



1 Supplementary files:

2 Table-S1:

3 Supplementary files: Table-S1 (a-g): Multiple Parameters based Risk Weight

4 Calculation

5 Table-S1 a: Important Places: Risk Category (Similar to developed by Nath, et al. 2018 [16].

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Important Places	Risk Category	Risk Weight
Yingxiuzhen	Very High Risk	5
Dabeiping	Very High Risk	5
Zipingpuzhen	Very High Risk	5
Dujiangyan	High Risk	4
Xujiazhen	Medium Risk	3
Juyuanzhen	Low Risk	2
Zhongxingzhen	Low Risk	2
Puyangzhen	Medium Risk	3

7 Table-S1 b: Important Places Buffer distance-based Risk Weight calculation (Similar to developed by Nath,

8 et al. 2018 [16].

Buffer Distance (km)	Risk Category	Buffer Risk Weight
5	Very High Risk	5
10	High Risk	4
15	Medium Risk	3
20	Low Risk	2
25	Very Low Risk	1

9 Table-S1 c: Geology-based Risk Weight calculation (Similar to developed by Nath, et al. 2018 [16].

Gen_Geology	Zone	Risk_Geology_Weight
Q	Zone-IV	4
JTr	Zone-I	5
J	Zone-II	5
K	Zone-III	2

- 10 Table-S1 d: Masked_Vector_2018 LULC (Simulated)_Risk Weight calculation (Similar to developed by Nath,
- 11 et al. 2018 [16].

SL. No.	Landuse Category	LULC(Simulated)_Risk_Geology_Weight
1	Built Up Land	5
2	Forest Land	4
3	Agricultural Land	2
4	Reconstruction Land	5
5	Water Bodies	3
6	Barren Land	1

12 Table-S1 e: Lineament Density-2018 (km/km²)_Risk Weight calculation (Similar to developed by Nath, et al.

13 2018 [16].

Lineament Density	Density Category	Density_RiskWeight
(km/km²)		
0-1.56	Very Low Density	1
1.56-2.72	Low Density	2
2.72-3.76	Medium Density	3
3.76-4.89	High Density	4
4.89-8.27	Very High Density	5

14 Table-S1 f: Earthquake_Epeicenter_Buffer_Risk Weight calculation (Similar to developed by Nath, et al. 2018

15 [16].

Epeiceter_Buffer Distance (km)	Risk Category	Buffer Risk Weight
5	Very High Risk	5
10	High Risk	4
15	Medium Risk	3
20	Low Risk	2
25	Very Low Risk	1

16 Table-S1 g: Fault_Buffer_Risk Weight calculation (Similar to developed by Nath, et al. 2018 [16].

Fault Line_Buffer Distance (km)	Fault_Risk Category	Buffer Risk Weight
5	Very High Risk	5
10	High Risk	4
15	Medium Risk	3
20	Low Risk	2
25	Very Low Risk	1

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27 Supplementary files: Figure-S-1 (a-f): Individual Risk Map Preparation

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31 [16]



- 33 Figure-S-1b: Earthquake Points based Buffer Distance Map and Risk Weight Assign [adopted from Nath et
- 34 al. 2018] [16] with updated EQ points.
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37 Figure-S-1c: Fault based Buffer Distance Map and Risk Weight Assign (adopted from Nath et al. 2018) [16]

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- 40 Figure-S1d: Geology based Zone Risk Map and Risk Weight Assign (adopted from Nath et al. 2018) [16]
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- 43 Figure-S-1e: Lineament Density based category map and Risk Weight Assign (adopted from Nath et al. 2018)
- 44 [16]



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- 46 Figure-S1f: FLULC category map (2025) and Risk Weight Assign (used in this study based on FLULC Maps
- 47 of 2025)



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49 Figure-S1g: FLULC category map (2030) and Risk Weight Assign (used in this study based on FLULC Maps

50 of 2030)



- 52 Figure-S1h: FLULC category map (2040) and Risk Weight Assign (used in this study based on FLULC Maps
- 53 of 2040).
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