

Impacts of Southern Expressway towards Flood Condition Changes: A Case Study in Dodangoda Divisional Secretariat.

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Road infrastructure can be considered as a backbone in terms of both passenger and freight transport. With the construction of expressways, it contributes to undoubted social and economic development of a country. Southern expressway is the Sri Lanka's first expressway experience and now it is under expansion stage. Though people emphasize the positive influence, it is worth to mention the negative impacts of expressway construction. Hydrology and drainage changes, water quality and quantity changes, air quality and vibration impacts, habitat fragmentation and direct mortality of animals are determined as examples for negative impacts. Frequent floods even in small rainfalls are common around the expressways now. This paper elaborates changes in flood condition of the study area due to expressway construction. Field questionnaire survey for 63 families was conducted on the flood affected people who surrounded the expressway in selected Grama Niladhari Divisions within study area. Survey reveals that expressway is acting as barrier for the free flow of water in flood conditions and new flood inundated areas are created as a result. The data shows 89% of the people along the 400 m road strip are experienced changes of flood conditions after the expressway construction. Improper culvert construction, poor maintenance, previous drainage pattern changes, and wetland fillings are altered flood conditions along the expressways. Thus, suburbanization of lands along the expressway has created impervious land layers by increasing runoff and finally creating urban floods. However, more environmental considerations are needed in order to promote sustainability in constructions. Although we are unfamiliar, some countries such as USA are considered their ecological sustainability even by green road rating systems. Therefore, it is a timely requirement to concern those impacts in constructing expressway network in Sri Lanka since already we have faced number of troubles due to unsustainable constructions.

Keywords: Ecological sustainability, Floods, Negative environmental impacts, Southern expressway