

## FOREST FIRE VULNERABILITY AND RISK ASSESSMENT: A STUDY AT KIRIKETIOYA AND BELIHULOYA WATERSHED

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Sri Lanka, the continental island that covers the 65,610 km<sup>2</sup> of land surface. The country could be named as one of the highly vulnerable countries for the hazards like, flood, landslide, drought, forest fire and animal attack. Seasonal changes of climate act as an encouraging factors for those hazards. The selected study area covers eleven Grama Niladhari divisions and 72 km<sup>2</sup> land of the Imbulpe divisional secretariat division of Rathnapura district. The forest fire hazard could be named as a seasonal hazard that appears in the study area during the dry season. To assess the forest fire risk of the area four factors; slope, aspect of the land, elevation and land-use had been considered. Land-use of the area was identified using Landsat 8 images and Arc GIS supervised classification tool. Digital contour data were used to create maps of elevation, slope and aspect. The created maps were overlaid by using weighted overlay method in Arc GIS to create forest fire vulnerability map. The created forest fire vulnerability map was overlaid with settlement and road distribution maps to create the forest fire risk map. In addition to that, techniques of Participatory Rural Appraisal (PRA) method were used to collect data from the inhabitants of the study region. Forest fire vulnerability were categorized under the five groups. From the total land approximately 14.1 km<sup>2</sup> of land is under the very highly vulnerable category and according to the risk map, 7.08 km<sup>2</sup> land belongs to the very high risk zone. Through the study revealed that the forest fire is a human induce hazard. The mythical belief about rain and the purpose of hunting were led peoples to fire the forest. Increase awareness about the value of forest through awareness program and implication of legal actions against to the guilty ones could be suggested as possible mitigation activities.

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