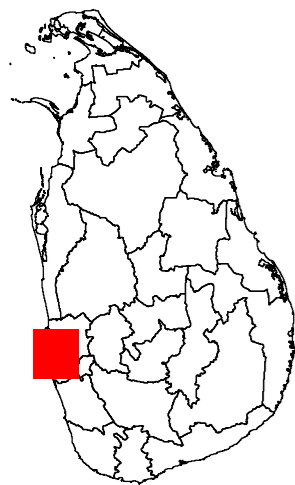# Mapping Flood Extent for Kelani Ganga River Basin and its surrounding using RISAT-1 Satellite imagery

The recent low pressure system in Indian Ocean caused heavy rainfall across Sri Lanka since 14 May 2016 causing widespread flooding and landslide in as many as 19 districts, including around Colombo. Kelani Ganga is one of the main river basin in Sri Lanka which is currently experiencing large scale flooding and subsequent damage to property and livelihoods. Kelani basin received 350 mm of total rainfall within three days (15 to 17 May 2016). The water levels of Kelani at Hanwella Gauge was 10 ft yesterday but receded to today 9 ft. Most of the runoff contributions are from rainfall in the upstream hilly area of Sri Pada mountain range.

IWMI received satellite imagery from RISAT-1 dated 18 May 2016 through International Disaster Charter (IDC) provide by Indian Space Research Organization (ISRO). It is estimated that the maximum inundation observed for 18 May 2016 is approximately 2,343 sq. km. As mentioned earlier, most of this standing water are noticed in abandoned croplands, banana cultivations and large scale devastation in household area as well as several roads have been disconnected restricting the movement of general population.

The current flooding event affected 172,000 people in and around Colombo, 122,000 in Gampha and 12,757 in Kegalle mainly from landslide reported on 18 May 2016. Six to ten feet of flood waters were observed in some household localities causing untold damage to rural households and gardens/croplands. Area under banana cultivation and rubber plantations are also currently under standing water. The flood affected Grama Niladhari (GN) divisions includes: Kolonnawa GND – Wellampitiya, Kelanimulla, Gotatuwa, Udumulla North, and Kaduwela_GND – Walpola, Kaduwela, Mahadeniya, Rangala, Welivita, Malabe West, Pahala Bomiriya, Ihala Bomiriya) and for the Gampaha GN divisions - Gampaha, Biyagama, Dompe, Jaela, Diulapitiya based on the reports from Disaster Management Center (DMC).

Legend

Disaster Image : RISAT - 1 (ISRO)
Date : 18 May. 2016

Basin

Division Map

• Cities/Town

— Road   — Streams

Map Prepared by:
IWMI International Water Management Institute

Data Provided by:
Research Program on Water, Land and Ecosystems
CGIAR
ISRO इसरो

UNITED NATIONS
Office for Outer Space Affairs
UN-SPIDER

The analysis excluded permanent water bodies including reservoir, tanks and ponds and this reflects only the inundation extent. Please note the surface water extent mapped has not yet been validated

The depiction and use of boundaries, geographic names and related data shown in these maps are based on the sources they have been drawn from and quoted. These are neither error-free nor do they imply official endorsement or the position of IWMI.