

CHAPTER VIII

BORDER ROADS ORGANISATION

The Border Roads Organisation (BRO) is a road construction executive force, partly integral to and in support of the Army. It started operations in May 1960 with just two projects-Project Tusker (renamed Project Vartak) in the east and Project Beacon in the west. It has now grown into a 13 project executive force, supported by a well-organised recruiting/training centre and two well-equipped base workshops for overhaul of plant/equipment and two Engineer Store Depots for inventory management.

The BRO has not only linked the border areas of the north and north-east with the rest of the country, but has also developed the road infrastructure in Bihar, Maharashtra, Karnataka, Rajasthan, Andhra Pradesh, the Andaman and Nicobar Islands, Uttaranchal and Chhattisgarh.

FUNCTIONS OF THE BRO

The BRO was conceived of to construct and maintain roads in the border areas, classified as General Staff (GS) roads, in line with defence requirements. GS roads are developed and maintained through funds provided by the Border Roads Development Board (BRDB), through the Ministry of Road Transport and Highways.

Besides GS roads, the BRO also executes Agency Works, which are entrusted to it by other Central government ministries and departments. Works entrusted by public sector undertakings, state governments and other semi-government organizations are executed as Deposit Works. Over the years, the BRO has diversified into the construction of airfields, permanent steel and pre-stressed concrete bridges and accommodation projects.

The BRO also has an operational role during national emergencies and the outbreak of hostilities, when it provides direct support to the Army in the maintenance of roads in the forward zones and executes other functions specified by the government. It also provides the work force for the rehabilitation of certain forward airfields of the Indian Air Force during operations. The BRO was actively involved in Operation Parakram in support of Army formations in the western sector.

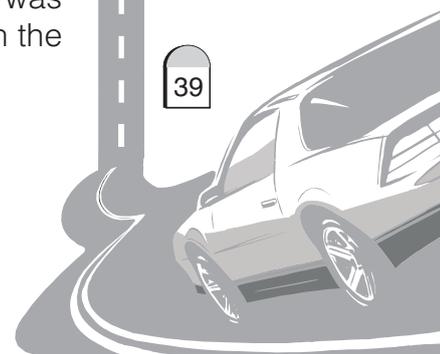
The BRO has also constructed an extensive road network in Bhutan.



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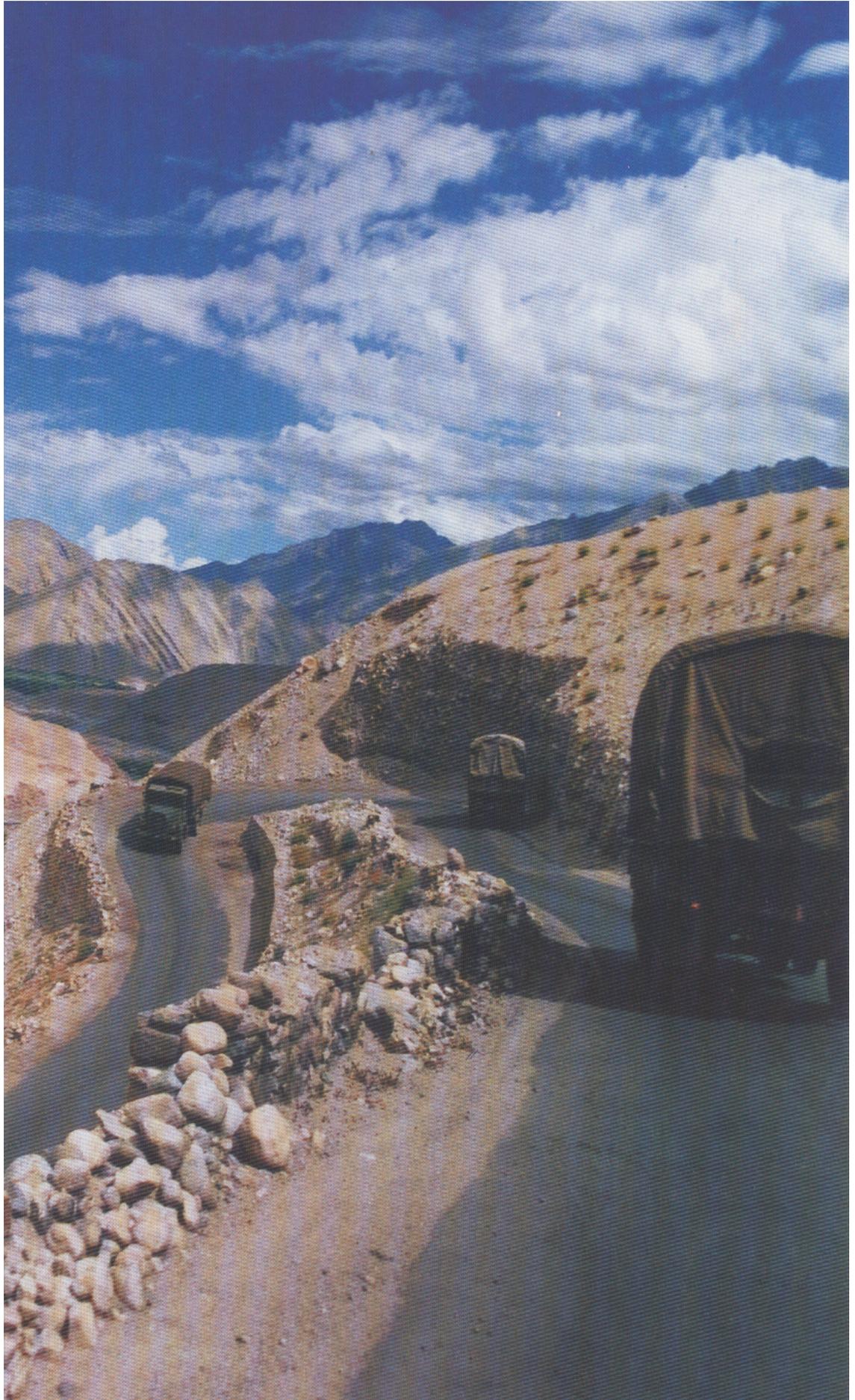




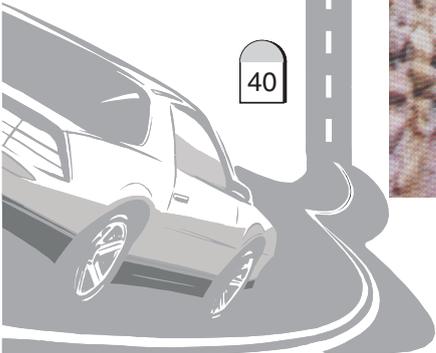
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Highway somewhere on the Border



ORGANISATION

The Director-General Border Roads (DGBR) is the executive head of the BRO. The Organisation provides a General Reserve Engineer Force (GREF) as the execution force to build and maintain roads through a Chief Engineer (Projects). The Headquarters DGBR is an executive body providing technical, financial and administrative infrastructure for the Border Roads Development Board (BRDB). The BRDB was set up in March 1960 as an inter-ministerial body, under the chairmanship of the Prime Minister, to oversee the development of road communications in the border states of the north and north-east.

The BRDB was re-constituted in 1985 with the Defence Minister as the chairman. Currently, the Minister of State for Defence is the chairman of the Board. The organizational flowchart of the BRDB and details regarding its functioning are given in Appendix IV.

The DGBR is the competent authority to finalise technical specification for all GS roads. It issues specifications for Class 9 roads as well as detailed technical instructions on various aspects like quality control, pavement design, design of bridges, retaining walls, stores procurement and budget control etc. The specifications are reviewed from time to time to accommodate latest technological developments, modernisation of equipment etc. For agency works, technical specifications given by the agency concerned are followed, but technical and financial control rests with DGBR. The outline of the organisation of the HQ DGBR and details of its functioning are given in Appendix V.

ACHIEVEMENTS OF THE BRO

The achievements of the BRO, as of 31 March 2003, are listed in Table 8.1.

Table 8.1

ACHIEVEMENT OF BRO

Item	Cumulative Achievement
Formation (equivalent CI-9 km)	30,993 km
Surfacing (equivalent CI-9 km)	37,056 km
Permanent works	Rs 3068 crore
Permanent Bridges	19044 meters

In 2002-2003, the BRO completed 875 km of equivalent Class-9 formation cutting, 1,479 km of equivalent CI-9 surfacing, 2,223 km of equivalent Class-9 re-surfacing and 1,040 meters of permanent bridge construction, both steel and pre-stressed concrete. Fifteen permanent bridges were completed in 2002-2003. The Organisation is currently engaged in the construction of 113 major permanent bridges, mainly in the border states.

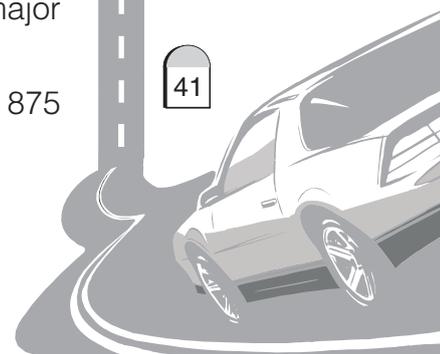
The BRO's financial work load for 2003-2004 is Rs 1347.11 crore (Rs 875 crore for GS Works and Rs 472.11 crore for Agency Works/Deposit Works).



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Work in progress on NH-58 at Piplakoti



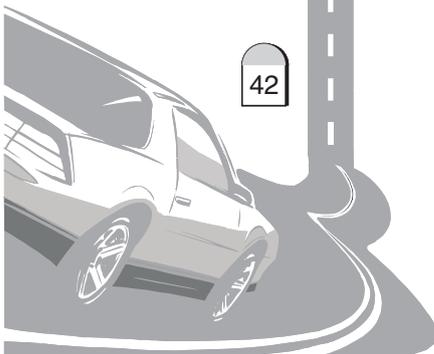
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IMPORTANT MILESTONES

- The construction of the 9-km long Rohtang Tunnel, related access roads to its portals and a 292-km long alternate route to Leh, at an approximate cost of more than Rs 1,000 crore was entrusted to the Organisation. Work on this project commenced on 26 May 2002 and is scheduled to be completed by 2011.
- The BRO has been entrusted with the construction of a 17.20-km four-lane expressway from Pathankot to Jammu (NH-1A) on behalf of the NHAI, as part of the NHDP's North-South corridor. The cost of this project is estimated at Rs 83.88 crore and it is scheduled to be completed in 36 months. Work on this has commenced.
- Completion of the 637.60 meter Naodhing Bridge on NH-52 in Arunachal Pradesh. This is the longest bridge constructed by the BRO till date.
- The construction of 137 km of roads and 25 permanent bridges as a General Staff requirement in Punjab.
- The construction of a 68 x 28 meter insulated hangar at the Thoise airfield, to house MI-17 helicopters and the re-surfacing of the airfield including a 285 meter extension of the ORA.

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- The responsibility of the maintenance of the prestigious 160 Km long Tamu-Kalemyo-Kalewa road constructed by the organisation in Myanmar has been given to it for a period of six years.
- The completion of a recce-cum-survey of roads/bridges on the Iran-Afghanistan border, at the request of the Ministry of External Affairs.
- Road construction projects, at the request of the Planning Commission, in some of the backward districts of Nagaland, Assam, Tripura and Manipur, with dedicated budgetary support from the Non-Lapsable Pool of Central Resources for the North-East and Sikkim.
- The completion of a guest house for the Controller General of Defence Accounts (CGDA) at Port Blair.
- The Organisation was conferred an award by the Institute of Bridge Engineers for the Hu Bridge constructed over a 15-meter deep gorge in Arunachal Pradesh.
- Completion of user evaluation trials for nine plant/equipment as part of the ongoing thrust towards modernisation and technical upgradation of the Organisation.
- Provision of state-of-the-art computer hardware and peripherals right down to the Road Construction Company (RCC) level and supporting logistic sub unit levels, along with the establishment of a local area network (LAN) at HQ DGBR and at 13 HQ Chief Engineer (CE) Projects.

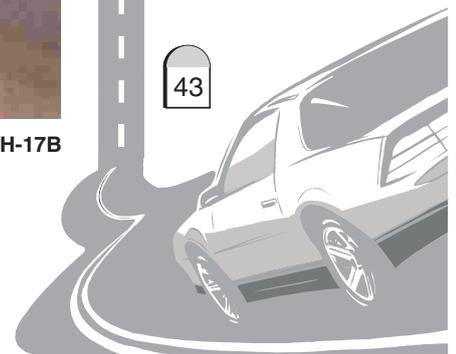


Enjoy the ride on NH-17B



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ACHIEVEMENTS PLANNED FOR 2003-04

The BRO has planned to achieve the following targets.

Table 8.2
TARGETS PLANNED BY BRO FOR 2003-04

Item	BRO's Planned Targets		
	GS	Agency/ Deposit	Total
Formation (equivalent CI-9 km)	517.00	404.00	921.00
Surfacing (equivalent CI-9 km)	804.00	1258.00	2062.00
Resurfacing (equivalent CI-9 km)	2043.00	44.00	2087.00
Permanent works (Rs crore)	212.72	312.61	525.33
Major Bridges (meters)	664.00	735.00	1399.00

IMPORTANT ONGOING WORKS

General Staff Works

The BRO is constructing/developing and maintaining roads for the General Staff of Army Headquarters in 11 border states in the north-east, north and western region. A total of 547 GS roads, covering 20,632 km, are being constructed/maintained by the BRO. These comprise 11,713 km in the northern and western sectors and 8,919 km in the north-eastern sector.

National Highways/Bypasses

The BRO has been entrusted with work on several NH projects and bypasses, the list of which is in Appendix VI.

AGENCY WORKS.

NEC Roads

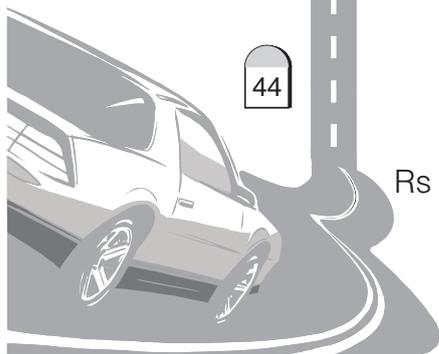
The BRO has been associated with the North Eastern Council (NEC) in the integrated development of the north-east since 1980-81, when 30 roads totalling 2,971 km were entrusted to it. This was later increased to 3,357 km. The BRO's cumulative achievements on NEC roads is as follows:

Formation	-	3,127 km (approx).
Surfacing	-	2,734 km (approx).
Pmt Works	-	Rs 167 crore (approx).

In the current financial year, the budget for NEC roads with the BRO is Rs 14.64 crore, including maintenance.



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View of completed NH-17B

Indo-Bangladesh Border (IBB) Roads

In 1987, the BRO was entrusted with the construction of Indo-Bangladesh Border (IBB) roads in Tripura, Meghalaya and Mizoram, and fencing in Meghalaya. In Phase I of the programme, the entire fencing of 198 km. in Meghalaya and work on 841 km of roads in these three states has been completed. The balance 69 km of roads, which falls in Tripura, is likely to be completed by March 2004.

Additional road and fencing work covering 1,337 km in Tripura, Mizoram and Meghalaya was entrusted to the BRO under Phase-II of the IBB programme, with a projected date of completion of 2006. However, due to certain additional commitments on the development/upgradation of NH and construction of a vital road funded by the Department of Development of the North Eastern Region, the BRO indicated its inability to execute the entire Phase II of the IBB programme. The Ministry of Home Affairs reworked the priorities and the following works, covering 288.42 km, have been selected (Table 8.3)

Table 8.3

WORKS SELECTED FOR PHASE II OF THE IBB PROGRAMME

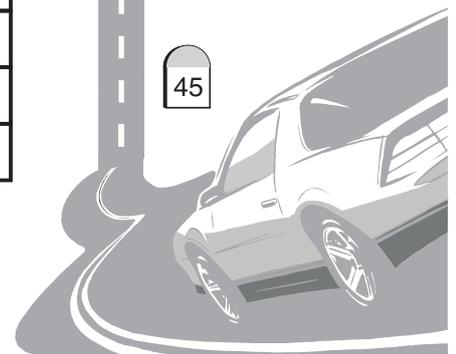
State	A/U	Roads	Fencing
Tripura	Km	-	107.17
Mizoram	Km	98.70	86.00
Meghalaya	Km	95.25	95.25
Total	Km	193.95	288.42



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Other Important Agency Works

- The construction of a 842-km long road network in the Naxalite-prone districts of Gadchiroli and Bhandara in Maharashtra, under Project Hirak, is in an advanced stage of progress.
- The BRO, through Project Dantak, is constructing and maintaining a huge road infrastructure and executing other projects in Bhutan on behalf of the Ministry of External Affairs. These include on going road construction projects for the Tala Hydel Project. Presently, a 45-km stretch between Phuensholing and Gedu is being selectively improved under funding from the Tala Hydel Project.
- The construction of internal and approach roads for the Key Location Plan (KLP) for the Army Cantonment at Bhaiderwah, entrusted to the BRO by the Ministry of Defence in December 1998, is being executed under Project Beacon. The estimated cost of the project is Rs 36 crore and it is scheduled to be completed in 2003-04.
- The status of the projects in Nagaland, Assam, Tripura and Manipur entrusted to the BRO by the Planning Commission is given in Table 8.4 below.



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Vijayawada-Eluru Section

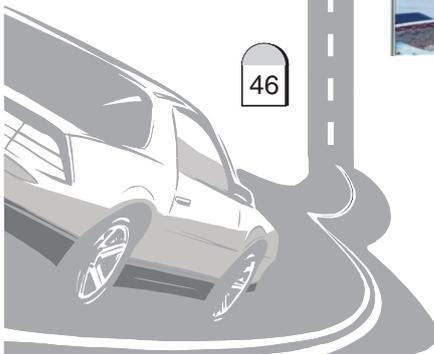


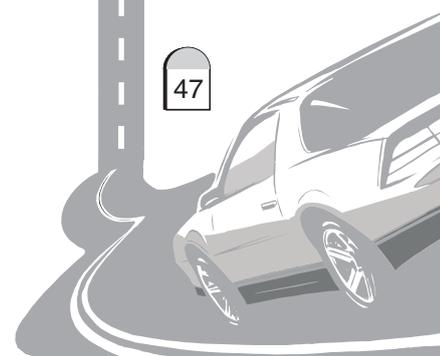
Table 8.4

STATUS OF PROJECTS IN THE NORTH-EAST FUNDED BY DONER

State	Name of Work	Length (Km)	Approved Cost (Crore)
Nagaland	Construction of road Mokochung -Dikchu-Chare in Mon District.	18.65	8.70
	Replacement of Hamilton Bridge on Mokochung-Dikhuchare Road (Construction of Pmt Br)	50.00mtr	1.60
	Construction of roads in Mon District and Tuensang District.		
	(a) Mon Namtola	44.20	9.58
	(b) Lampong-Sinha-Changnyu-Pomching	45.00	8.78
	(c) Tang Jn-Chenmoh	27.30	15.54
	(d) RSTC in Mon Dist.		0.25
(e) Khipre-Pungro	46.60	29.00	
(f) Khipre-Amahator-Lukhami	36.00	16.27	
Roads in Chen Group of village in Mon District (3)	106.00	29.97	
(a) A boy-Tohok	14.00	6.53	
(b) Tohok-Chinkaho-Wangti	31.00	9.89	
(c) Tohok-Chen HQ-Chenlaiso-Wangti	49.00	12.20	
Assam	Development of 344.01 Km Roads and replacement of 76 temporary Bridges for the Bodoland Autonomous Council Area (BAC) in the following District	344.04	101.19
	(a) Darrang District (13)		
	(b) Barpeta District (1)		
	(c) Nalbari District (6)		
Manipur	Senapati-Khanason-Lakhami-Phaibung	90.00	83.74
Tripura	Halahale-Ambassa-Dangabari-Amarpur-Bagafa-Balonia.	173.00	139.02
	Total	918.79	442.29



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Deposit Work

The Deposit Works taken up by the BRO include the construction of building complexes and accommodation for the CGDA at Port Blair, the Assam Rifles at Kaithalmanbi in Manipur, the North Eastern Regional Institute of Science and Technology in Itanagar (Arunachal Pradesh), six school complexes for the Jawahar Navodaya Vidyalaya in several border states, a Customs Complex in the border town of Zokhawthar in Mizoram, the Tezpur University Complex at Tezpur (Assam) and a helicopter hangar complex at the Thoise airfield etc. Certain important roads are also being constructed for the Kameng Hydel project in Arunachal Pradesh, the Kol Dam and Tehri Dam projects in Himachal Pradesh and the Tala Hydel Project in Bhutan. The internal road infrastructure for the IIT campus at Guwahati is also being done by the BRO.

Snow Clearance

Snow clearance work is carried out by the BRO on 64 roads totalling 2,618 km in high altitude areas in Jammu and Kashmir, Himachal Pradesh, Uttaranchal, Sikkim and Arunachal Pradesh, to meet the operational and logistic needs of the Army and provide road connectivity for the people throughout the year. The BRO has to its credit the opening of the Srinagar-Leh axis across the 11,578-foot high Zojila Pass, the Manali-Sarchu-Leh axis across four passes ranging from the 13,044-foot high Rohtang Pass to the 17,582-foot high Tanglangla Pass and the Tezpur-Tenga-Tawang road across the 14,000-foot high Sela Pass in Arunachal Pradesh. The Srinagar-Zojila-Leh road was opened to traffic on 15 May 2003 and the Manali-Sarchu-Leh on 28 May 2003, well before the usual time of the first week of July. These two axis were also kept open up to 31 October 2003.



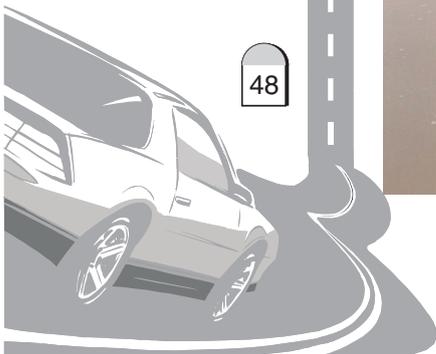
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Bridge Construction over river malaguni on NH-5





Completed road near Thopurghat

HONOURS AND AWARDS

In 2002-2003, the government conferred 205 medals and commendation cards on BRO personnel on the occasion of Republic Day and Independence Day. The break up of the medals is as follows:

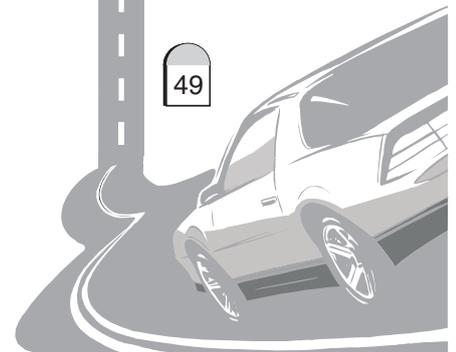
26 January 2003	
Param Vishist Sewa Medal	1
Shaurya Chakra	1
Vishist Sewa Medal	3
Jeevan Raksha Padak	2
Govt Commendation Card	57
COAS Commendation Card	10
DGBR Commendation Card	97
Vice COAS Commendation Card	9
15 August 2003	
Shaurya Chakra	3
Sena Medal	2
COAS Commendation Card	8
Vice COAS Commendation Card	12
Total	205



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MEETINGS AND SEMINARS

BRDB Meeting.

The BRDB meeting was held after a gap of three years on 23 September 2003 under the chairmanship of the Minister of State for Defence.

Chief Engineers' Conference.

The annual conference of all Chief Engineers of the BRO was held from 17-21 November 2002, at HQ DGBR.

National Seminar

A national seminar on disaster management, with particular focus on landslides and avalanches, was organised on 29 October 2003. More than 200 delegates from across the country and all departments participated. Seventeen technical papers on landslides and seven on avalanches were published in the form of a souvenir. A website (<http://in.geocities.com/bro.seminar>) was created, which was viewed by more than 75 people. Four articles were received through the website.

PUBLICATIONS

The BRO brought out the following publications in 2003-04:

- **Reflections.**

Volume XV of the annual publication, Reflections, was released on 7 May 2003, on the occasion of the Forty-Third Raising Day of the BRO. The publication provided a resume of the work of the BRO and provided an opportunity for BRO personnel to publicise their projects' achievements on the professional and social front.

- **Oonchi Sadaken.**

Volume XIV of this annual publication was released on 20 November 2003. This publication carried topical articles and technical papers by BRO executives based on their field experience.

- **Technical Instructions.**

Technical Instructions (TIs) are issued by the BRO from time to time to disseminate technical details to be followed and to upgrade the technology. So far 23 TIs have been issued. Recently, TI 10 (Revision), TI 21 and TI 23 (Hindi Version) have been issued.



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