATTRIBUTES FOR TIMELY COMPLETION OF HIGHWAY PROJECTS

i) M Kishore Kumar, Executive Engineer (Civil), Border Roads Organisation, Government of India (Part-time PhD scholar, KL University, India). Tel : 91-3712-230501, 91-9401665972, Fax : 91-3712-220706. E- mail : makam64@sify.com

ii) Dr CH Hanumantha Rao, Head of Civil Engineering Department, KL University, Green Fields, Vaddeswaram, Guntur District, Andhra Pradesh, Pin 522 502 (India). Tel : 91-8645-246948,91-9985119909, Fax : 91-8645-247249.Email: hanumantharao.chappidi@gmail.com.

ABSTRACT

Initially, not much private sector investment for road construction was forthcoming, but National Highways Authority of India (NHAI) addressed their concerns through the 'Model Concession Agreement (MCA)', which ensured that Concessionaire's investments would be secure and facilitated loans from financial institutions. There were also concerns about the growth of traffic over time, which directly impact the toll collection targets. To address this, NHAI came up with the annuity scheme, under which the private investor builds and maintains the road over a fixed period of time, the NHAI collects toll and pays the company an annual amount. Also, to make the Build-Operate-Transfer (BOT) projects attractive to private investors, the NHAI evolved a system under which it can give a grant up to 40% of the cost of a project under the system of Viability Gap Funding (VGF). A new Model Concession Agreement (MCA) for Highway Projects was put into practice from the year 2006. The new agreement includes Design, Build, Finance, Operate and Transport activities instead of Build, Operate and Transfer. Replacing 'transfer' by 'transport' is crucial as it implies that government, instead of owning the asset after the concession period, would continue to buy 'road services' from the Concessionaire.

The new MCA framework of 2006 addresses the issues, which are typically important for PPP projects, such as unbundling of risks & rewards, symmetry of obligations between the principal parties, equitable sharing of costs & obligations, and risk mitigation options under various scenarios including force majeure & termination, under transparent procedures. All the new NHAI projects, including the 6 laning of 6500 km highways at a cost of INR 22,750 crore cleared by the PM's Committee on Infrastructure (CoI) are being awarded as per the new MCA. The highlights of the New MCA are as under :

- Partial guarantee of traffic risk to the Concessionaire.
- Concessionaire's interest protected in competing roads.
- Performance standards of the highways clearly spelt out.
- Provision for change in scope, if any, required during construction and operation period included.
- Utilities to be relocated by the Concessionaire but it will be excused from failure in case of delay by owning agencies.
- Focus on road User's safety.
- Users fee charges, revision thereof and concession to local traffic clearly spelt out.
- NHAI has to provide land free from all encumbrances, NHAI to bear cost of all pre-construction activities.
- Risks are allocated to the party, which is best suited to handle it.
- Lowest subsidy/grant quoted by the bidders towards viability gap funding or earliest premium quoted by the bidder is the basis for award.
- Force Majeure conditions and relief to the party under such conditions clearly spelt out and strong dispute resolution mechanisms.

A survey covering 12 states and 3 central agencies covering 86 PPP projects awarded in 5 infrastructure sectors has revealed that highway sector evoked massive response in as many as 74% PPP projects when compared with other sectors as Urban Development (13%), Ports (9%), Airports (2%) and Railways (2%). Still the ambitious highway program under National Highway Development Program (NHDP) is lagging far behind the completion schedules. Certain modifications to Model Concession Agreement (MCA) suggested by BK Chaturvedi Committee (2009) for making PPP more attractive are given as under :

- Increase in equity grant (VGF) to 40% by merging equity and O&M grants.
- Project wise PQ in RFQ to be substituted with annual/periodic PQ.
- Threshold Technical Capability (TTC) of bidders to be reduced from twice the estimated project cost to estimated project cost i.e., brought down by 50%.
- Applicability of Conflict of interest at RFP stage instead of RFQ since applicants would be unaware of each other at RFQ stage. The identity of other bidders occurs only when the list of qualified/eligible applicants is put up for information only after RFQ stage.
- Relaxing the condition of forfeiture of entire Bid Security which is a significant amount between 1 to 2 % of Total Project Cost (TPC) to mere 5% of value of Bid Security due to non-responsiveness of tenderers.
- Extension of concession period of Concessionaire in proportion to cost to be incurred for capacity augmentation with an upper cap of 5 years instead of existing clause for termination in case of exceeding of designed traffic.

Still a lot needs to be done for making this gigantic NHDP a success story for carrying on the juggernaut of resurgent Indian economy to attain the great heights. This paper delves at length on the various issues pertaining to financing part of highway modernization programme with the sole objective of speeding up the ongoing NHDP @ 20 km/day as envisaged by Indian Minister for Road Transport & Highways.

Key words : Public Private Partnership (PPP), Model Concession Agreement (MCA), Build Operate Transfer (BOT), Pre-Qualification (PQ).

INTRODUCTION

The main roads in Indian subcontinent have not kept pace with traffic volumes as well as in terms of quality also. Out of the total 171,445 Km length of National and State Highways only 2 percent of their length is four-lane, 34% two-lane, and 64% single lane. As far as NHs are concerned, only 5% of their length is four-lane, 80% two-lane and the balance 15% continues to be single lane. Thus the road sector, in spite of its high priority is adversely affected by the poor quality and service levels. The poor quality of roads in India is highlighted by congestion, old fatigued bridges and culverts, railway crossings, low safety, no by-passes, slow traffic movement and above all the impacts of vagaries of nature. The deficiencies in the road network are causing huge economic and environmental losses. In order to improve the road network on a country wide level, National Highway Development Programme (NHDP) as depicted at Fig 1 is undertaken by way of widening & strengthening of existing highways, reconstruction /widening of bridges and constructing bypasses. The programme aims to develop the Golden Quadrilateral (GQ) and the North South as well as the East West corridor (NSEW Corridor) as these are the high volume sectors carrying the substantial portion of the road traffic in India.

While the government is providing increasing budgetary allocation for projects in the highway sector and has undertaken major upgradation initiatives in high density corridors, it has not been possible to allocate sufficient funds matching the needs for maintenance of NHs.

The physical programmes of road development and removing the financial bottlenecks need concerted efforts in the form of mobilisation of funds from other sources. In-flow of private sector funds is expected to bridge the gap of the demand and supply to certain extent. The framework for commercialization of highways, a comprehensive policy for improving the private sector participation in the road sector through Model Concession Agreement (MCA) takes into account the deficiencies in the present framework of private participation in infrastructure development projects. The model attempts to address the concerns of all the stakeholders like investor, lenders, Government (Govt) and National Highway Authority of India (NHAI), with an emphatic orientation in favour of the user and proposes a phased development of the highways to avoid huge capital commitment and thus encourage private participation. In the agreement strict definition of technical parameters were formulated from the users' point of view. Issues such as risk allocation, concession period and concession fee are clearly dealt with special focus on encouraging private participation. It also provides for substantial flexibility to the concessionaire in terms of operation, construction, monitoring & supervision by spelling out the obligations of the Concessionaire & NHAI.

ECONOMIC STIMULUS OF NHDP

Major economic & social benefits derived from NHDP are savings in vehicle operating & maintenance costs, travel time, fuel etc, reduced accidents, benefits to trade especially movement of perishable goods and overall area development thus establishing better and faster transport networks between many major cities and ports. It provides an impetus to smoother movement of products and people within India thus enabling industrial and job development in smaller towns through access to markets and creating opportunities for farmers through better transportation of produce from the agricultural hinterland to major cities and ports for export, through lesser wastage and spoils. As per World Bank, estimated benefits work out to Rs.8,000 crores (US \$ 1.6 bn) per annum on GQ alone. The daily requirement of workers (skilled & unskilled) is a gigantic 0.25 million and supervisory staff @ 10,000 per day. By December 2003 alone, 18 crore man-days were employed for completion of NHDP Phase I. Finally, it drives economic growth directly through construction as well as through indirect demand for cement, steel and other construction materials. As per figures of press note from press information bureau of Government of India, cement and steel have registered a growth of 8.1% and 6.8% respectively. In the case of commercial vehicle sector mainly goods carriers, a phenomenal 53% growth has occurred thus giving an impetus to truck transport throughout India.

FINANCING OF NHDP

Govt of India (GoI) has huge budgetary commitments on development of road connectivity in remote & backward areas such as North East (NE) region through Special Accelerated Road Development Programme (SARDP) thus literally closing the options of funding from the central exchequer for development of new roads/improvement works. For implementation of NHDP Phases I & II, the fuel cess has been the main source of financing by NHAI. The present rate of cess is Rs. 2 (US 4 cents) per litre on both petrol and diesel. A part of this cess is allocated to NHAI to fund the NHDP. This cess is leveraged to borrow additional funds from the domestic market. Besides, the Government of India has also negotiated various loans from World Bank (US \$ 1,965 million), Asian Development Bank (US \$ 1,605 million) and Japan Bank for International Cooperation (Jap. Yen 32,060 million) for financing various projects under NHDP. These loans from the multilateral institutions are passed on to NHAI by the Government partly in the form of grant and partly as loan. NHAI also negotiated a direct loan of US \$ 165 million from ADB for one of its projects. The funds

provided to NHAI, including its borrowings from the market such as Infrastructure Bonds, are utilized for meeting project expenditure as well as debt servicing. The financing arrangements be it through cess or budgetary support has reached a saturation point and moreover loans & borrowings brings in huge liabilities in the form of debt servicing & repayment thus it was decided by Committee on Infrastructure (CoI) under the chairmanship of Prime Minister on Mar 15, 2005 that for NHDP Phase III and onwards, all contracts for provision of road services would be awarded only on BOT basis (either based on Toll or Annuity or a suitable Toll/Annuity hybrid), with EPC awards being made in specified exceptional cases only as shown at Table 1 below.

Table 1. NHDP Works Plan 2009 - 2014

Work Plan :		Year – wise Length in km				
NHDP Phase	2009-10	2010-11	2011-12	2012-13	2013-14	Total
BOT (Toll) : 20706 kms (i.e., 56 %)						
III (4 lane)	4373					4373
II (4 lane)	55					55
V (6 lane)	2403	1200	-	-	1477	5080
VI (expressways)			436	604		1040
III (2 lane with paved shoulders)	1977					1977
IV (2 lane)		4086	3075	339		7500
VII (4 lane)			681			681
BOT (Annuity) : 13014 kms (i.e., 35 %)						
III (4 lane)	524					524
II (4 lane)	380					380
II (J & K)	239					239
III (2 lane with paved shoulders)	1477					1477
IV (2 lane)		4645	4000	1355		10000
SARDP-NE (4 lane)	394					394
EPC : 3330 kms (i.e., 9 %)						
SARDP-NE (4 lane)	330					330
IV (2 lane)		1161	1000	339		2500
III (2 lane with paved shoulders)	500					500
Total	12652	11092	9192	2637	1477	37050
Estimated Expenditure (Rs. crores)			Source of Funds (Rs. crores)			
Project Construction : 337959 (41.59%)			Cess Funds : 360631 (38.56%)			
**Annuity Payments : 207579 (25.54%)			Grants & Loans : 9782 (1.05%)			
Interest on Borrowings : 78285 (9.63%)			Toll Revenue Net surplus : 117418 (12.56%)			
Repayment of Borrowings : 188838 (23.24%)			Negative Grant : 3318 (0.35%)			
			Budgetary Support : 1398 (0.15%)			
			Addl Budgetary Support : 39329 (4.20%)			
			Share of Private Sector : 211315 (22.60%)			
			Borrowings : 191948 (20.53%)			
Total : 812661 (100%)			Total : 935139 (100%)			
NHDP Phase	I	II	III	IV	SARDP-NE	SARDP-J&K
**Annuity (Rs. crores)	8635	31925	46261	84441	9717	26599

PUBLIC-PRIVATE PARTNERSHIP (PPP)

Provision of quality & efficient infrastructure services is essential to realize the full potential of the growth impulses surging through the economy. There is now a widespread consensus that exclusive dependence on government for the provision of all infrastructure

services introduces difficulties concerning adequate scale of investment, technical efficiency, proper enforcement of user charges, and competitive market structure. At the same time, complete reliance on private production, particularly without appropriate regulation, is also not likely to produce optimal outcomes. India, while stepping up public investment in infrastructure, has been actively engaged in finding the appropriate policy framework, which gives the private sector adequate confidence and incentives to invest on a massive scale, but simultaneously preserves adequate checks & balances through transparency, competition and regulation. An investment of Rs.14,50,000 crore or about US\$320 billion would be required in the infrastructure sector during the Eleventh Five Year Plan. These investments are to be achieved through a combination of public investment, public-private-partnerships (PPPs) and exclusive private investments, wherever feasible. Investment requirements by 2012 estimated by the Committee on Infrastructure, headed by the Prime Minister, in some of the key sectors are: Rs.2,20,000 crore for modernization and upgradation of highways; Rs.40,000 crore for civil aviation; Rs.50,000 crore for ports; and Rs.3,00,000 crore (of which 40% is expected to come from the private sector through PPP) for the Railways.

Historically, investments in infrastructure, particularly in the highways, were being made by the Government mainly because of the large volume of resources required, long gestation period, uncertain return and associated externalities. However, National Highways Act 1956 was amended in 1995 to permit private sector participation. With the passage of this amendment, Central Govt can enter into agreement with any person for development & maintenance of NHs, for collection & retention of user fee (toll) and to regulate & control traffic as per Motor Vehicle Act 1988. The galloping resource requirements and the concern for managerial efficiency and consumer responsiveness in recent times have led to an active involvement by the private sector also. To encourage participation of the private sector, the Department of Road Transport and Highways has laid down comprehensive policy guidelines for private sector participation in the highway sector. Department of Economic Affairs (DEA) has taken the following initiatives to promote PPPs :

- Preparation of Handbook & Development of Database for PPPs.
- External assistance for capacity building in State Government & Line Ministries for PPPs
- Regional Workshops to disseminate information & exposure to 'Best Practices' for State/Central Ministry officials in countries with substantial experience in PPPs.
- Road Shows in major investor countries for Vendor Development.

Government has also announced several incentives such as tax exemptions and duty free import of road building equipments and machinery to encourage private sector participation. Further State Governments have been requested to take the following actions :

- Infrastructure & PPP to be entered as subjects in the Rules of Business Transaction and assigned to one Department for focus where a 'PPP Cell/PMU' may be created, preferably in Dept of Planning under Finance Ministry.
- One Secretary level officer to be declared as 'Nodal Officer' for dealing with the subjects and for coordination with infrastructure departments in the State Governments and with Central Government.
- Infrastructure departments ought to set own financial targets of attracting private investment through PPP and these could be monitored and reviewed as 'Plan outside of Plan' regularly.
- Capacity Building needs to be identified and the PPP Nodal Agency to communicate requirements to Dept of Economic Affairs (DEA).

CURRENT SCENARIO

In the financial year 2008-09, NHAI placed some 60 projects for bidding under BOT (Toll) mode. Overall investment requirement for these was around Rs. 70,000 crore (US\$ 15 bn). Unfortunately, the financial crisis from October, 2008 onwards resulted in a poor response from the market. NHAI received a total of 22 responses to the bidding, of which only 12 could be awarded, the reason being that six of the balance 10 were single bids which were not allowed as per the extant policy, and 4 were bids for NHDP Phase V packages where the demands for grant was much higher than the 10% which could be given as VGF as per Government decision. NHAI after obtaining Board approval has restructured these balance 48 projects and are placing them again for bidding. Over and above this, NHAI has also restructured a further 22 projects and are also putting them out for bidding. Of these 70 BOT projects available for bidding, an internal exercise has shown that only 26 projects of Phase III are likely to be viable on BOT Toll and 12 projects of Phase-V alone are likely to be viable on BOT Toll. In order to assess the overall viability of all projects remaining in Phase III and Phase V an internal exercise has shown that 66 projects out of total 92 still to be bid out may not be viable and would not get bids under BOT toll model. Similarly an analysis of the NHDP Phase V projects has also been done wherein it has been estimated that of the balance 41 packages, 29 may not be viable on BOT Toll model with VGF being limited to 10% in each case as per Government directions. An extract from 30th Jan 2009 Business Daily from The Hindu Group of Publications titled 'Highway projects: Delay in seeking bids costs Govt dear' by Mr Brahm Dutt, Road Transport and Highways Secretary highlights the gravity of delays on PPP projects as under :

A year's delay in inviting financial bids for highway projects is costing the Government dearly, with the bidders now asking for viability gap funding (VGF) instead of offering funds for widening and operating the highways by collecting toll revenues. For widening stretches on highways such as Pune-Sholapur, Kishangarh-Udaipur, Kishangarh-Walahjpet, Varanasi-Aurangabad and MP/Maharashtra border-Surat-Hazira, bidders have sought funds from the National Highways Authority of India (NHAI) for building, financing and operating the highways. Till about mid-2008, these projects were perceived to be attractive by the industry. However, since September 2008, NHAI has been finding it difficult to get bidders for these design, build, finance, operate and transfer (DBFOT) projects. For the Pune-Sholapur project, both the bidders -- Navinya and HCC -- have sought grants of about Rs 300 crore. Similarly, for widening and operating a stretch on the Kishangarh-Udaipur highway, both the bidders (GVK and GMR) have sought over Rs 1200 crore. For the Krishnagiri-Walahjpet section, there were three bidders and all have sought viability gap funding of over Rs 600 crore. The bidders are Isolux-Soma consortium, Reliance (ADAG) and GMR. Two bidders -- Soma-Isolux and Gammon, eyeing the Varanasi-Aurangabad section, have sought over Rs 1000 crore as grant from the Government. The Gujarat/Maharashtra border-Surat-Hazira project had Soma and GMR as bidders with both seeking over Rs 550 crore as VGF.

The Road Transport and Highways Secretary, Mr Brahm Dutt, recently admitted that the delay in inviting financial bids for the NHAI projects had dampened the developers' response. "If we had invited bids early last year, the response would have been much better," he had stated. The toll revenues of existing concessionaires have been hit because of the economic slowdown in the last few months, particularly in select stretches. NHAI may now convert some projects to BOT (annuity) model – where NHAI takes the toll revenue risk — to make them attractive. The toll revenues have been impacted in some stretches in the slowdown. However, the bidders now appear to be seeking further reduction in project risk by the Government.

SOUND FINANCIAL MANAGEMENT

Due to peculiarity from project approvals to plan and then to capital, the highway construction industry is largely influenced by the Government policies. Government is actively pursuing PPPs to bridge the infrastructure deficit in the country. Several initiatives have been taken since 2002 to promote PPPs in sectors like power, ports, highways, airports, tourism and urban infrastructure. Under the overall guidance of the Committee on Infrastructure (CoI) headed by the Prime Minister, the PPP programme has been finalised and the implementation of the various schemes is being closely monitored by the constituent Ministries/Departments under this programme. The appraisal mechanism for the PPP projects has been streamlined to ensure speedy appraisal of projects, remove red tape, adopt international best practices and have uniformity in guidelines. An appraisal mechanism has been notified including the setting up of the Public Private Partnership Appraisal Committee (PPPAC) responsible for the appraisal of PPP projects in the central sector. The committee has mandated detailed guidelines for submitting proposals and follows a pre-determined time frame for according approval to proposals submitted in a time bound manner.

PPP projects involve long-term detailed contracts between Govt and Private parties spelling out the rights & obligations of both the contracting parties. Given the complex issues involved and the exposure of Government in such contracts, Committee on Infrastructure has mandated issue of model documents. Government has decided to create standardized frameworks based on due diligence rather than evolving agreements on a project-by-project basis. The agreements will be based on international practices and will create a framework with the right matrix of risk allocation obligations and returns. The Model Concession Agreement (MCA) for National Highways has been issued by the Committee on Infrastructure. Planning Commission has also issued MCAs for ports, state highways and operation and maintenance agreements for highways, though these are only for guidance and have not been approved by the Committee on Infrastructure. Guidelines for pre-qualification of bidders for PPP projects are also under finalisation and are expected to be issued shortly.

PPP is still a nascent concept in India, and expertise at the level of project authorities, both at the central and state levels, is limited. The awareness of concerns and issues relating to PPPs is still lacking and not evenly spread across the different States. A need was felt to provide capacity building in State Governments to enable them to prepare PPP proposals. To promote the PPP programme, all State Governments and Central Ministries have been advised to set up a PPP Cell with a senior level officer deputed as PPP Nodal Officer. It is proposed to provide assistance to states in this regard. Technical assistance (TA) from the Asian Development Bank (ADB) has been received for overall capacity building in State Governments for PPPs. The TA would fund strengthening of the PPP Cell of the respective State governments, including hiring of consultants and training of personnel.

The paradigm shift to PPP mode for future development of highways does not absolve the Government of its basic responsibilities since much of the progress on the roads and highways front will depend on how rapidly constraints such as delays in land acquisition, clearances from State Forest & Pollution Control Board (PCB), removal of structures and shifting of utilities, law and order problem in some States are removed. Besides issuing permits required for project implementation, the State Support Agreement in the form of assistance in highway patrolling, assurances for no additional toll way (generally before 8 years) as per the Concession Agreement is vital for success of any infrastructure projects of this magnitude. Modifications to MCA/RFQ/RFP as brought out at Para 5.4 is an indicator to the genuine concern of the Government of the day in the direction of promoting PPP for

development of infrastructure. Prudent financial management strongly recommends for implementation of cost reduction measures such as

- Substituting the BOT (Annuity) mode and Construction Contracts (CC) types by BOT (Toll) system wherever feasible;
- Tolling of two-lane projects under NHDP-IV;
- Postponing the construction of paved shoulders on 4-lane highways under NHDP-II & III-A, where traffic volumes are less than 20,000 PCUs; and
- Undertaking cost reduction through efficient designing and timely completion.

RELIABLE SOURCES OF FINANCING

For the development of Interstate Highways in USA, American Congress provided revenues from the federal gasoline tax to the extent of 90% of the cost of construction, with the states picking up the remaining 10 percent. In the Indian context also, initially NHDP phase-I was financed mostly from the petroleum cess and reasonable success of GQ (though some delay noticed in its completion) can be attributed to uninterrupted source of its financing through cess and borrowings. However inordinate delays in later phases of NHDP from phase-II onwards owes to excessive dependence on private sector participation including foreign capital and in the event of it's poor response in a developing economy like India. Nearly 40% of financing of NHDP is from cess revenues alone and any further increase in cess revenues may be met with stiff resistance from opposition. The share of private sector and toll revenues is purely dependent on the response from Concessionaires and general economic scenario respectively, thus filled with some sort of uncertainty. Same is the case with borrowings from multi-lateral funding agencies as World Bank, ADB, JBIC etc which has reached a saturation limit of around Rs. 2,00,000 cr. In this scenario, certain innovative modes of funding are suggested as under :

- **Beneficiary Participation** – Working Group on Roads for 11th Five Year Plan (2007-2012) as constituted by Planning Commission (Transport Division) in their report (Apr 2007) has suggested that some funds can be tapped from beneficiaries for projects linking Special Economic Zones (SEZs), satellite towns, ports, power plants, steel plants & other industries.
- **Corpus Fund** generated from development of land adjoining to highways on the pattern of disposal of prime Railway land figured in Rail Budget and ongoing six lane highway from Greater Noida to Agra being developed by Jaypee's Yamuna Expressway Authority (YEA). The huge appreciation in land prices can be made out from the fact that the land was acquired at Rs. 700 per sq.m whereas YEA is venturing residential plots adjacent to expressway @ Rs. 4750/sq.m i.e., almost 500% after accounting for incidental expenditure on development.
- **Increased focus on foreign funding** - Recent road shows in foreign cities show that the Government is keyed into the need to target foreign capital in a more proactive manner. There have been thoughts on the government acting as a sovereign guarantor to support NHAI's borrowing programs, apart from other measures to make the sector more attractive for private equity funds, foreign lending bodies, etc. There are several other measures like adoption of a hybrid model that incorporates developer-friendly aspects from the toll and annuity models, setting up of an independent regulator for highways, encouragement of use of automated toll collection systems to prevent leakage, and exemption of special purpose vehicles (SPVs) from the dividend distribution tax.
- **3G Auction Model for Infrastructure Projects** – The Government raised Rs. 1,05,000 crore from 3G & broad band auctions against the target of Rs. 35,000 crore. The proposal

to extend the auction method to other sectors was mooted by chief economic advisor Kaushik Basu with reference to road projects in a concept paper for the Empowered Group of Ministers (EGoM). Physical infrastructure has emerged as the single largest constraint to the country's attempts to achieve 9% plus growth rate and the government expects more than one trillion dollar investments in the XII Plan period. Mr Basu had suggested that the basis of bidding can be internal rate of return (IRR), with the developer quoting the lowest figure being awarded the project in the road sector. The project with the lowest IRR would be the least expensive because of the low margin demanded by the developer. In closed bidding system, bidders make blind bids and this system is considered non-transparent and inefficient as no real price discovery takes place in the absence of none of bidders knowing the benchmarks. Auction method can allow not just private sector to make an informed bid but also allow the government to garner more revenues as per Vinayak Chatterjee from Feedback Ventures. In 2007, GMR Infrastructure has won the rights for second airport in Istanbul (Turkey) through auction. Auctioning on the lines of 3G Spectrum instead of competitive bidding through sealed tenders for lucrative & profitable road stretches is expected to generate significant revenue for supporting the highway programme. NHAI can work out the modalities in consultation with Telecommunications & Finance ministries

Many of these are under consideration by the concerned authorities and are likely to be implemented in the near future. Autonomy to NHAI will be a critical factor as well. The latest position of various phases of NHDP as on 31st Dec 2010 is given at Table 2.

Table 2. Status of NHDP works as on 31st Dec 2010

	NHDP									Port Connectivity	Others	Total by NHAI
	GQ	NS – EW Ph. I & II	NHDP Phase III	NHDP Phase V	NHDP Phase VI	NHDP Phase VII	SARDP -NE	NHDP Phase IV	NHDP Total			
Date of Approval	Jun 98	Dec 03	Mar 05	Nov 05	Dec 07	Dec 06		Dec 07				
Original Plan for Completion	Dec 03	Dec 09	Dec 09	Dec 12	Dec 14	Dec 12		Dec 14				
Total Length (Km.)	5846	7300	12109	6500	1000	700	388	14799	48642	380	1383	50405
Already 4-Laned (Km.)	5811 (99.4%)	5447 (74.6%)	1968 (16.2%)	443 (6.8%)	-	-	-	-	13669 (28.1%)	292 (76.8%)	928 (67.1%)	14889 (29.5%)
Under Implementation (Km.)	35	1271	5374	1857	-	41	112	765	9455	88	435	9978
Contracts Under Implementation (No.)	8	102	75	16	-	2	2	5	210	5	7	222
Balance length for award (Km.)	-	424	4767	4200	1000	659	276	14034	25360	0	20	25380

CONCLUSION

According to Paul Hugentobler, Member of Executive Committee, Holcim Ltd, India has achieved air & telecommunication connectivity and now to push growth, the country must achieve physical connectivity through roads for connecting urban and rural areas. National Highway Development Program (NHDP) envisaging massive upgradation of important highways crisscrossing the nation and construction of rural road network through Pradhan Mantri Gramsada Sadak Yojana (PMGSY) are two such schemes launched by Government of India in this direction. As brought out in the preceding paragraphs and shown at Table 2, the progress on NHDP particularly from Phase III onwards is very meager despite a lapse of a decade of its commencement. The bottlenecks have been largely attributed to enormous increase in scope of works with no budgetary support thus heavy dependence on financing from private sector through BOT mode. Coupled with this, the spiraling effect of inflationary price rise on delayed projects viz., time & cost over-runs has made the entire NHDP totally unmanageable at galloping sum of eight lakh odd crore Indian rupees (US \$ 175 bn). Certain innovative modes of financing as suggested by the author such as beneficiary participation fee, corpus fund, foreign funds and 3G spectrum type auctioning needs to be explored for successful implementation of this gigantic project launched by the Government of India.

REFERENCES

- (2009). "Report of BK Chaturvedi Committee on NHDP." 27th August.
- Anupam Rastogi (2006). "The Infrastructure Sector in India, 2005." India Infrastructure Report.
- Gajendra Haldea (2010). "Report on India Infrastructure Debt Fund." June 01.
- Jeeta Bandopadhyay (2009). "Mega projects to woo foreign players, says Kamal Nath." Times Journal Current Digest, August 21.
- Mahendra Kumar Singh (2008). "Delhi HC clears the way for stalled Highway Projects." India Business, November 13.
- Min of Shipping, Road Transport & Highways (MOSRT&H), Govt of India, Guidelines for Investment in Road Sector.
- Ministry of Finance (2007). "Budget at a Glance BE 2007-08." <http://www.indiabudget.nic.in>.
- Ministry of Finance (2007). "Infrastructure : Roads." <http://www.indiabudget.nic.in>.
- National Highways Authority of India. "Model Concession Agreement, Jaipur – Kishangarh Section of NH-8."
- Press Trust of India (2008). "National Highway Builders drag NHAI." June 01.
- Report of the Core Group. "Financing of the National Highway Development Programme, Secretariat for the Committee on Infrastructure (CoI)."
- Secretary MOSRT&H (2007). "Presentation on PPP in National Highways." Conference of Chief Secretaries on PPP in Infrastructure, May 20, 2006 and July 21, 2007.

