

**Zeitschrift:** IABSE congress report = Rapport du congrès AIPC = IVBH  
Kongressbericht

**Band:** 14 (1992)

**Artikel:** Effect of surface transport on environment

**Autor:** Kumar, M.C. Sampath / Rao, B.N.B. Vittal

**DOI:** <https://doi.org/10.5169/seals-13801>

### **Nutzungsbedingungen**

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften auf E-Periodica. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. Das Veröffentlichen von Bildern in Print- und Online-Publikationen sowie auf Social Media-Kanälen oder Webseiten ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. [Mehr erfahren](#)

### **Conditions d'utilisation**

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. La reproduction d'images dans des publications imprimées ou en ligne ainsi que sur des canaux de médias sociaux ou des sites web n'est autorisée qu'avec l'accord préalable des détenteurs des droits. [En savoir plus](#)

### **Terms of use**

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. Publishing images in print and online publications, as well as on social media channels or websites, is only permitted with the prior consent of the rights holders. [Find out more](#)

**Download PDF:** 10.08.2025

**ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>**



### Effect of Surface Transport on Environment

Impact des transports terrestres sur l'environnement

Der Einfluss von Transportwegen auf die Umwelt

#### **M.C. SAMPATH KUMAR**

Lecturer  
B.M.S. College of Eng.  
Bangalore, India

#### **B.N.B. VITTAL RAO**

Prof.  
B.M.S. College of Eng.  
Bangalore, India

Development in surface transport mainly the commissioning of railways is considered to be an index of Economic, Social and Commercial progress in developing third world countries. But with the never ending progress in such directions, the tranquility of the environment and stability of the ecological balance is disrupted causing increased stress and anxiety to the people concerned with the protection of environment. All the recorded facts about ecology in the present study, raises for discussion serious and complex options and issues about the basic concept of development projects by resource utilisation in third world countries in achieving goal of self sustainable industrial power. Thus suffering in the process permanent intangible losses of unimaginable magnitudes. In the present case study the focus has been made on the 189 Kms long railway track in North Western region of Karnataka State, in South India, where the railway track passes through 42 Kms of plateau section, 55 Kms. of ghat section and 92 Kms. of plain section. The track alignment consists of 50 rock cut tunnels and 15 cut and cover tunnels, totalling to about 11 Kms. Apart from this the track passes through via ducts with high piers, and large number of bridges, about 91 major bridges and 610 minor bridges. The tunnels follow the alignment curvatures as sharp as  $8^\circ$  (219 M Radius) and the difficult strata necessitates using heavily reinforced concrete lining with a maximum gradient in slopes (ghats) 1 in 50. Even though this engineering feat is in fact a remarkable achievement for the people of this region and a land mark in the direction of man's superiority in the quest for development, making the environment a mute testimony to man's aggression on nature which is vividly felt on climate, birds, wild life, vegetation, flora and fauna. During the construction of the railway track apart from the movement of vehicles, 1200 tons of gelatine explosive was used for rock cutting and other engineering works. Thus permanently disturbing the birds and wild life distribution in the area. The railway track passes through two state forests namely Kenchakumari state forest and Kagenari state forest, in the areas where the railway track passes, there is a marked migration of elephants, bison, barking deer and wild bore to other marked state forest namely kabbinala state forest, thus causing disturbance in the wild life pattern due to uneven distribution of wild life in the newly migrated area. The notable among the birds which has suffered destruction and migration to other forest areas are the gadwall, shoveller, crane and grey heron. Forest in the vicinity of the track has suffered injuries due to forest fire caused by colonies of construction labourers, during construction and after commissioning of the track, with the movement of goods and passengers traffic, the serenity of the nearby areas of the forest is being explored by tourists and entrepreneurs, thus signaling more environment degradation to come. After the



commissioning of the track the plywood species of trees are facing destruction and extinction by the traders (*canarium strictum*, *symplocos spicate*). Apart from this flora and fauna in the area have been threatened to extinction by the mankind, out of 54 varieties of shrubs and climbers *Acacia Concinna*, *Callicarpa arborea* and *clematis gouriaccia* is facing extinction out of the 22 monocotyledon varieties mainly the *calamus thwaiteri* and *caryota ureus* have been threatened with extinction. Other floral varieties which have been threatened with extinction are *oleadiocia*, *syzygiumspp*, *Diospyros*, *Microphylla* and *vateria inica*. The disappearance of aquatic life in the streams and rivers in this region (Hamilton, Peters, Catlacatla). Traces of carbon and oxides of nitrogen in the atmosphere not present earlier, and man made land slides, falling of rock boulders, and soil erosion due to deepcuts, and high embankments are all testimony to ecological mismangement breaking age old concept of coliving and existence.

Leere Seite  
Blank page  
Page vide