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## Appendix A – Association Rules

### Displaced and Evacuation

|                                   |                                       |
|-----------------------------------|---------------------------------------|
| [pakistan] --> [flood]            | [pakistan, multan] --> [alert]        |
| [kashmir] --> [flood]             | [river, alert] --> [multan]           |
| [india] --> [flood]               | [river, multan] --> [alert]           |
| [warn] --> [flood]                | [river, alert] --> [peak]             |
| [river] --> [flood]               | [peak] --> [river, alert]             |
| [alert] --> [flood]               | [river, peak] --> [alert]             |
| [punjab] --> [flood]              | [alert, peak] --> [river]             |
| [multan] --> [flood]              | [river, multan] --> [peak]            |
| [peak] --> [flood]                | [peak] --> [river, multan]            |
| [peak] --> [river]                | [river, peak] --> [multan]            |
| [multan] --> [alert]              | [multan, peak] --> [river]            |
| [peak] --> [alert]                | [peak] --> [alert, multan]            |
| [peak] --> [multan]               | [alert, peak] --> [multan]            |
| [pakistan, india] --> [flood]     | [multan, peak] --> [alert]            |
| [pakistan, alert] --> [flood]     | [pakistan, alert] --> [flood, multan] |
| [pakistan, multan] --> [flood]    | [flood, pakistan, alert] --> [multan] |
| [river, alert] --> [flood]        | [pakistan, multan] --> [flood, alert] |
| [river, multan] --> [flood]       | [flood, pakistan, multan] --> [alert] |
| [peak] --> [flood, river]         | [pakistan, alert, multan] --> [flood] |
| [flood, peak] --> [river]         | [river, alert] --> [flood, multan]    |
| [river, peak] --> [flood]         | [flood, river, alert] --> [multan]    |
| [multan] --> [flood, alert]       | [river, multan] --> [flood, alert]    |
| [flood, multan] --> [alert]       | [flood, river, multan] --> [alert]    |
| [alert, multan] --> [flood]       | [river, alert, multan] --> [flood]    |
| [peak] --> [flood, alert]         | [river, alert] --> [flood, peak]      |
| [flood, peak] --> [alert]         | [flood, river, alert] --> [peak]      |
| [alert, peak] --> [flood]         | [peak] --> [flood, river, alert]      |
| [peak] --> [flood, multan]        | [flood, peak] --> [river, alert]      |
| [flood, peak] --> [multan]        | [river, peak] --> [flood, alert]      |
| [multan, peak] --> [flood]        | [flood, river, peak] --> [alert]      |
| [pakistan, alert] --> [multan]    | [alert, peak] --> [flood, river]      |
| [river, peak] --> [flood, multan] | [river, peak] --> [alert, multan]     |
| [flood, river, peak] --> [multan] | [alert, peak] --> [river, multan]     |
| [multan, peak] --> [flood, river] | [river, alert, peak] --> [multan]     |
| [flood, multan, peak] --> [river] | [multan, peak] --> [river, alert]     |
| [river, multan, peak] --> [flood] | [river, multan, peak] --> [alert]     |

[peak] --> [flood, alert, multan]  
[flood, peak] --> [alert, multan]  
[alert, peak] --> [flood, multan]  
[flood, alert, peak] --> [multan]  
[multan, peak] --> [flood, alert]  
[flood, multan, peak] --> [alert]  
[alert, multan, peak] --> [flood]  
[river, alert] --> [multan, peak]  
[river, multan] --> [alert, peak]  
[river, alert, multan] --> [peak]  
[peak] --> [river, alert, multan]

[alert, multan, peak] --> [river]  
[river, alert] --> [flood, multan, peak]  
[flood, river, alert] --> [multan, peak]  
[river, multan] --> [flood, alert, peak]  
[flood, river, multan] --> [alert, peak]  
[river, alert, multan] --> [flood, peak]  
[flood, river, alert, multan] --> [peak]  
[peak] --> [flood, river, alert, multan]  
[flood, peak] --> [river, alert, multan]  
[river, peak] --> [flood, alert, multan]  
[flood, river, peak] --> [alert, multan]  
[alert, peak] --> [flood, river, multan]

#### Caution and Advice

[armi] --> [flood]  
[hit] --> [flood]  
[peopl] --> [flood]  
[kashmir] --> [flood]  
[evacu] --> [flood]  
[india] --> [flood]  
[kashmir, rescu] --> [flood]  
[rescu] --> [flood]  
[jammu] --> [kashmir]  
[jammu] --> [flood, kashmir]  
[flood, jammu] --> [kashmir]

[pakistan] --> [flood]  
[thousand] --> [flood]  
[jammu] --> [flood]  
[srinagar] --> [flood]  
[amp] --> [flood]  
[kashmir, jammu] --> [flood]  
[kashmir, peopl] --> [flood]  
[pakistan, thousand] --> [flood]  
[pakistan, india] --> [flood]  
[rescu, hit] --> [flood]

### **Donation and Volunteer**

[flood] --> [kashmir]  
[relief] --> [flood, kashmir]  
[relief] --> [kashmir]  
[flood, relief] --> [kashmir]  
[donat] --> [kashmir]  
[donat] --> [flood, kashmir]  
[flood, donat] --> [kashmir]  
[victim] --> [flood]  
[help] --> [flood]  
[donat] --> [flood]  
[jammu] --> [kashmir]  
[jammu] --> [flood, kashmir]  
[flood, jammu] --> [kashmir]  
[relief] --> [flood]  
[pakistan] --> [flood]  
[kashmir] --> [flood]  
[kashmir, relief] --> [flood]  
[amp] --> [flood]  
[jammu] --> [flood]  
[punjab] --> [flood]  
[hit] --> [flood]  
[kashmir, jammu] --> [flood]  
[kashmir, donat] --> [flood]

### **Infrastructure Damage**

[flood] --> [kashmir]  
[jammu] --> [kashmir]  
[jammu] --> [flood, kashmir]  
[flood, jammu] --> [kashmir]  
[kashmirflood] --> [flood]  
[srinagar] --> [kashmir]  
[srinagar] --> [flood, kashmir]  
[flood, srinagar] --> [kashmir]  
[kashmir] --> [flood]  
[pakistan] --> [flood]  
[jammu] --> [flood]  
[srinagar] --> [flood]  
[vallei] --> [flood]  
[hit] --> [flood]  
[amp] --> [flood]  
[damag] --> [flood]  
[vallei] --> [kashmir]  
[kashmir, jammu] --> [flood]  
[kashmir, srinagar] --> [flood]  
[vallei] --> [flood, kashmir]  
[flood, vallei] --> [kashmir]  
[kashmir, vallei] --> [flood]

### Injured or Dead

[india] --> [flood, pakistan]                      [pakistan, death] --> [india]  
[india] --> [pakistan]                                [pakistan, death] --> [flood, india]  
[flood, india] --> [pakistan]                        [flood, pakistan, death] --> [india]  
[india, death] --> [pakistan, toll]                [pakistan, toll] --> [india]  
[india, death] --> [flood, pakistan, toll]        [pakistan, toll] --> [flood, india]  
[flood, india, death] --> [pakistan, toll]        [flood, pakistan, toll] --> [india]  
[death] --> [toll]                                    [pakistan] --> [flood]  
[death] --> [flood, toll]                            [kashmir] --> [flood]  
[flood, death] --> [toll]                            [pakistan, india] --> [flood]  
[pakistan, death] --> [india, toll]                [toll] --> [flood]  
[pakistan, death] --> [flood, india, toll]        [death] --> [flood]  
[flood, pakistan, death] --> [india, toll]        [reach] --> [flood]  
[dead] --> [flood]                                   [reach] --> [death]  
[pakistan, india, death] --> [toll]                [pakistan, toll] --> [flood]  
[pakistan, india, death] --> [flood, toll]        [pakistan, death] --> [flood]  
[flood, pakistan, india, death] --> [toll]        [pakistan, kill] --> [flood]  
[pakistan, death] --> [toll]                        [india, toll] --> [flood]  
[pakistan, death] --> [flood, toll]                [india, death] --> [flood]  
[flood, pakistan, death] --> [toll]                [india, kill] --> [flood]  
[india, death] --> [toll]                            [toll, death] --> [flood]  
[india, death] --> [flood, toll]                    [reach] --> [flood, death]  
[flood, india, death] --> [toll]                    [flood, reach] --> [death]  
[india, toll, death] --> [pakistan]                [death, reach] --> [flood]  
[india, toll, death] --> [flood, pakistan]        [pakistan, india, toll] --> [flood]  
[flood, india, toll, death] --> [pakistan]        [pakistan, india, death] --> [flood]  
[india, death] --> [pakistan]                        [pakistan, toll, death] --> [flood]  
[india, death] --> [flood, pakistan]                [india, toll, death] --> [flood]  
[flood, india, death] --> [pakistan]                [pakistan, india, toll, death] --> [flood]  
[india, toll] --> [pakistan]  
[india, toll] --> [flood, pakistan]  
[flood, india, toll] --> [pakistan]  
[india] --> [flood]  
[kill] --> [flood]  
[pakistan, toll, death] --> [india]  
[pakistan, toll, death] --> [flood, india]  
[flood, pakistan, toll, death] --> [india]

**Missing Trapped or Found**

[flood, rescu] --> [kashmir]  
[flood] --> [kashmir]  
[strand] --> [kashmir]  
[strand] --> [flood, kashmir]  
[flood, strand] --> [kashmir]  
[trap] --> [kashmir]  
[trap] --> [flood, kashmir]  
[peopl] --> [kashmir]  
[peopl] --> [flood, kashmir]  
[flood, peopl] --> [kashmir]  
[flood, trap] --> [kashmir]  
[thousand] --> [kashmir]  
[thousand] --> [flood, kashmir]  
[flood, thousand] --> [kashmir]  
[jammu] --> [kashmir]  
[jammu] --> [flood, kashmir]  
[flood, jammu] --> [kashmir]  
[kashmirflood] --> [flood]  
[srinagar] --> [flood]  
[rescu] --> [flood]  
[trap] --> [flood]  
[strand] --> [flood]  
[kashmir] --> [flood]  
[peopl] --> [flood]  
[thousand] --> [flood]  
[jammu] --> [flood]  
[pakistan] --> [flood]  
[india] --> [flood]  
[amp] --> [flood]  
[kashmir, rescu] --> [flood]  
[kashmir, strand] --> [flood]  
[kashmir, trap] --> [flood]  
[kashmir, peopl] --> [flood]  
[kashmir, thousand] --> [flood]  
[kashmir, jammu] --> [flood]

**Other Useful Information**

[flood] --> [kashmir]  
[jammu] --> [flood, kashmir]  
[flood, jammu] --> [kashmir]  
[jammu] --> [kashmir]  
[india] --> [flood]  
[amp] --> [flood]  
[pakistan] --> [flood]  
[kashmir, jammu] --> [flood]  
[jammu] --> [flood]  
[kashmir] --> [flood]

**Sympathy and Emotional Support**

[prai] --> [kashmir]  
[prai] --> [flood, kashmir]  
[flood, prai] --> [kashmir]  
[flood] --> [kashmir]  
[peopl] --> [kashmir]  
[peopl] --> [flood, kashmir]  
[victim] --> [kashmir]  
[victim] --> [flood, kashmir]  
[flood, victim] --> [kashmir]  
[flood, peopl] --> [kashmir]  
[peopl] --> [flood]  
[amp] --> [flood]  
[pakistan] --> [flood]  
[prai] --> [flood]  
[kashmir] --> [flood]  
[victim] --> [flood]  
[prayer] --> [flood]  
[jammu] --> [flood]  
[affect] --> [flood]  
[jammu] --> [kashmir]  
[kashmir, prai] --> [flood]  
[kashmir, victim] --> [flood]  
[kashmir, peopl] --> [flood]  
[jammu] --> [flood, kashmir]  
[flood, jammu] --> [kashmir]  
[kashmir, jammu] --> [flood]