

Abstract

Natural disasters are increasing enormously over the earth surface in which river flooding is the serious one, flood in 2010 has caused massive damage to life, property and infrastructure in entire country as well as in study area. This study is focused on monitoring and assessment of flood causes and damages in Upper Dir which is mountainous area in Hindukush region with long cold winter and short warm summer with heavy monsoon rainfall. Eleven sample sites have been selected along Panjkora River for detail investigation regarding flood causes and damages. Analysis revealed that in study area flood has generated by heavy monsoon downpour, and melting of snow and glacier while steep topography has accelerated the intensity of flood and caused tremendous damage to life, property and infrastructure with total estimated cost of more than 1500 million PKR. Buildings and infrastructure are severely affected. Damage estimation cost revealed that in upper zone flood was very severe, in middle zone moderate and severe in lower zone.

The study suggests mitigation plan for upper, middle and lower zone including shifting of vulnerable settlements to higher lands, forestation on slopes, land-use policies, construction of dams and flood hazard mapping to reduce the risk of flood and damage caused by flood in future.