

## Engineering sustainable materials & systems for Highway structure - An Indian perspective

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### 1 Abstract

India has embarked upon a fast growing economy among the developing countries. This is mainly possible by creation of facilities to provide housing, sanitation and water supply, public transportation facilities, reachability to education and adequate employment opportunities where civil engineers' role is quite significant and substantial.

The unprecedented foreign direct investment (FDI) to cater for thickly populated big markets, will warrant major chunk of the allocation in the plans for infrastructure development, where the civil engineering fraternity's contribution will be immense.

Civil engineers can contribute solutions to sustainable development and green design issues. Commitment to this challenge requires that civil engineers acknowledge their professional obligation, extend their knowledge base, and participate in all levels of policy decisions. Although some civil engineers are responding to creating and implementing sustainable projects, most civil engineers do not incorporate sustainable principles into projects. Many civil engineers are not responding to the commitment to foster and create a more sustainable local and global community.

Apart from the ecosystem as explained above, Whenever, the sustainability in construction is addressed and discussed in any kind of forums, it is always confined to that part of concrete technology where Ordinary Portland Cement is partially replaced by mineral admixtures to reduce energy consumption from fossilized sources and also CO<sub>2</sub> emissions to environment. The author has been advocating sustainable construction beyond this confinement by extending the same to Value engineering, Rationalization of codes, New technologies and materials, Sustainable structural systems. etc. where sustainability Eco systemic issues are to be addressed.

**Keywords:** Sustainability, Value engineering, Rationalization of codes, mineral admixtures, Economical Ecological, Social.