A Brief Report on the Site Inspection at Thaliparamba Taluk, Kannur District, Kerala

Location: Thaliparamba Taluk  
Dates of Inspection: 22-09-2018 and 23-09-2018  
Inspected, Report Edited & Verified by: Pradeep G. S., Hazard Analyst, KSEOC, Thiruvananthapuram  
Maps Prepared & Report Approved by: Parvathy S., Hazard & Risk Analyst, KSEOC, Thiruvananthapuram

The Additional Advocate General has directed (Vide writ petition No: AAG-RT/WPC 24261/2018; dated 18-09-2018) the Kannur District Collector & the Member Secretary, Kerala State Disaster Management Authority (KSDMA) to report whether any landslide occurred in Udayagiri village and Thaliparamba taluk for the period from June 2018 to September 15, 2018. Based on the instruction (Vide E-mail dated 21-09-2018) from the Member Secretary (KSDMA) we visited the landslide occurred locations in Thaliparamba taluk on September 22 & 23, 2018. The Deputy Collector (Disaster Management), Kannur Collectorate has provided vehicle and supporting staff.

On September 22, 2018 Morning, after the meeting with the Deputy Collector (DM) we met Mr. Jennyfer Varghese, Udayagiri Village Officer and discussed the matter. The village officer told us that he has noticed a minor soil slip in the Malabar Sand & Stones Pvt. Ltd. quarry premises. We visited the Malabar Sand & Stones quarry site along with the Udayagiri Village Officer. One debris flow* and one minor landslip with flow marks have been noticed. In our opinion this landslip can be categorized into a minor debris flow. The details are included in the table.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of location</th>
<th>Village</th>
<th>Latitude &amp; Longitude</th>
<th>Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Malabar Sand &amp; Stones Pvt. Ltd. Site 1 (L-1)</td>
<td>Udayagiri</td>
<td>12° 14’ 37.6” N &amp; 75° 27’ 25.4” E</td>
<td>RED</td>
</tr>
<tr>
<td>2.</td>
<td>Malabar Sand &amp; Stones Pvt. Ltd. Site 2 (L-2)</td>
<td>Udayagiri</td>
<td>12° 14’ 36.5” N &amp; 75° 27’ 23.7” E</td>
<td>RED</td>
</tr>
</tbody>
</table>

After that we visited other landslide incident sites in Eruvessy (along with Mr. Vijayan, Junior Superintendent, Thaliparamba Taluk), Vellad (along with Mr. Thomas Chacko, Special Village Officer), and New Naduvil (along with Mr. Valsan, Special Village Officer) villages, and visited the landslides sites in Payyavoor village (along with Mr. Anil Varghese, SVO) on September 23, 2018. A total of 12 landslide (debris flow) incidences, (including the two in Udayagiri Village) have been reported from the Thaliparamba taluk during the period from June 2018 to September 15, 2018. The co-ordinates have been collected using the handheld GPS. The details of the landslides are shown in the table.
### The co-ordinates of the landslide incidences have been overlaid on the Landslide Susceptible Zones (LSZ) using ArcGIS software to identify whether it falls on **RED** or **ORANGE** zone and the maps have been prepared.

* A debris flow is a form of rapid mass movement in which a combination of loose soil, rock, organic matter, air, and water mobilize as slurry that flow down slope. Debris flows include <50% fines. Debris flows are commonly caused by intense surface-water flow, due to heavy precipitation or rapid snowmelt that erodes and mobilizes loose soil or rock on steep slopes.
## VARNES’ CLASSIFICATION OF SLOPE MOVEMENTS (1978)


<table>
<thead>
<tr>
<th>TYPE OF MOVEMENT</th>
<th>TYPE OF MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BEDROCK</td>
</tr>
<tr>
<td></td>
<td>Predominantly coarse</td>
</tr>
<tr>
<td>FALLS</td>
<td>Rock fall</td>
</tr>
<tr>
<td>TOPPLES</td>
<td>Rock topple</td>
</tr>
<tr>
<td>SLIDES</td>
<td>Rock slide</td>
</tr>
<tr>
<td>ROTATIONAL</td>
<td></td>
</tr>
<tr>
<td>TRANSLATIONAL</td>
<td></td>
</tr>
<tr>
<td>LATERAL SPREADS</td>
<td>Rock spread</td>
</tr>
<tr>
<td>FLOWS</td>
<td>Rock flow (deep creep)</td>
</tr>
</tbody>
</table>

Abbreviated version of Varnes’ classification of slope movements (Varnes 1978)
Location of Landslides (June to 15 September, 2018) in Alakkode Village of Taliparambu Taluk, Kannur District

Legend
- L-1
- L-2

Village Boundary
Landslide Susceptible Zonation
- High Hazard Zone
- Moderate Hazard Zone

STATE EMERGENCY OPERATIONS CENTRE (SEOC)
DEPARTMENT OF DISASTER MANAGEMENT,
GOVT OF KERALA
Email: seoc.kgoi@gmail.com, Tel/Fax: 0471-2364424
QUARRY SITE 1
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QUARRY SITE 2

[Image of quarry site 2]

[Image of quarry site 2]
MUUKUZHI

[Images of the site showing rocky paths and vegetation]

[Images showing a rocky path leading to a small structure surrounded by trees]

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THENAMKAYAM 1
THENAMKAYAM 2
MADAKOLLI
Sd/-

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