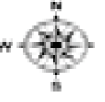


NATURAL HAZARD ZONATION MAP OF KERALA

SCALE 1:500,000



TOWARDS A SAFER STATE കേരളത്തിലെ ദുരന്ത സാധ്യതാമേഖലകൾ

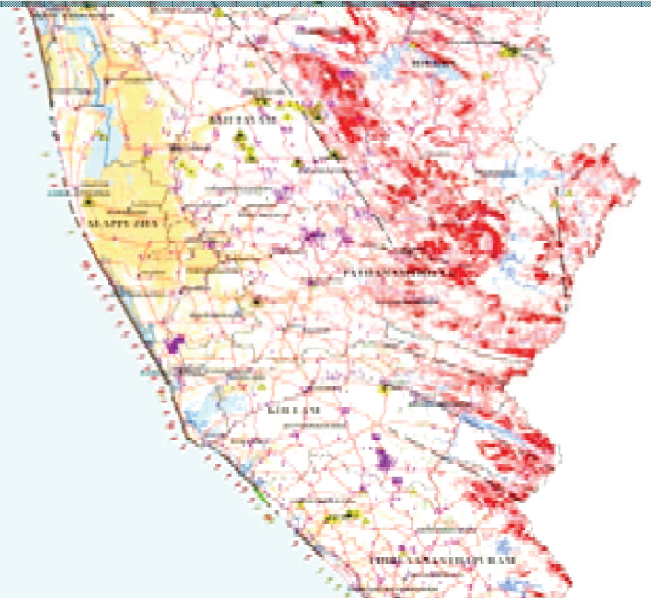
ഉദ്യോഗസ്ഥർക്കുള്ള കൈപ്പുസ്തകം

Volume 1

October 2014

LEGEND

COASTAL EROSION	EPICENTRES OF EARTHQUAKES
High	1-1M
Low	2-1M
Rocky cliff with pocket beaches	3-1M
LANDSLIDE ZONE	Major Fault Lines
BRIDGE	Waterbody
BRIDGE & GIROTTI	Forest
AREA EXPOSED TO STORM SURGE TSUNAMI	Major Road
AREA PRONE TO FLOOD	Railway
AREA PRONE TO LANDSLIDE	District Boundary
Tree	State Boundary



സുരക്ഷിത പാതയിൽ



സുരക്ഷിത പാതയിൽ
കേരളത്തിലെ ദുരന്ത സാധ്യതാമേഖലകൾ
ഉദ്യോഗസ്ഥർക്കുള്ള കൈപ്പുസ്തകം

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ആമുഖം

ദുരന്തങ്ങൾ നാടിന്റെ വികസനത്തിന് വിഘാതം സൃഷ്ടിക്കുന്ന ഒരു പ്രധാന പ്രതിഭാസമാണ്. അതുകൊണ്ടുതന്നെ, സർക്കാർ സംവിധാനം ദുരന്തനിവാരണം ഒരു മുഖ്യധാരാ വിഷയമായി പരിഗണിച്ചു വരികയാണ്. ഉദ്യോഗസ്ഥർക്ക് ദുരന്ത നിവാരണ പ്രവർത്തനങ്ങൾ നടപ്പിലാക്കുന്നതിലേക്കായി ദുരന്ത സാധ്യതാപ്രദേശങ്ങളെ കുറിച്ച് വ്യക്തമായ അറിവ് ആവശ്യമാണ്. ഈ അറിവ് വില്ലേജ്തലത്തിൽ വരെ എത്തിക്കുവാനുള്ള ശ്രമമാണ് ഈ കൈപ്പുസ്തകം. വിവിധങ്ങളായ ദുരന്തങ്ങൾക്ക് സാധ്യതയുള്ള കേരളത്തിൽ ഗ്രാമതലങ്ങളിൽ വരെയുള്ള ദുരന്തസാധ്യതാ പ്രദേശങ്ങളുടെ ഭൂപടം ഉൾക്കൊള്ളിച്ച് ഈ പുസ്തകത്തിൽ വിവരണം നൽകിയിരിക്കുന്നു. ദുരന്ത നിവാരണ പ്രവർത്തനങ്ങളിൽ ഏർപ്പെടുന്ന ഉദ്യോഗസ്ഥർക്ക് ഈ കൈപ്പുസ്തകം വഴികാട്ടിയാകുമെന്ന് പ്രതീക്ഷിക്കുന്നു.

കേശവ് മോഹൻ
ശേഖർ ലൂക്കോസ് കുര്യാക്കോസ്
അമൽരാജ്.എം
ഫൈസൽ.റ്റി.ഇല്ലയാസ്

സ്ഥലം: തിരുവനന്തപുരം
തീയതി: 10.10.2014

കേരളത്തിലെ ദുരന്ത സാധ്യതകൾ

ലോകമെമ്പാടും പ്രകൃതി ദുരന്തങ്ങളുടെ ആവൃത്തിയും നാശനഷ്ടങ്ങളും കൂടി വരികയാണ്. ദുരന്തങ്ങളിൽ പൊലിയുന്ന മനുഷ്യജീവന്റെ എണ്ണവും നാശനഷ്ടങ്ങളുടെ വലിപ്പവും മുൻപെങ്ങുമില്ലാത്തവിധം ഉയർന്നുകൊണ്ടിരിക്കുന്നു. ആഗോളതലത്തിലുള്ള പ്രകൃതി ദുരന്തങ്ങളിൽ 60% വും സംഭവിക്കുന്നത് ഏഷ്യ-പസഫിക് ഭാഗത്താണ്. ദക്ഷിണ ഏഷ്യൻ രാജ്യങ്ങളിൽ ഏറ്റവും തീവ്രമായ പ്രകൃത ദുരന്തങ്ങൾ അനുഭവപ്പെടുന്ന രാജ്യങ്ങളിൽ ഒന്നാണ് ഇന്ത്യ. നാമുൾപ്പെടുന്ന കൊച്ചു കേരളവും ദുരന്തസാധ്യതകളുടെ കാര്യത്തിൽ ഒട്ടും പിന്നിലല്ല. ഒരു സമൂഹത്തിന് സ്വന്തം ആസ്തിയും പരിശ്രമവും കൊണ്ട് അതിജീവിക്കുവാൻ കഴുയുന്നതിലുമധികം നാശനഷ്ടങ്ങൾ ജീവനും സ്വത്തിനും പരിസ്ഥിതിക്കും ഉണ്ടാക്കുവാൻ ഇടയാക്കുന്ന സംഭവങ്ങളെയോ സംഭവ പരമ്പരകളെയോ ആണ് ദുരന്തങ്ങൾ (ഡിസാസ്റ്റർ) എന്ന് വിളിക്കാവുന്നത്. ജനങ്ങളുടെ സ്വാഭാവിക ജീവിതരീതി, സമൂഹത്തിന്റെ പൊതുവായ പ്രവർത്തനം, പരിസ്ഥിതി, ആവാസവ്യവസ്ഥ, രാജ്യത്തിന്റെ വികസന മുന്നേറ്റം ഇവയൊക്കെ ദുരന്തങ്ങൾ മൂലം ഗുരുതരമായി ബാധിക്കപ്പെടുന്നു. അത്തരം അവസ്ഥയെ അതിജീവിക്കുവാൻ ബാഹ്യസഹായം ആവശ്യമായിത്തീരുകയും ചെയ്യും. ചുരുക്കത്തിൽ ഒരു സമൂഹത്തിന്റെ സാധാരണ ജീവിതത്തെ തടസ്സപ്പെടുത്തുന്നതും ദോഷകരമായി ബാധിക്കുന്നതുമായ സംഭവത്തെയോ സംഭവ പരമ്പരകളെയോ ആണ് ദുരന്തം എന്നതുകൊണ്ട് ഉദ്ദേശിക്കുന്നത്.

പ്രകൃതിയിൽ സ്വാഭാവികമായുണ്ടാകുന്ന വ്യതിയാനങ്ങൾ കൂടാതെ മനുഷ്യന്റെ കൈകടത്തലുകൾ മൂലമുണ്ടാകുന്ന വനനശീകരണം, അശാസ്ത്രീയമായ ഭൂവിനിയോഗം, അനിയന്ത്രിതമായ നഗരവൽക്കരണം, പരിസ്ഥിതി സന്തുലിതാവസ്ഥക്കുണ്ടാകുന്ന ആഘാതം എന്നിവയെല്ലാം ദുരന്തങ്ങളുടെ ആവൃത്തിയും തീവ്രതയും കൂട്ടുന്നതോടൊപ്പം നാശനഷ്ടങ്ങളുടെ തോത് വർദ്ധിപ്പിക്കുകയും ചെയ്യുന്നു.

ദുരന്തങ്ങളെ പൊതുവേ പ്രകൃതി ദുരന്തങ്ങൾ എന്നു മനുഷ്യപ്രേരിത ദുരന്തങ്ങൾ എന്നും വിളിക്കാറുണ്ടെങ്കിലും കൂടുതൽ വ്യക്തമായി മനസ്സിലാക്കുന്നതിന് ഇവയെ നമുക്ക് അഞ്ചായി തരംതിരിക്കാം.

I. ജലവും കാലാവസ്ഥയുമായി ബന്ധപ്പെട്ട ദുരന്തങ്ങൾ

- 1. വെള്ളപ്പൊക്കം
- 2. കൊടുങ്കാറ്റ്; ചുഴലിക്കാറ്റ്
- 3. വരൾച്ച
- 4. ഇടിമിന്നൽ

5. ഹിമപാതം
6. ഉഷ്ണക്കാറ്റും, ശീതക്കാറ്റും
7. കടലാക്രമണം
8. മേഘപാതം, പേമാരി

II. ഭൗമഘടനയുമായി ബന്ധപ്പെട്ട ദുരന്തങ്ങൾ

1. ഭൂകമ്പം
2. സുനാമി
3. മണ്ണിടിച്ചിൽ, ഉരുൾപൊട്ടൽ
4. അഗ്നിപർവ്വത സ്ഫോടനം

III. രാസ-വ്യാവസായിക-ആണവ ദുരന്തങ്ങൾ

1. രാസ-വ്യാവസായിക ദുരന്തങ്ങൾ
2. ആണവ ദുരന്തങ്ങൾ

IV. ചെറുതും വലുതുമായ അപകടദുരന്തങ്ങൾ

1. തീപിടുത്തം
2. കെട്ടിടങ്ങളുടെ തകർച്ച
3. സ്ഫോടനങ്ങൾ
4. ആഘോഷങ്ങളുമായി ബന്ധപ്പെട്ട ദുരന്തങ്ങൾ
5. എയർ, റോഡ്, റെയിൽ അപകടങ്ങൾ
6. വൈദ്യുത അപകടങ്ങൾ
7. ബോട്ടപകടങ്ങൾ
8. ഓയിൽ ചോർച്ച

V. ജൈവാവസ്ഥയുമായി ബന്ധപ്പെട്ട ദുരന്തങ്ങൾ

1. പകർച്ച വ്യാധികൾ
2. ഭക്ഷ്യവിഷബാധ
3. വളർത്തുമൃഗങ്ങൾക്കുണ്ടാകുന്ന പകർച്ചവ്യാധികൾ
4. കീടങ്ങൾ മൂലമുള്ള വ്യാധികൾ

ദുരന്തങ്ങളുടെ ആഗോളഘടന

പ്രകൃതി ദുരന്തങ്ങളിൽ നിന്നും മനുഷ്യപ്രേരിത ദുരന്തങ്ങളിൽ നിന്നും പൂർണ്ണമായും മുക്തമായ ഒരു ഭൂപ്രദേശവും ഇന്ന് നിലവിലില്ല. ദുരന്തങ്ങളുടെ ആവൃത്തിയിലും തീവ്രതയിലും മുള്ള ഏറ്റക്കുറച്ചിലുകൾ മാറ്റിനിർത്തിയാൽ നാം അധിവസിക്കുന്ന ഈ ഭൂമിയിലെ ഏത് പ്രദേശവും ഒന്നല്ലെങ്കിൽ മറ്റൊരു തലത്തിലുള്ള ദുരന്തം ഉണ്ടാകുവാൻ സാധ്യതയുള്ള ഭൂവി

ഭാഗമാണ് എന്ന് കാണുവാൻ കഴിയും. എങ്കിലും ദുരന്തങ്ങളെ നേരിടുവാനുള്ള കഴിവിന്റെയും വിഭവങ്ങളുടെയും അപര്യാപ്തത മൂലം ജനസാന്ദ്രതയേറിയ അവികസിത-വികസര രാജ്യങ്ങളിലാണ് ദുരന്തങ്ങൾ ഏറ്റവും കൂടുതൽ നാശനഷ്ടങ്ങൾ ഉണ്ടാകുന്നത് എന്ന് കാണാം. ഇതുപോലെ നൂറ്റാണ്ടിന്റെ രണ്ടാം അർദ്ധത്തിൽ മാത്രമായി ലോകത്ത് പല രാജ്യങ്ങളിലായി 200 ലധികം അത്യാപത്തുകൾ (വലിയ ദുരന്തങ്ങൾ) ഉണ്ടാകുകയും 14 ലക്ഷത്തോളം മനുഷ്യർ മരണപ്പെടുകയും ചെയ്തിട്ടുണ്ട്. ഇവയിൽ ഏറ്റവും കൂടുതൽ ജീവൻ നഷ്ടപ്പെടുന്നത് നാം ഉൾപ്പെടുന്ന ഏഷ്യാവൻകരയിലാണെന്നത് പ്രത്യേകം ശ്രദ്ധിക്കേണ്ടതാണ്.

ദുരന്തങ്ങളെ സംബന്ധിച്ച വിവരങ്ങളുടെ ശേഖരണം ആരംഭിച്ചത് 430 ബി.സിയിൽ ഏതൻസിൽ ഉണ്ടായ പകർച്ചവ്യാധിയോടെ ആണെന്ന് പറയാം. എന്നാൽ ശാസ്ത്രീയമായി ദുരന്ത വിവരക്രോഡീകരണം ആരംഭിച്ചത് 1556-ൽ ചൈനയിൽ ഉണ്ടായ ഭൂമികുലുക്കത്തോടെയാണെന്ന് റിപ്പോർട്ടുകൾ സൂചിപ്പിക്കുന്നു. ഈ ദുരന്തത്തിൽ മാത്രം ചൈനയിൽ 8 ലക്ഷത്തിൽ അധികം മനുഷ്യർ മരണപ്പെട്ടിരുന്നു.

ദുരന്തങ്ങൾ-ഇന്ത്യൻ ഘടന

കഴിഞ്ഞ മൂന്ന് ദശകത്തിലായി ഇന്ത്യയിൽ 471 വലിയ ദുരന്തങ്ങൾ ഉണ്ടാകുകയും ഒന്നരലക്ഷത്തോളം ജനങ്ങൾക്ക് ജീവഹാനി സംഭവിക്കുകയും ചെയ്തതായി സ്ഥിതിവിവരക്കണക്കുകൾ സൂചിപ്പിക്കുന്നു. ഈ ദുരന്തങ്ങൾ ജീവനാശം ഉണ്ടാക്കുക മാത്രമല്ല ചെയ്തത്, വസ്തുവകകൾക്കും, അടിസ്ഥാന സൗകര്യങ്ങൾക്കും രാജ്യത്തിന്റെ സമ്പദ്ഘടനക്കും വലിയ ആഘാതം ഉണ്ടാക്കുകയുമുണ്ടായി. 1999-ൽ ഒറീസയിൽ ഉണ്ടായ സൂപ്പർസൈക്ലോൺ (കൊടുകാറ്റ്), 2001-ൽ ഗുജറാത്തിലെ ഭൂജിൽ ഉണ്ടായ ഭൂകമ്പം, 2004-ൽ ഇന്ത്യൻ മഹാസമുദ്രത്തിൽ ഉണ്ടായ സുനാമി, 2010-ൽ കാശ്മീരിലെ ലേയിൽ ഉണ്ടായ പേമാരിയും വെള്ളപ്പൊക്കവും നമ്മുടെ രാജ്യത്തെ ഗ്രസിച്ച വൻദുരന്തങ്ങളായിരുന്നു.

ഭൂമിശാസ്ത്രപരമായ പ്രത്യേകതകൾകൊണ്ട് ദുരന്തങ്ങളുടെ കാര്യത്തിൽ ലോകത്തിന്റെ ഒരു പരിചേദമാണ് ഇന്ത്യ എന്ന് പറയാം. കാരണം ലോകത്ത് ഉണ്ടായിക്കൊണ്ടിരിക്കുന്ന ഒട്ടുമിക്ക ദുരന്തങ്ങളും ഇന്ത്യയിലും ഉണ്ടാകുന്നുണ്ട്. അതുകൊണ്ട് ഒന്നിലേറെ ദുരന്തങ്ങൾ ഉണ്ടാകാനിടയുള്ള ദുരന്ത സാധ്യതാപ്രദേശങ്ങളാണ് നമ്മുടെ എല്ലാ സംസ്ഥാനങ്ങളും. ലോകത്തിലെ തന്നെ ഏറ്റവും വിനാശകരമായ ദുരന്തങ്ങൾ ഉണ്ടാകാനിടയുള്ള പത്ത് രാജ്യങ്ങളിൽ ഒന്നാണ് ഇന്ത്യ. അതിശക്തമായ ഭൂകമ്പം, വെള്ളപ്പൊക്കം, മണ്ണിടിച്ചിൽ, വരൾച്ച, കൊടുകാറ്റ് എന്നിവ നമ്മുടെ രാജ്യത്ത് സർവ്വസാധാരണമാണ്. രാജ്യത്തിന്റെ 58.6% ഭൂഭാഗവും സാമാന്യം ശക്തിയുള്ളതും കഠിനവുമായ ഭൂകമ്പങ്ങൾ ഉണ്ടാവാൻ സാധ്യതയുള്ളവയാണ്. ഇതിൽ ഹിമാലയൻ പ്രദേശങ്ങളും വടക്കുകിഴക്കൻ സംസ്ഥാനങ്ങളും അതിരുകൂലായ ഭൂകമ്പസാധ്യതാപ്രദേശമായി ശാസ്ത്രലോകം വിലയിരുത്തിയിട്ടുണ്ട്. ഇന്ത്യയുടെ

12% ഭൂഭാഗം വെള്ളപ്പൊക്കമുണ്ടാകുവാനും 7500 കി.മീ ദൈർഘ്യമുള്ള നമ്മുടെ സമുദ്രതീരത്തിന്റെ 5700 കി.മീ കൊടുങ്കാറ്റിനും സുനാമിക്കും സാധ്യതയുള്ളവയുമാണ്. കൂടാതെ കാർഷിക മേഖലയുടെ 70% തോളം വരൾച്ച ബാധിത പ്രദേശങ്ങളും മലഞ്ചരിവുകൾ ആകെതന്നെ മലയിടിച്ചിലിനും ഉരുൾപൊട്ടലിനും സാധ്യത ഏറിയവയുമാണ്.

ദുരന്തങ്ങൾ കേരളത്തിൽ

ഭൂമിശാസ്ത്രപരമായ പ്രത്യേകതകൾകൊണ്ട് ഒന്നിലേറെ പ്രകൃതി ദുരന്തങ്ങൾ ഉണ്ടാകാനിടയുള്ള ബഹുമുഖ അപകടമേഖലയാണ് കേരളം. തെക്ക് പടിഞ്ഞാറൻ മൺസൂൺ കാലത്ത് കനത്ത മഴ ഉണ്ടാകുന്ന സമയങ്ങളിലാണ് കേരളത്തിൽ പ്രകൃതി ദുരന്തങ്ങൾ കൂടുതലായി കാണപ്പെടുന്നത്.

നദികൾ, തോടുകൾ, ചാലുകൾ എന്നിവിടങ്ങളിൽ ജലനിരപ്പ് സാധാരണ ഗതിയിൽ നിന്നും ഉയരുകയും ജനവാസ പ്രദേശങ്ങൾ വെള്ളത്തിനടിയിൽ ആവുകയും ചെയ്യുമ്പോഴാണ് വെള്ളപ്പൊക്കമായി കണക്കാക്കുന്നത്. അതിയായ മഴ ലഭിക്കുമ്പോൾ ചാലുകളും തോടുകളും മാലിന്യം മൂലം അടഞ്ഞു പോകുന്നത് കൊണ്ടും വയലുകളും കുളങ്ങളും നികത്തുന്നതുമൂലവും നഗരപ്രദേശങ്ങളിൽ വെള്ളപ്പൊക്കം അനുഭവപ്പെടാം. വെള്ളപ്പൊക്കം കൂടാതെ മൺസൂൺ കാലത്ത് ശക്തമായ കാറ്റിലും മഴയിലും വീടുകൾക്കും, കൃഷികൾക്കും ധാരാളം നാശനഷ്ടങ്ങൾ സംഭവിക്കുന്നുമുണ്ട്.

ശക്തമായതോ നീണ്ടുനിൽക്കുന്നതോ ആയ മഴയെ തുടർന്ന് മലഞ്ചരിവുകളിലെ പാറകളും മണ്ണും ചേർന്ന മിശ്രിതം ജലപുരിതാവസ്ഥയിൽ ഗുരുതാകർഷണത്തിന്റെ ഫലമായി കുന്നിൻചെരിവുകളിലൂടെ അതിവേഗത്തിൽ താഴേക്ക് പതിക്കുന്നതിനെയാണ് ഉരുൾപൊട്ടലുകൾ എന്ന് പറയുന്നത്. കേരളത്തിൽ കണ്ടുവരുന്ന ഭൂരിഭാഗം മലയിടിച്ചിലുകളും ഉരുൾപൊട്ടലുകളുടെ ഗണത്തിൽപ്പെടുന്നവയാണ്. പൂർണ്ണമായും തീരദേശ വിഭാഗത്തിൽ ഉൾപ്പെടുന്ന ആലപ്പുഴ ജില്ല ഒഴികെ കേരളത്തിലെ 13 ജില്ലകളിലും വിവിധതരത്തിലുള്ള ചെറുതും വലുതുമായ മലയിടിച്ചിലുകളും ഉരുൾപൊട്ടലുകളും ഉണ്ടാകാൻ സാധ്യതയുള്ളവയാണ്.

ഭൂമികുലുക്കം മൂലം കേരളത്തിൽ വലിയ ദുരന്തങ്ങൾ ഉണ്ടായിട്ടില്ലെങ്കിലും ഭൂകമ്പത്തിന്റെ സാധ്യതകളെ വിസ്മരിച്ചുകൊണ്ട് നമ്മുടെ സംസ്ഥാനത്തിന് മുന്നോട്ട് പോകുവാൻ കഴിയില്ല. ഇന്ത്യയിൽ ഭൂമികുലുക്കം ഉണ്ടാകാൻ സാധ്യതയുള്ള സ്ഥലങ്ങളെ 1 മുതൽ 5വരെയുള്ള സീസ്മിക് സോണുകളായി തരംതിരിച്ചിട്ടുണ്ട്. ഇതിൽ കേരളം സോൺ 3-ൽ ആണ് വന്നിരിക്കുന്നത്. അതായത് റിക്ടർ സ്കെയിലിൽ 6.5 തീവ്രത വരെ

രേഖപ്പെടുത്താൻ തക്ക ശേഷിയുള്ള ഭൂചലനങ്ങൾ ഉണ്ടാകാൻ സാധ്യതയുള്ള സംസ്ഥാനമാണ് കേരളം.

ദേശീയ ശരാശരിയേക്കാൾ വളരെയധികം, 3000 മില്ലീമീറ്ററിലധികം മഴ ലഭിക്കുന്ന സംസ്ഥാനമാണ് കേരളം. പ്രകൃതിയുടെ വരദാനമായി ധാരാളം പുഴകളും അരുവികളും കായലുകളും കുളങ്ങളുമെല്ലാം കൊണ്ട് സമൃദ്ധമാണെങ്കിലും മനുഷ്യന്റെ കൈകടത്തലുകൾ മൂലം പാരിസ്ഥിതിക സന്തുലിതാവസ്ഥ തന്നെ തകിടം മറിഞ്ഞുകൊണ്ടിരിക്കുകയാണ്. തത്ഫലമായി മഴയുടെ ലഭ്യത കുറഞ്ഞുവരികയും നവംബർ, ഡിസംബർ മാസത്തോടടുക്കുമ്പോൾ തന്നെ വരൾച്ച തുടങ്ങുന്നതിനും കാരണമാകുന്നു. ഓരോ വർഷം കഴിയുമ്പോഴും അതിരൂക്ഷമായ വരൾച്ചയാണ് നാം സാക്ഷ്യം വഹിച്ചുകൊണ്ടിരിക്കുന്നത്. നെൽപാടങ്ങളും, തണ്ണീർതടങ്ങളും പുഴകളുമെല്ലാം ഇനിയും നമുക്ക് നഷ്ടപ്പെടുകയാണെങ്കിൽ ജൂൺ മാസത്തിൽ പോലും ജലദൗർലഭ്യം അനുഭവപ്പെടുന്ന ഒരു സംസ്ഥാനമായി കേരളം മാറിയേക്കാം.

കാലാവസ്ഥയുമായി ബന്ധപ്പെട്ട ദുരന്തങ്ങളിൽ ഏറ്റവുമധികം ജീവഹാനി ഉണ്ടാക്കുന്ന ദുരന്തമാണ് ഇടിമിന്നൽ. കേരളത്തിൽ ഇടിമിന്നൽ കൊണ്ടുള്ള ദുരന്തങ്ങൾ വർദ്ധിച്ചു വരികയാണ്. ഇന്ത്യയിൽ ഇടിമിന്നലേറ്റ് ഏറ്റവും അധികം മരണവും വസ്തുവകകൾക്ക് നാശവും സംഭവിക്കുന്ന സംസ്ഥാനങ്ങളിൽ ഒന്നാണ് കേരളം.

56 കിലോമീറ്ററോളം തീരപ്രദേശമുള്ള കേരളം ഇന്ന് വിവിധ കാരണങ്ങളാൽ അതിരൂക്ഷമായ കടലെടുത്തു പോകൽ പ്രക്രിയയ്ക്ക് വിധേയമായിക്കൊണ്ടിരിക്കുന്നു. ജനങ്ങൾ തിങ്ങിപ്പാർക്കുന്ന ഈ പ്രദേശങ്ങളിൽ കടലാക്രമണം മൂലമുള്ള നാശനഷ്ടങ്ങൾ ഏറെയാണ്. മഴക്കാലങ്ങളിൽ കടലാക്രമണത്തിന്റെ തോത് വർദ്ധിക്കുകയും തീരദേശ കുടുംബങ്ങളെ ദുരിതാശ്വാസ കേന്ദ്രങ്ങളിലേക്ക് മാറ്റിത്താമസിപ്പിക്കുകയും ചെയ്യുന്നുണ്ട്.

പ്രകൃതി ദുരന്തങ്ങൾ കൂടാതെ കേരളത്തിൽ രാസദുരന്തങ്ങൾ ഉണ്ടാകുവാനുള്ള സാധ്യതയും ഏറെയാണ്. 2009-ൽ കരുനാഗപ്പള്ളി പുത്തൻതെരുവിലും 2012 ഓഗസ്റ്റ് മാസം കണ്ണൂർ ചാലയിൽ ഉണ്ടായ എൽ.പി.ജി ദുരന്തങ്ങൾ രാസദുരന്തനിവാരണ സംവിധാനത്തെ ശക്തിപ്പെടുത്തേണ്ടതിന്റെ ആവശ്യകത ബോധ്യപ്പെടുത്തിയ സംഭവങ്ങളായിരുന്നു. എൽ.പി.ജി, അമോണിയ, ആസിഡുകൾ തുടങ്ങിയ രാസവസ്തുക്കൾ വഹിച്ചുകൊണ്ടുള്ള ടാങ്കുകൾ ഇതിന് മുൻപും പലതവണ അപകടത്തിൽപ്പെട്ടിട്ടുണ്ട്. അപകടകരമായ രാസവസ്തുക്കൾ കൈകാര്യം ചെയ്യപ്പെടുന്ന വ്യവസായശാലകളിലും അവ കൈമാറ്റം ചെയ്യപ്പെടുന്ന റോഡുകളിലും സുരക്ഷാ ക്രമീകരണങ്ങളിലെ വീഴ്ച മൂലമോ, അപകടങ്ങൾ മൂലമോ ദുരന്തങ്ങൾ സംഭവിച്ചേക്കാം.

പ്രകൃതി ദുരന്തങ്ങളാണെങ്കിലും രാസദുരന്തങ്ങളാണെങ്കിലും ദുരന്തമുഖത്ത് ഓടിയെത്തുകയും നിവാരണ പ്രവർത്തനങ്ങൾ നടത്തുന്നതിന് മുൻകൈ എടുക്കുകയും ഏകോപനം നടത്തുകയും ചെയ്യേണ്ട കടമ റവന്യൂ-ദുരന്തനിവാരണ വകുപ്പിൽ നിക്ഷിപ്തമാണ്. ആയതിനാൽ ദുരന്തനിവാരണം, ദുരന്ത ലഘൂകരണം, ദുരന്ത തയ്യാറെടുപ്പ് എന്നിവയിൽ ജീവനക്കാർക്ക് നിരന്തര പരിശീലനവും ശാക്തീകരണ പ്രവർത്തനങ്ങളും ആവശ്യമാണ്.

ദുരന്തനിവാരണ-ഭരണ നിർവ്വഹണ സംവിധാനം

ദേശീയ ദുരന്തനിവാരണ ആക്ടിന് അനുസൃതമായി സംസ്ഥാന സർക്കാർ സംസ്ഥാന ദുരന്തനിവാരണ അതോറിറ്റിയും ജില്ലാ ദുരന്തനിവാരണ അതോറിറ്റികൾക്കും രൂപം നൽകുകയുണ്ടായി.

ദേശീയ ദുരന്തനിവാരണ അതോറിറ്റി (എൻ.ഡി.എം.എ)

2004-ലെ ഇന്ത്യൻ മഹാസമുദ്രത്തിൽ ഉണ്ടായ സുനാമിക്ക് ശേഷം ഇന്ത്യയിൽ ദുരന്ത നിവാരണം കഴിഞ്ഞുവരുന്നതിനുവേണ്ടി 2005 ഡിസംബർ 26-ന് കേന്ദ്ര നിയമനിർമ്മാണ സഭ അംഗീകരിച്ച നിയമമാണ് ഡിസാസ്റ്റർ മാനേജ്മെന്റ് ആക്ട് 2005. രാജ്യത്തെ ദുരന്ത നിവാരണ സംവിധാനത്തിലും നയത്തിലും കാതലായ മാറ്റങ്ങൾ കൊണ്ടുവരുവാൻ ഈ ആക്ട് വ്യവസ്ഥ ചെയ്യുന്നു. ദുരന്തം നടന്നതിനുശേഷമുള്ള പ്രതികരണം, ദുരിതാശ്വാസം എന്നിവയ്ക്ക് അതീതമായി ദുരന്തലഘൂകരണത്തിൽ അധിഷ്ഠിതമായ ദുരന്ത തയ്യാറെടുപ്പിന് ഊന്നൽ നൽകിക്കൊണ്ട് പുതിയ ഒരു ദുരന്തനിവാരണ നയത്തിന് ഈ ആക്ട് കാരണമായി. ദേശീയ, സംസ്ഥാന, ജില്ലാതലങ്ങളിൽ ദുരന്തനിവാരണം ഏകോപിപ്പിക്കുന്നതിനായി സ്ഥിരവും ശക്തവുമായ ഭരണ സംവിധാനങ്ങൾ ഈ ആക്ട് പ്രകാരം നടപ്പിലാക്കിയിട്ടുണ്ട്. ദുരന്തനിവാരണ ആക്ട് 2005 നിലവിൽ വന്നതിനുശേഷം ദേശീയതലത്തിൽ രൂപീകൃതമായ ഏകോപന സംവിധാനമാണ് ദേശീയ ദുരന്തനിവാരണ അതോറിറ്റി (നാഷണൽ ഡിസാസ്റ്റർ മാനേജ്മെന്റ് അതോറിറ്റി). പ്രധാനമന്ത്രി ചെയർമാനും, കാബിനറ്റ് മിനിസ്റ്റർ പദവിയുള്ള വൈസ് ചെയർമാനും, കേന്ദ്രസഹമന്ത്രി പദവിയുള്ള എട്ട് അംഗങ്ങളും ചേർന്നതാണ് ദേശീയ ദുരന്തനിവാരണ അതോറിറ്റി.

കേരള സംസ്ഥാന ദുരന്തനിവാരണ അതോറിറ്റി (കെ.എസ്.ഡി.എം.എ)

കേരളത്തിലെ ദുരന്തലഘൂകരണവും ദുരന്തനിവാരണവുമായി ബന്ധപ്പെട്ട പ്രവർത്തികളുടെ ഏകോപനം, അവലോകനം, ആവിഷ്കരണം, നിരീക്ഷണം എന്നിവയ്ക്ക് നേതൃത്വം നൽകുന്ന ഏകീകൃതമായ ഭരണ സംവിധാനമായാണ് കേരള സംസ്ഥാന ദുരന്ത നിവാരണ അതോറിറ്റി നിലവിൽ വന്നത്. ദുരന്തനിവാരണത്തിനായി സംസ്ഥാനത്തിന് അനുയോജ്യമായ രീതിയിൽ നയങ്ങൾ രൂപവൽക്കരിക്കുക, പദ്ധതികൾ തയ്യാറാക്കുക, നടപ്പിൽ വരുത്തുക, ആവശ്യമായ സാമ്പത്തിക ലഭ്യത പ്രവർത്തനങ്ങൾക്ക് ഉറപ്പുവരുത്തുക, ശാക്തീകരണ പ്രവർത്തനങ്ങൾ നടത്തുക എന്നിവയും സംസ്ഥാന ദുരന്തനിവാരണ അതോറിറ്റിയുടെ ചുമതലയാണ്. സംസ്ഥാന ദുരന്തനിവാരണ അതോറിറ്റിയുടെ ഘടന താഴെപറയും പ്രകാരമാണ്.

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| 1. ബഹു.കേരളമുഖ്യമന്ത്രി | - | ചെയർമാൻ (Ex-officio) |
| 2. റവന്യൂ വകുപ്പ് മന്ത്രി | - | വൈസ് ചെയർമാൻ |
| 3. ആഭ്യന്തരവകുപ്പ് മന്ത്രി | - | അംഗം |
| 4. കൃഷി വകുപ്പ് മന്ത്രി | - | അംഗം |
| 5. ചീഫ് സെക്രട്ടറി | - | ചീഫ് എക്സിക്യൂട്ടീവ് ഓഫീസർ |
| 6. അഡീഷണൽ ചീഫ് സെക്രട്ടറി,
ആഭ്യന്തരവകുപ്പ് | - | അംഗം |
| 7. അഡീഷണൽ ചീഫ് സെക്രട്ടറി,
റവന്യൂ വകുപ്പ് | - | അംഗം |
| 8. പ്രൊഫ.ഡോ.കേശവ് മോഹൻ,
ഡയറക്ടർ, ഐ.എൽ.ഡി.എം | - | അംഗം |
| 9. ഡോ.എൻ.പി.കുര്യൻ, ഡയറക്ടർ, സെസ്സ് | - | അംഗം |
| 10. ഡോ.ശേഖർ.എൽ.കുര്യാക്കോസ്, ഹെഡ്,
സ്റ്റേറ്റ് എമർജൻസി ഓപ്പറേഷൻ സെന്റർ | - | അംഗം |

സ്റ്റേറ്റ് എക്സിക്യൂട്ടീവ് കമ്മിറ്റി (എസ്.ഇ.സി)

സംസ്ഥാന ദുരന്തനിവാരണ അതോറിറ്റിയുടെ ഭരണപരമായ പ്രവർത്തനങ്ങൾ സുഗമമാക്കുന്നതിനും ഏകോപനം നടത്തുന്നതിനും ദുരന്തനിവാരണ ആക്ട് അനുസരിച്ച് സംസ്ഥാന സർക്കാർ സ്റ്റേറ്റ് എക്സിക്യൂട്ടീവ് കമ്മിറ്റിക്ക് രൂപം നൽകുകയുണ്ടായി. സ്റ്റേറ്റ് എക്സിക്യൂട്ടീവ് കമ്മിറ്റിയുടെ ഘടന ചുവടെ ചേർക്കുന്നു.

1. ചീഫ് സെക്രട്ടറി, കേരള സർക്കാർ - ചെയർപേഴ്സൺ

- 2. സെക്രട്ടറി, റവന്യൂ വകുപ്പ് - കൺവീനർ
- 3. സെക്രട്ടറി, ഫിനാൻസ് - മെമ്പർ
- 4. സെക്രട്ടറി, ആഭ്യന്തരവകുപ്പ് - മെമ്പർ
- 5. സെക്രട്ടറി, ആരോഗ്യവകുപ്പ് - മെമ്പർ

സ്റ്റേറ്റ് എക്സിക്യൂട്ടീവ് കമ്മിറ്റിയാണ് ആവശ്യഘട്ടങ്ങളിൽ ക്രൈസിസ് മാനേജ്മെന്റ് ഗ്രൂപ്പായി പ്രവർത്തിക്കുന്നത്. ദുരന്തനിവാരണത്തിൽ ഏർപ്പെടുന്ന വകുപ്പുകൾ, ജില്ലാ അതോറിറ്റികൾ, സർക്കാർ-സർക്കാരിതര സ്ഥാപനങ്ങൾ എന്നിവർക്കുള്ള നിർദ്ദേശങ്ങൾ നൽകുക, ജില്ലാ അതോറിറ്റിക്കുള്ള സാങ്കേതിക സഹായങ്ങൾ ലഭ്യമാക്കുക, ദുരന്ത നിവാരണവുമായി ബന്ധപ്പെട്ട സാമ്പത്തിക വിഷയങ്ങളിൽ സംസ്ഥാന സർക്കാരിന് ഉപദേശങ്ങൾ നൽകുക എന്നിവയും സ്റ്റേറ്റ് എക്സിക്യൂട്ടീവ് കമ്മിറ്റിയുടെ ചുമതലകളാണ്.

ജില്ലാ ദുരന്തനിവാരണ അതോറിറ്റികൾ (ഡി.ഡി.എം.എ)

ജില്ലാതലത്തിൽ ദുരന്തനിവാരണം ഏകോപിപ്പിക്കുന്നതിനായി കേരളത്തിലെ 14 ജില്ലകളിലും ജില്ലാ ദുരന്തനിവാരണ അതോറിറ്റികൾക്ക് രൂപം നൽകിയിട്ടുണ്ട്. സംസ്ഥാന അതോറിറ്റി നൽകുന്ന നിർദ്ദേശങ്ങൾക്കനുസൃതമായി ജില്ലയിലെ ദുരന്തനിവാരണ സംവിധാനം ശക്തിപ്പെടുത്തുക, ജില്ലാതല ഏകോപനം നടത്തുക, ജില്ലയിലെ ദുരന്ത സാധ്യതാ പ്രദേശങ്ങൾ ഏതൊക്കെയാണെന്ന് മനസ്സിലാക്കുക, ആവശ്യമായ ദുരന്തലഘൂകരണ പ്രവർത്തനങ്ങൾ നടത്തുക, ജില്ലാതല ദുരന്തനിവാരണ പ്ലാൻ തയ്യാറാക്കി നടപ്പിൽ വരുത്തുക, ദുരന്ത തയ്യാറെടുപ്പ് നടത്തുക, പരിശീലനപരിപാടികൾ സംഘടിപ്പിക്കുക, മുന്നറിയിപ്പ് സംവിധാനങ്ങൾ ഒരുക്കുക, ത്രിതല പഞ്ചായത്ത് സംവിധാനങ്ങൾക്ക് ആവശ്യമായ സഹായങ്ങൾ നൽകുക എന്നിവയെല്ലാം ഡി.ഡി.എം.എ-യുടെ കടമകളാണ്.

ജില്ലാ ദുരന്തനിവാരണ അതോറിറ്റിയുടെ ചെയർപേഴ്സൺ ജില്ലാകളക്ടറും കോ-ചെയർപേഴ്സൺ ജില്ലാപഞ്ചായത്ത് പ്രസിഡന്റും ആണ്. ഏഴ് പേരടങ്ങുന്ന ജില്ലാ അതോറിറ്റിയിൽ അഡീഷണൽ ജില്ലാ മജിസ്ട്രേറ്റ്, ജില്ലാ പോലീസ് സൂപ്രണ്ട്, ജില്ലാ മെഡിക്കൽ ഓഫീസർ എന്നിവരും സംസ്ഥാന സർക്കാർ നിശ്ചയിക്കുന്ന രണ്ട് ജില്ലാ ഓഫീസർമാർ എന്നിവർ അംഗങ്ങളാണ്.

സംസ്ഥാന ദുരന്തനിവാരണ വകുപ്പുതല ദുരന്തനിവാരണ പദ്ധതികളും തയ്യാറാക്കുന്നതിന് ആവശ്യമായ ശുപാർശകൾ നൽകുകയും പ്ലാനുകൾ അവലോകനം നടത്തുന്നതും സംസ്ഥാന അതോറിറ്റിയാണ്.

റവന്യൂ ദുരന്തനിവാരണ വകുപ്പ്

സംസ്ഥാനത്തെ ദുരന്തനിവാരണവുമായി ബന്ധപ്പെട്ട വിഷയങ്ങൾ കൈകാര്യം ചെയ്യുന്നത് റവന്യൂ-ദുരന്തനിവാരണ വകുപ്പാണ്. പ്രകൃതി ദുരന്തങ്ങൾ നേരിടുന്നതിനുള്ള നോഡൽ ഡിപ്പാർട്ടുമെന്റുകൂടിയാണ് കേരളത്തിൽ റവന്യൂ-ദുരന്ത നിവാരണ വകുപ്പ്. മനുഷ്യപ്രേരിത ദുരന്തങ്ങൾ കൈകാര്യം ചെയ്യുന്നത് ആഭ്യന്തരവകുപ്പും, രാസദുരന്തങ്ങളെ ഫാക്ടറീസ് ആന്റ് ബോയിലേഴ്സ് ഡിപ്പാർട്ടുമെന്റും, പകർച്ചവ്യാധി മുതലായ ആരോഗ്യ പ്രശ്നങ്ങളെ ആരോഗ്യവകുപ്പും, വരൾച്ച, കൃഷിനാശം എന്നിവയെ കൃഷിവകുപ്പും ആണ് നോഡൽ ഡിപ്പാർട്ടുമെന്റുകൾ. ഓരോ നോഡൽ ഡിപ്പാർട്ടുമെന്റുകളും വകുപ്പുതല ദുരന്തനിവാരണ പ്ലാനുകൾ തയ്യാറാക്കുകയും സംസ്ഥാന അതോറിറ്റിക്ക് അവലോകനത്തിനായി നൽകുകയും ചെയ്യേണ്ടതാണ്.

ഇൻസ്റ്റിറ്റ്യൂട്ട് ഓഫ് ലാന്റ് ആന്റ് ഡിസാസ്റ്റർ മാനേജ്മെന്റ്

സംസ്ഥാന റവന്യൂ വകുപ്പിന് കീഴിൽ പ്രവർത്തിക്കുന്ന സ്വയംഭരണ പരിശീലന സ്ഥാപനമാണ് ഇൻസ്റ്റിറ്റ്യൂട്ട് ഓഫ് ലാന്റ് ആന്റ് ഡിസാസ്റ്റർ മാനേജ്മെന്റ് (ഐ.എൽ.ഡി.എം). ദുരന്തഘാത ലഘൂകരണവുമായി ബന്ധപ്പെട്ട നിരവധി പരിശീലനങ്ങൾ ഉദ്യോഗസ്ഥർക്കും പൊതുസമൂഹത്തിനും നൽകുന്നതിനുള്ള പ്രത്യേക വിഭാഗവും ദുരന്തഘാത ലഘൂകരണവുമായി ബന്ധപ്പെട്ട മേഖലകളിൽ ഗവേഷണം നടത്തുന്നതിനു വേണ്ടിയുള്ള എച്ച്.വി.ആർ.എ വിഭാഗവും ഇൻസ്റ്റിറ്റ്യൂട്ടിനു കീഴിൽ പ്രവർത്തിച്ചു വരുന്നു.

Flood prone area in the State: District and Taluk

District	Taluk	Area Km ²	Area %
Thiruvananthapuram		268.09	12.23
	Neyyattinkara	72.56	12.68
	Nedumangad	68.38	7.39
	Thiruvananthapuram	65.85	21.32
	Chirayinkeezhu	61.28	15.92
Kollam		283.62	11.41
	Karunagapally	56.63	31.83
	Kollam	72.28	18.75
	Kottarakkara	75.31	13.62
	Kunnathur	38.5	27.61
	Pathanapuram	40.51	3.3
Pathanamthitta		212.76	8
	Adoor	48.26	14.7
	Kozhenchery	51.24	5.6
	Mallappalli	16.73	10.98
	Ranni	14.61	1.34
	Thiruvalla	81.92	48.45
Alappuzha		762.57	53.77
	Ambalapuzha	73.83	40.42
	Chengannur	86.77	59.92
	Cherthala	115.88	35.64
	Karthikapalli	127.15	55.18
	Kuttanad	281.6	92.11
	Mavelikkara	77.09	33.61
Kottayam		461.33	20.95
	Changanassery	52.55	20.14
	Kanjirappally	3.84	0.87
	Kottayam	195	38.5
	Meenachil	50.92	7.54
	Vaikom	158.95	49.68
Ernakulam		718.94	23.5
	Kochi	51.79	35.76
	Paravur	108.03	56.2
	Kanayannur	117.16	36.76
	Muvattupuzha	79.63	18.17
	Kunnathunad	155.31	32.96
	Aluva	136.02	25.33
	Kothamangalam	67.91	7.09
District	Taluk	Area Km ²	Area %
Idukki		38.78	0.89
	Devikulam	0	0
	Thodupuzha	26.87	2.1
	Udumbanchola	11.35	1.3
	Peermade	0	0
Thrissur		688.44	22.65
	Chavakkad	89.47	36.81

	Kodungaloor	48.1	33.09
	Mukundapuram	225.91	17.27
	Thrissur	181.39	27.45
	Thalapally	143.59	21.05
Palakkad		567.16	12.66
	Ottapalam	194.67	22.97
	Mannarkad	89.08	7.42
	Palakkad	97.49	13.61
	Alathur	107.65	18.88
	Chitoor	78.11	6.83
Malappuram		601.67	16.93
	Ponnani	80.07	40.21
	Tirur	109.6	24.39
	Tirurangadi	78.7	24.14
	Eranad	100.69	14.4
	Perinthalmanna	81.21	16.07
	Nilambur	151.35	11.02
Kozhikkode		288.83	12.3
	Kozhikkode	133.51	12.93
	Quilandy	86.65	11.71
	Vadakara	67.83	11.77
Wayanad		215.39	10.11
	Vythri	60.06	9.72
	SulthanBathery	84.12	10.92
	Mananthavady	71.22	9.61
Kannur		339.18	11.45
	Taliparamba	116.45	8.77
	Kannur	116.2	26.71
	Thalassery	106.22	8.85
Kasargod		198.79	9.99
	Hosdurg	87.07	8.79
	Kasargod	111.7	11.16

Total flood prone area in the state	5642.68	14.52
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Landslide prone area in each District, Taluk and whole State					
District	Taluks	Area Km ²	Area %	Area Km ²	Area %
		High		Low	
Thiruvananthapuram		45.59	2.08	114.9	5.24
	Neyyattinkara	9.99	1.75	30.6	5.35
	Nedumangad	35.6	3.85	84.29	9.11
Kollam		75.61	3.04	191.07	7.69
	Kottarakkara	0	0	3.96	0.72
	Pathanapuram	75.61	6.15	187.12	15.23
Pathanamthitta		170.28	6.41	426.25	16.04
	Adoor	0	0	9.29	2.83
	Kozhenchery	42.72	4.67	202.92	22.17
	Mallappalli	0	0	0.72	0.47
	Ranni	127.56	11.68	213.2	19.52
Alappuzha		0	0	0	0
Kottayam		61.78	2.81	190.5	8.65
	Changanassery	0	0	0.63	0.24
	Kanjirappally	23.84	5.42	85.09	19.36
	Meenachil	37.94	5.62	104.76	15.51
Idukki		388.32	8.9	873.71	20.02
	Devikulam	177.78	15.62	259.57	22.81
	Thodupuzha	52	4.06	183	14.29
	Udumbanchola	69.81	8.01	183.9	21.1
	Peermade	88.73	8.26	286.58	26.67
Ernakulam		61.42	2.01	229.05	7.49
	Aluva	8.04	1.5	54.5	10.15
	Kothamangalam	53.39	5.58	174.42	18.22
Thrissur		108.15	3.56	217.4	7.15
	Mukundapuram	91.48	6.99	153.34	11.72
	Thrissur	15.19	2.3	44.04	6.66
	Thalapally	1.47	0.22	19.94	2.92
Palakkad		324.62	7.25	366.88	8.19
	Ottapalam	0	0	2.12	0.25
	Mannarkad	153.74	12.8	191.01	15.9
	Palakkad	56.03	7.82	51.61	7.21
	Alathur	32.12	5.63	17.97	3.15
	Chittoor	82.74	7.24	104.17	9.11
Malappuram		198.34	5.58	267.56	7.53
	Tirurangadi	0	0	4.48	1.38
	Eranad	11.06	1.58	29.91	4.28
	Perinthalmanna	0	0	21.01	4.16
	Nilambur	187.28	13.64	212.16	15.45
Kozhikode		109	4.64	206.71	8.8
	Kozhikkode	47.95	4.64	90.75	8.79
	Quilandy	27.36	3.7	54.58	7.37
	Vadakara	33.69	5.84	61.38	10.65
Wayanad		102.56	4.82	196.57	9.23

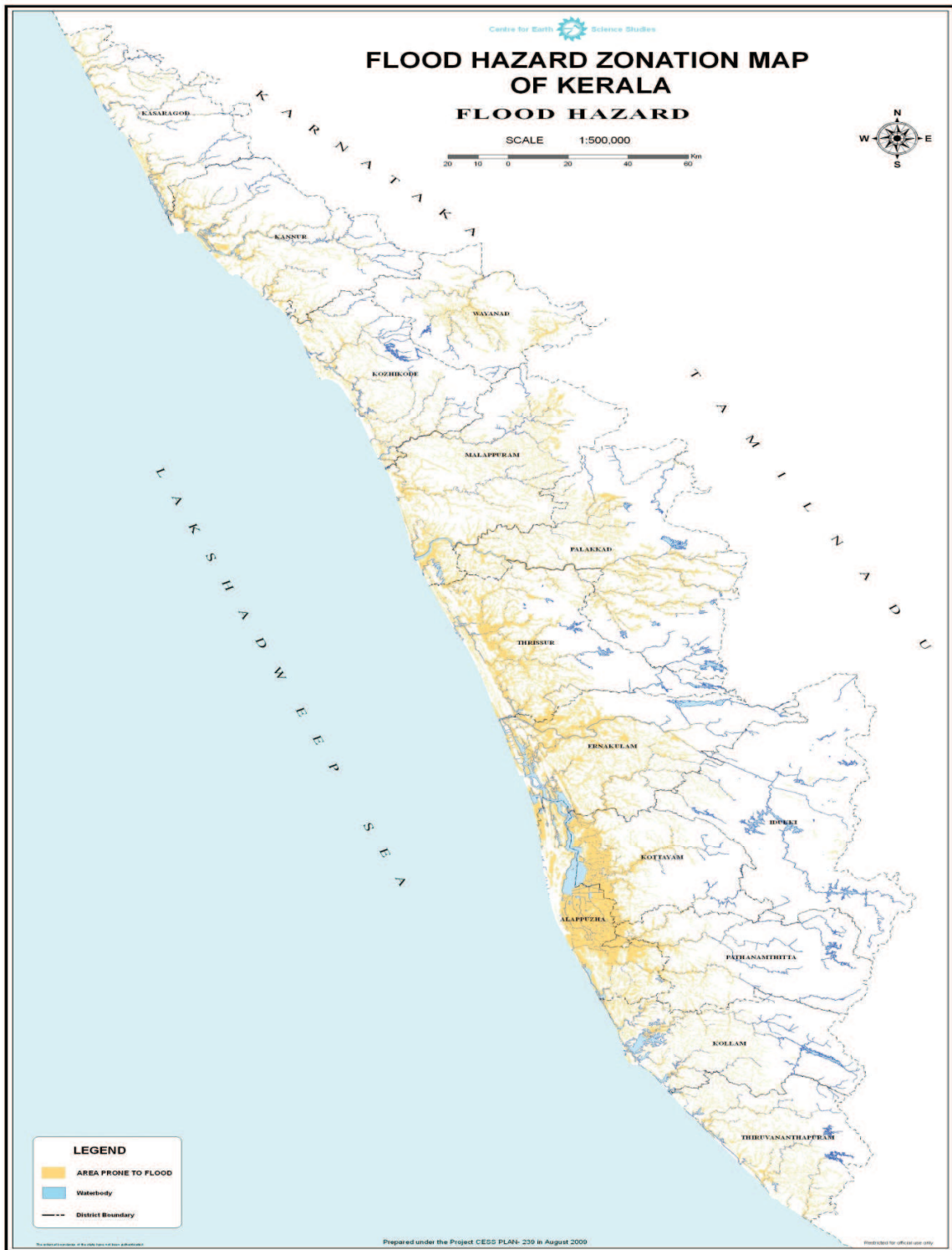
	Vythri	64.72	10.47	101.88	16.48
	SulthanBathery	1.15	0.15	12.8	1.66
	Mananthavady	36.68	4.95	81.81	11.04
Kannur		168.64	5.69	272.55	9.2
	Taliparamba	81.04	6.1	152.7	11.5
	Kannur	0.08	0.02	1.85	0.43
	Thalassery	87.52	7.29	117.99	9.83
Kasargod		33.67	1.69	205.9	10.35
	Hosdurg	31.56	3.19	152.86	15.44
	Kasargod	2.11	0.21	53.02	5.3

Total landslide prone area in the state		1847.98	4.75	3759.07	9.67
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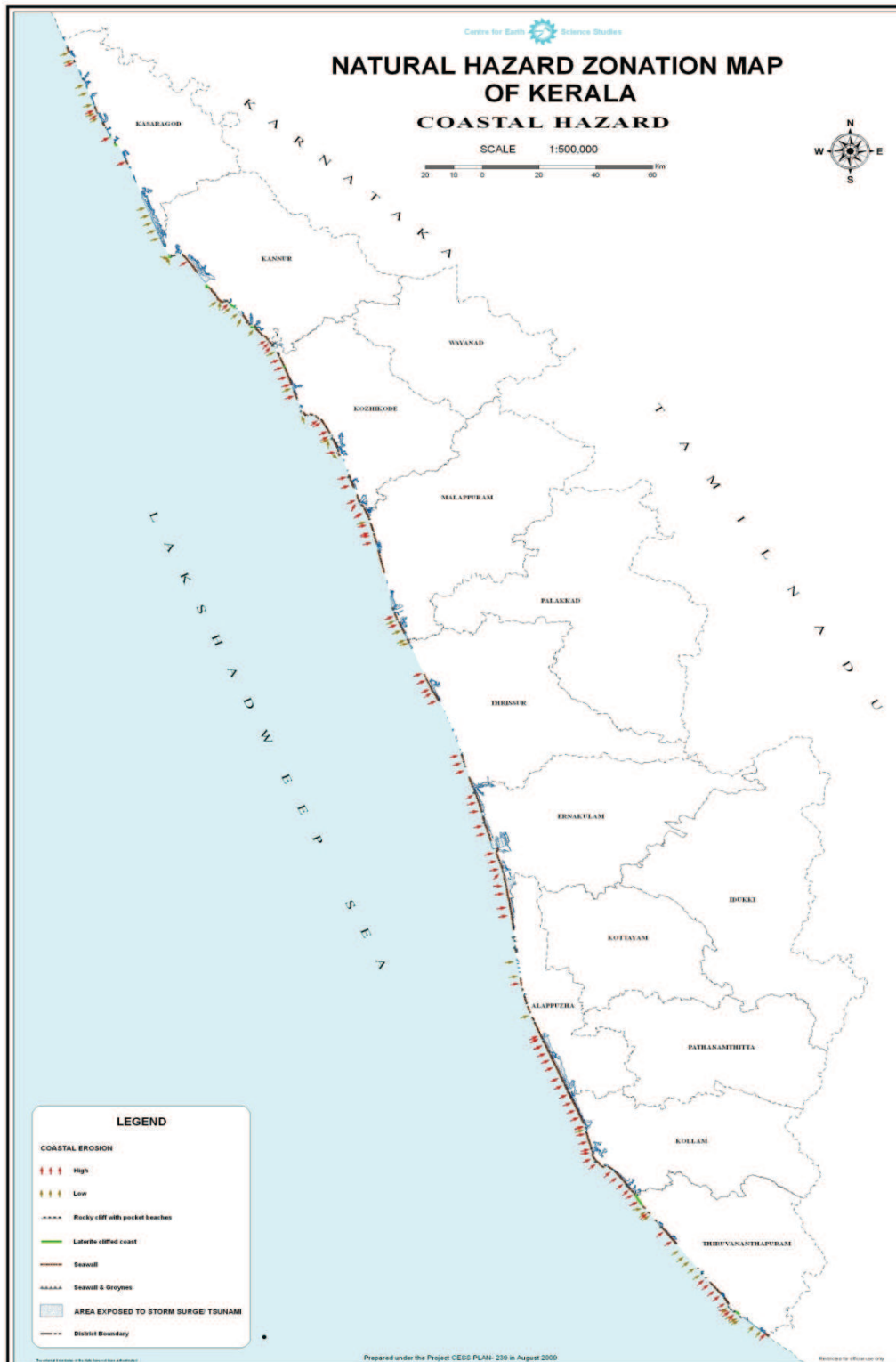
Eroding sectors along the coast in each District, Taluk and whole State							
District	Taluks	Length		Length		Length	
		Km	%	Km	%	Km	%
		High (without sea wall)		High (with Sea wall)		Low	
Thiruvananthapuram		11.9	15.86	15.66	20.88	30.84	41.11
	Neyyattinkara	2.71	12.9	1.54	7.33	8.71	41.47
	Thiruvananthapuram	4.27	13.99	8.42	27.64	17.64	57.86
	Chirayinkeezhu	4.92	21.24	5.69	24.57	4.49	19.39
Kollam		1.14	2.34	37.77	77.58	0.91	1.86
	Karunagapally			20.28	85.8		
	Kollam	1.14	4.5	17.49	69	0.91	3.57
Alappuzha				29.98	37.84	3.7	4.67
	Ambalapuzha			4.03	11.94	3.7	10.96
	Cherthala			5.69	26.17		
	Karthikapalli			20.25	85.68		
Ernakulam				33.39	69.02		
	Kochi			33.39	69.02		
Thrissur		2.58	3.43	17.37	23.16	0.98	1.3
	Chavakkad	2.58	6.3	8.04	19.66	0.98	2.38
	Kodungalloor			9.32	45.86		
Malappuram				15.4	31.63	6.44	13.23
	Ponnani			4.34	36.09	5.24	43.54
	Tirur			1.05	3.97		
	Tirurangadi			10.01	80.9	1.21	9.75
Kozhikode				35.4	44.68	8.47	10.69
	Kozhikkode			11.2	37.83	2.42	8.18
	Quilandy			13.49	42.88	4.38	13.93
	Vadakara			10.71	67.03	1.66	10.42
Kannur				9.33	14.27	17.38	26.58
	Taliparamba					2.62	29.31
	Kannur			3.76	8.9	13.33	31.55
	Thalassery			5.57	39.16	1.43	10.05
Kasargod		1.3	1.47	4.34	4.93	28.31	32.15
	Hosdurg	1.3	2.64	1.42	2.89	15	30.52
	Kasargod			2.92	7.57	13.32	34.53
Total Eroding sectors in the State		16.91	3.02	198.63	35.47	97.02	17.33

Areas exposed to Storm surge/Tsunami

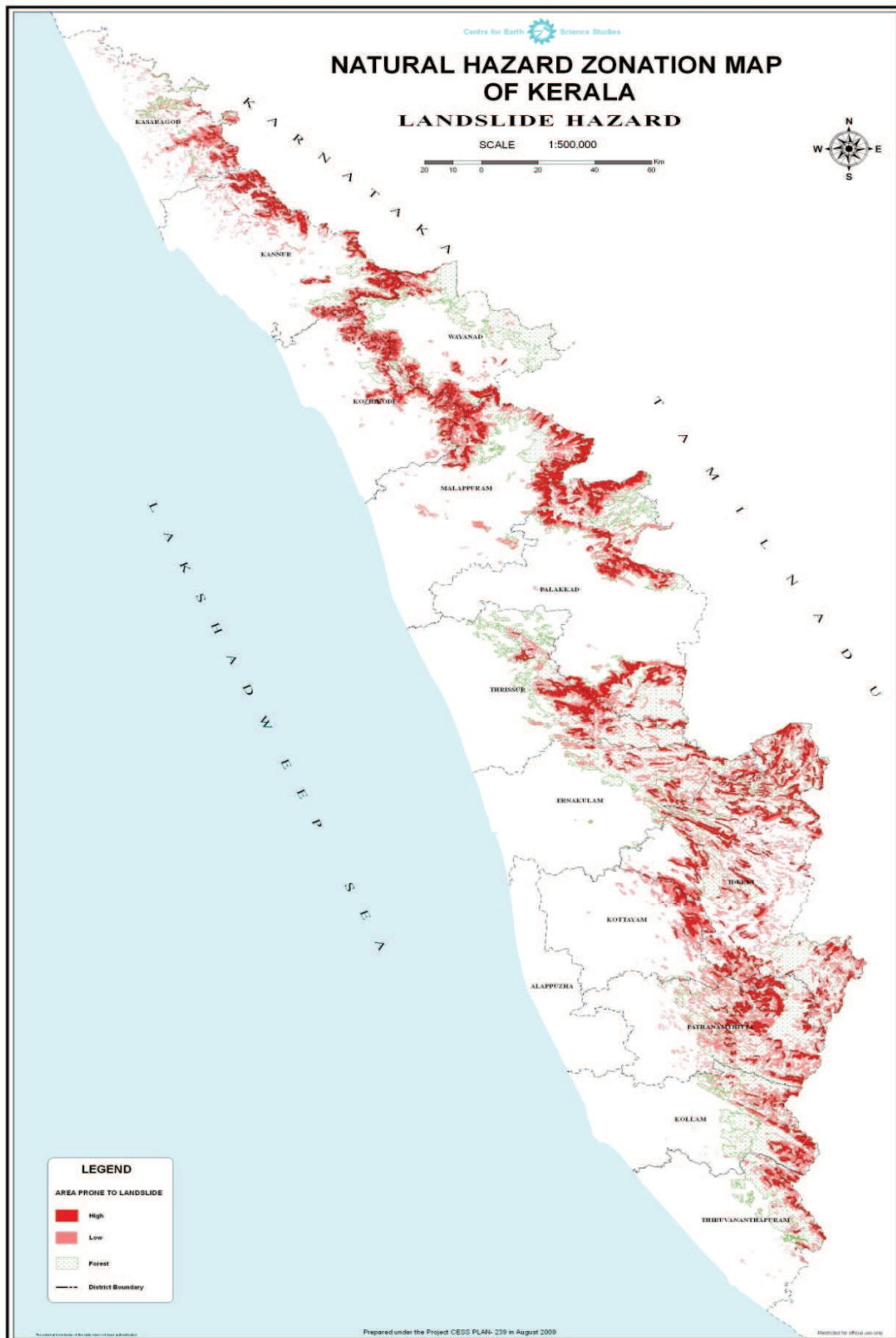
District	Taluks	Area Km ²	Area %
Thiruvananthapuram		10.44	0.48
	Neyyattinkara	4.92	0.86
	Thiruvananthapuram	2.1	0.68
	Chirayinkeezhu	3.42	0.89
Kollam		31.48	1.27
	Karunagapally	14.67	8.24
	Kollam	16.81	4.36
Alappuzha		44.06	3.11
	Ambalapuzha	5.7	3.12
	Cherthala	7.89	2.43
	Karthikapalli	30.47	13.22
Ernakulam		58.02	1.9
	Kochi	45.06	31.11
	Paravur	4.05	2.11
	Kanayannur	8.91	2.8
Thrissur		14.65	0.48
	Chavakkad	9.55	3.93
	Kodungallur	5.09	3.5
Malappuram		20.8	0.59
	Ponnani	7.54	3.79
	Tirur	10.33	2.3
	Tirurangadi	2.94	0.9
Kozhikode		18.95	0.81
	Kozhikkode	10.47	1.01
	Quilandy	6.34	0.86
	Vadakara	2.14	0.37
Kannur		31.07	1.05
	Taliparamba	3.81	0.29
	Kannur	22.45	5.16
	Thalassery	4.81	0.4
Kasargod		33.92	1.7
	Hosdurg	11.68	1.18
	Kasargod	22.23	2.22
Total area exposed to Storm surge/Tsunami in the State		263.37	0.68



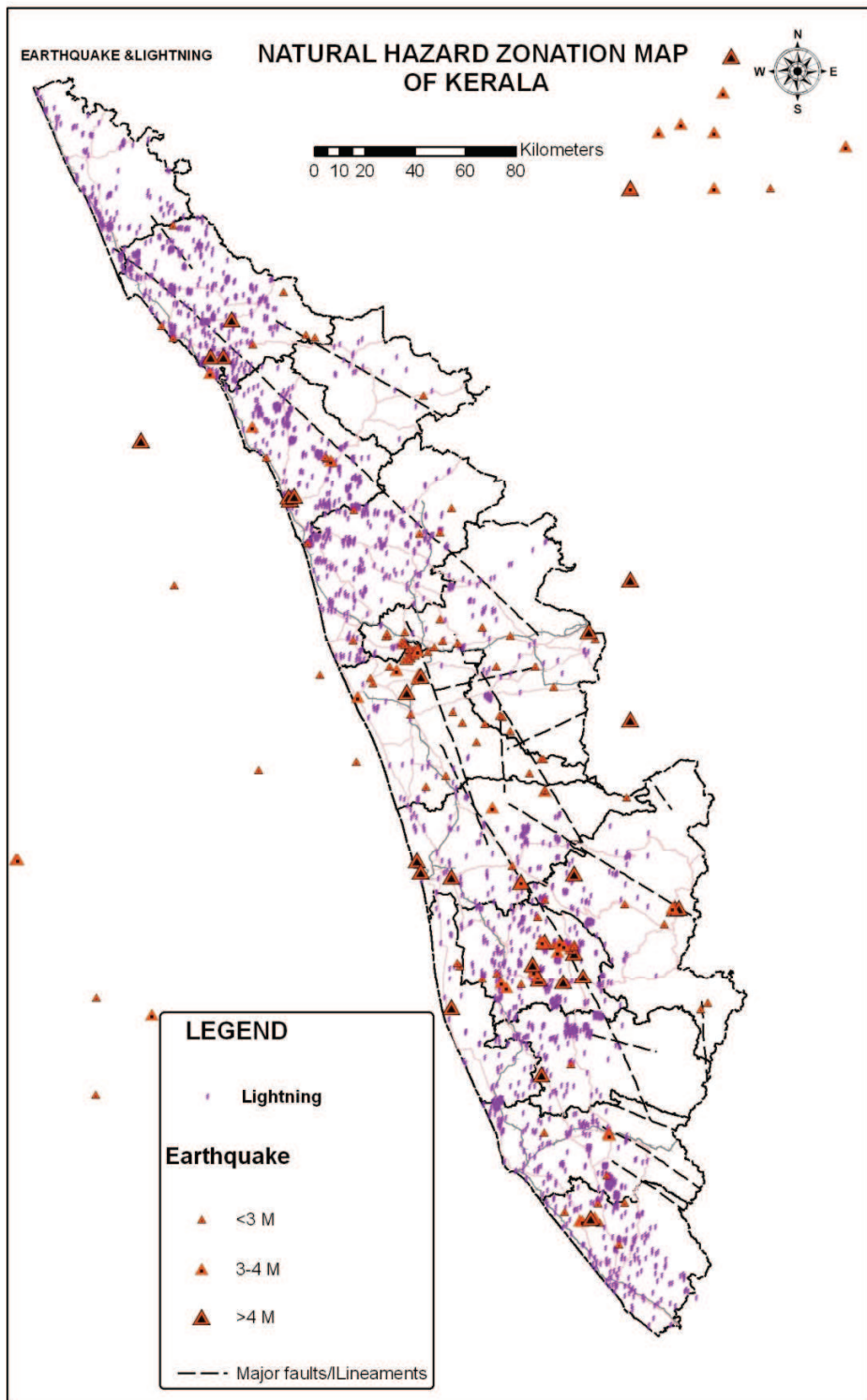
Map of Kerala showing flood plains that are prone to riverine flood



Map of Kerala showing areas prone to coastal hazards

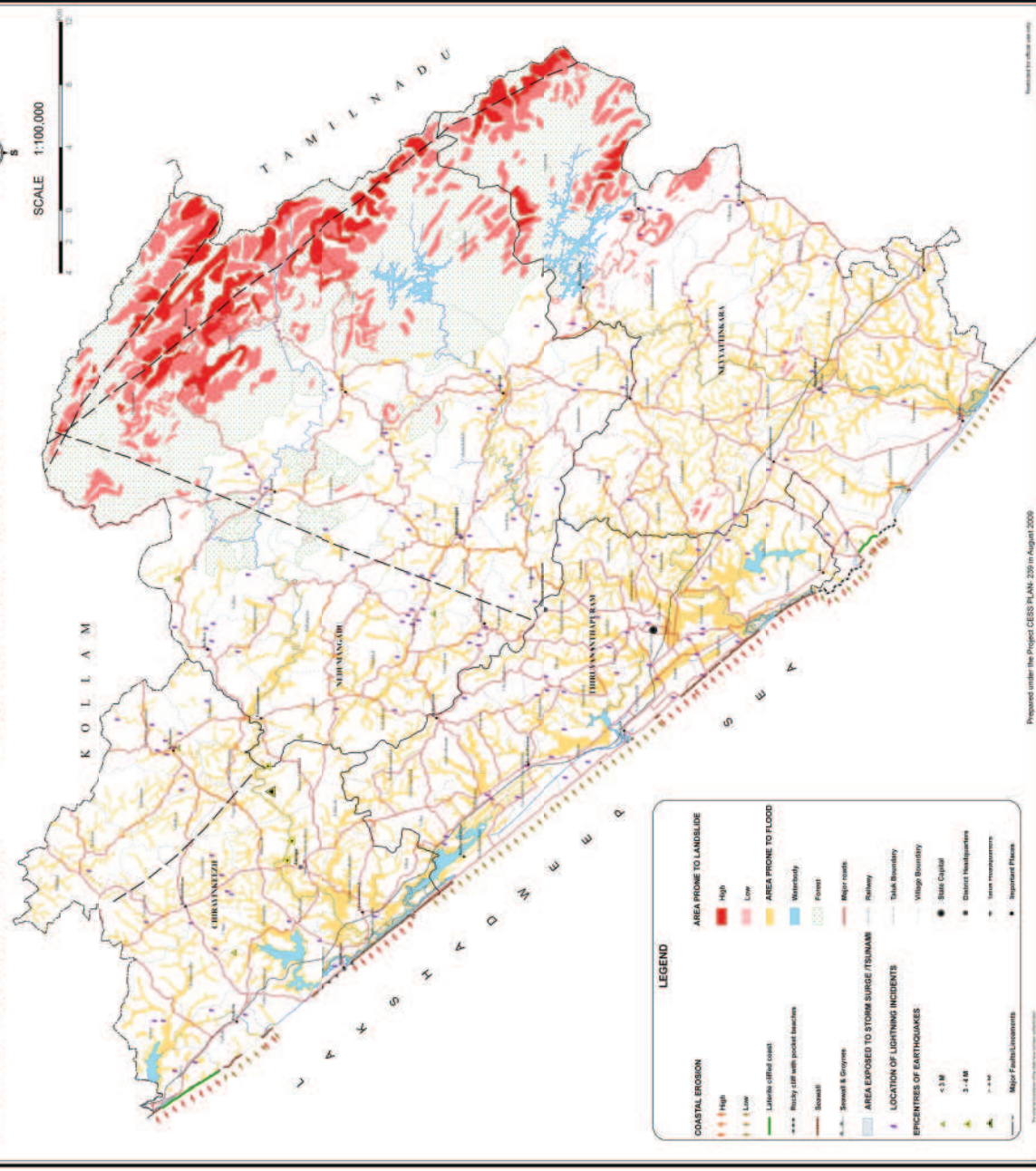


Map of Kerala showing areas prone to coastal hazards



Map of Kerala showing epicenters of earthquakes and incidents of lightning

THIRUVANANTHAPURAM DISTRICT MULTIPLE HAZARD ZONATION MAP



LEGEND

- COASTAL EROSION**
 - High
 - Low
- LANDSLIDES**
 - High
 - Low
- AREA PRONE TO FLOOD**
 - Waterbody
 - Flooded
- AREA EXPOSED TO STORM SURGE / TSUNAMI**
 - Major roads
 - Railway
- LOCATION OF LIGHTNING INCIDENTS**
 - Taluk Boundary
 - Village Boundary
- EPICENTRES OF EARTHQUAKES**
 - < 2 M
 - 2 - 4 M
 - 4 - 6 M
 - > 6 M
- Other Features**
 - State Capital
 - District Headquarters
 - Town municipalities
 - Major Fairs/Locusts

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Natural hazards in Thiruvananthapuram district - Taluk wise

Taluk	Landslide		Coastal erosion		Storm surge		Lightning		Earthquake	
	Area km ²	Area %	Area km ²	Area %	Area km ²	Area %	Area km ²	Area %	Area km ²	Area %
North Malappuram	12.2	1.7	10.0	1.4	1.7	0.2	1.7	0.2	1.7	0.2
Thiruvananthapuram	10.8	1.5	10.0	1.4	1.7	0.2	1.7	0.2	1.7	0.2
Uthirapatti	11.7	1.6	10.0	1.4	1.7	0.2	1.7	0.2	1.7	0.2
Total	34.7	4.8	30.0	4.2	5.1	0.7	5.1	0.7	5.1	0.7

NATURAL HAZARD ZONATION MAP - THIRUVANANTHAPURAM DISTRICT

TALUK	VILLAGE	LANDSLIDE	COASTAL EROSION	FLOODS	LIGHTNING	EARTH QUAKE (Magnitude)
CHIRAYINKKEZHU	Edava		Laterite cliff erosion	Banks of Nadayara kayal, Venkulam	low	
	Ayirur			Banks of Nadayara kayal, Broad flat bottom valleys (Paddy fields) of Elakamon, Banks of Ayirur river	low	
	Varkala		Laterite cliff erosion	Banks of Parvathiputhanar	low	
	Chemmaruthi			Banks of Ayirur ar	low	
	Navaikulam			Banks of Ayirur ar, Broad flat bottom valleys (Paddy fields) of Vettiyyara, Kulamada & Navaikulam	low	
	Pallikkal			Banks of Ithikkara ar, Broad flat bottom valleys (Paddy fields) Pakalkuri, Vilakadu, Mulabhagam	low	
	Madavoor			Banks of Madavoor todur, Broad flat bottom valleys (Paddy fields) Anakunnam, Puliyoorkonam, Chathankonam, Thumbode	low	
	Kilimanoor			Banks of Kilimanoor ar, Broad flat bottom valleys (Paddy fields) Ponganade, Thakaraparambu	low	
	Pazhyakunnummel			Banks of Kilimanoor ar, Broad flat bottom valleys (Paddy fields) Kilimanoor, Adayamon	high	<3
	Pulimath			Banks of Vamanapuram ar, Banks of Kilimanoor thodu	low	
	Koduvazhannur			Banks of Vamanapuram ar & Kilimanoor tode	low	<3

Nagarur				Banks of Vamanapuram ar & Kari tode	low	
Vellalloor				Banks of Kari tode, Broad flat bottom valleys (Paddy fields) Vellalloor	low	
Karavaram				Broad flat bottom valleys (Paddy fields) Thottakkade, Karavaram	low	
Manamboor				Banks of Kozhithottam kayal, Broad flat bottom valleys (Paddy fields) Manamboor, Kavalloor	low	
Ottoor				Banks of Kozhithottam kayal, Broad flat bottom valleys (Paddy fields) Ottoor, Vadasserikonam	low	
Vettoor - Cherunniyoor			stable	Banks of Kozhithottam kayal, Broad flat bottom valleys (Paddy fields) Cherunniyoor	low	<3
Kadakkavoor			low	Banks of Kozhithottam kayal, Broad flat bottom valleys (Paddy fields) Kadakkavoor	low	
Sarkara-Chirayinkeezhu			Stable, up to seawall	Banks of Vamanapuram and sarkara ar	low	
Keezhattingal				Banks of Vamanapuram ar , Broad flat bottom valleys (Paddy fields) Mananakke	low	
Alamcode				Banks of Vamanapuram ar, Broad flat bottom valleys (Paddy fields) Vanchiyoor, Kattupuram	low	
Elamba-Mudakkal				Banks of Vamanapuram and Sarkara ar, Broad flat bottom valleys (Paddy fields) Chemboor, Konattu	Low	4.3
Edakode				Banks of Sarkara ar, Broad flat bottom valleys (Paddy fields) Porutti	low	
Attingal-Avanavancherry				Banks of Vamanapuram ar, Broad flat bottom valleys (Paddy fields) Avanavancheri Gramam	low	3.6
Kizhuvalam - Koonthalloor				Banks of Sarkara ar & Mamam ar	low	3.6
Azhoor				Banks of Kadinamkulam kayal & Mamam ar	low	

NEYYATTINKARA					
Vilappil				Banks of Karamana arBroad flat bottom valleys (Paddy fields) Vilappilsala	Low
Vilavoorkal				Banks of Karamana ar, Broad flat bottom valleys (Paddy fields) Koothattukaldesam	low
Pallichal		Low (Mukun nimala)		Banks of Karamana ar, Broad flat bottom valleys (Paddy fields) Kottoorkonam	Mod erate
Malayinkeezhu				Broad flat bottom valleys (Paddy fields) Vadiyanchilakonam, Edanattukonam	Low
Kulathummel				Banks of Neyyar,Broad flat bottom valleys (Paddy fields) Amachal, Kulathummel	Low
Maranallur				Banks of Neyyar, Broad flat bottom valleys (Paddy fields) Maranallur, Pongumoodu, Arumanallur	Low
Kallikadu				Banks of Neyyar	Low
Vazhichal		High (forest)			Low
Amboori		High			High
Vellarada		Low		Broad flat bottom valleys (Paddy fields) Vellarada	Mod erate
Anavoor		Low		Broad flat bottom valleys (Paddy fields)Kottakkal	Low
Kunnathukal				Broad flat bottom valleys (Paddy fields)kunnathukal, Banks of Aruvikode tode	Low
Kollayil				Broad flat bottom valleys (Paddy fields) Amaravila, Nadur kolla	Low
Parasuvaikal				Broad flat bottom valleys (Paddy fields) Parasuvaikal,Pulloorkonam	Low
Parasala				Broad flat bottom valleys (Paddy fields) Parasala Inchivil	Low
Chenkal				Broad flat bottom valleys (Paddy fields) Chenkal, Ariyoor & Banks of Neyyar	Low
Kanjiramkulam				Banks of Karichal tode	Low
Karinkulam			Stable	Banks of Karichal tode	Low
Thirupuram				Banks of Neyyar , Broad flat bottom valleys (Paddy fields) Arumanoor	Low

Pangapara			Broad flat bottom valleys (Paddy fields) Pangapara, Petur Kariavattom, Venchavode, kariyam	Low
Ayiroorpara			Broad flat bottom valleys (Paddy fields) Sasthavattom, Pattuvilakam	Low
Uliyazhathura			Broad flat bottom valleys (Paddy fields) Uliyazhathura, Aniyoor, Keraladithyapuram	Low
Cheruvikkal			Banks of Akkulam lake & Ulloor tode, Thuruvekkal, Cheruvikkal	Low
Ulloor			Banks of Ulloor tode, Broad flat bottom valleys (Paddy fields) Kariyam	Low
Kadagampally		High	Banks of Ulloor tode & Parvathiputhanar	Low
Pettah		High	Banks of Parvathiputhanar	Low
Pattam			Banks of Ulloor tode	Low
Kudappanakunnu			Broad flat bottom valleys (Paddy fields) Muttada, Pandirapally, Chettivilakam	Low
Kowdiar			Broad flat bottom valleys (Paddy fields) Kuravankonam, Plamood	Low
Peroorkada			Banks of Killiyar, Broad flat bottom valleys (Paddy fields) Randamada	Low
Vanchiyoor			Banks of Ulloor tode, Broad flat bottom valleys East Fort	Low
Muttathara		Up to Sea wall High	Banks of Parvathiputhanar & Karamana ar, Broad flat bottom valleys (Paddy fields) Muttathara	Moderate
Manacaud			Banks of Karamana & Killiyar, Broad flat bottom valleys Attakulangara	Low
Thaicaud			Banks of Killiyar, Broad flat bottom valleys Thanpanoor, Chenkalchhula, Panavila	Low
Sasthamangalam			Banks of Killiyar, Broad flat bottom valleys (Paddy fields) Jawahar nagar,	Low
Vattiyorkavu			Banks of Karamana ar, Broad flat bottom valleys (Paddy fields) Anchamada	Low

	Thirumala			Banks of Karamana ar, Broad flat bottom valleys (Paddy fields) Poojappura, Chengalloor	Low
	Nemam			Banks of Karamana ar & Vellayani Kayal, Broad flat bottom valleys (Paddy fields) Ponnurangalam, Nemam	Moderate
	Thiruvallam		Up to Sea wall	Banks of Karamana ar, Broad flat bottom valleys (Paddy fields) Pachalloor	Low
	Venganoor			Broad flat bottom valleys (Paddy fields) Vanniyoor, Banks of Vellayani Kayal	Low
	Kalliyoor			Banks of Vellayani kayal, Broad flat bottom valleys (Paddy fields) Kalliyoor, Punnamoode	moderate
	Veerankavu			Banks of Neyyar, Broad flat bottom valleys (Paddy fields) Ariyakode, Muthiyavila	moderate
	Perumkulam			Banks of Karamana & Aruvikkara Broad flat bottom valleys (Paddy fields) Perumkulam, Poovachal	moderate
	Mannurkara	High		Banks of Kottur tode	Low
	Aryanad			Banks of Karamana ar, Broad flat bottom valleys (Paddy fields) Mannaram Parandode, Meenanakal	Low
	Vellnad			Broad flat bottom valleys (Paddy fields) vellanadu, Changa, Banks of Karamana & Aruvikkara	Low
	Uzhamalakkal			Banks of Karamana & Chittar, Broad flat bottom valleys (Paddy fields) Uzhamalakkal	Low
	Aruvikkara	Low		Banks of Karamana , Killi ar & Aruvikkara	Low
	Karakulam			Banks of Killi ar	Low
	Vattappara			Broad flat bottom valleys (Paddy fields) Maruthoor, Kazhinadu, Vattapara, Kuttiyani	moderate
	Vembayam			Broad flat bottom valleys (Paddy fields) Vettinadu, Nannattukavu, Neduveli	Low
	Koliyakode			Banks of Sarkara ar, Broad flat bottom valleys (Paddy fields) Taikkad, Koliyakode, Mathanadu	Low
NEDUMANGAD					

Nellanadu				Broad flat bottom valleys (Paddy fields) Alanthara, Mudakkal, Banks of Sarkara ar & Vamanapuram	Low	<3
Vamanapuram				Banks of Vamanapuram ar, Broad flat bottom valleys (Paddy fields) Kalamachal	Low	3.7
Pullampara				Banks of Vamanapuram, Broad flat bottom valleys (Paddy fields) Pullampara, Kuthirakulam, Mithrumala	Low	
Kallara				Broad flat bottom valleys (Paddy fields) Kallara	moderate	
Pangode		Low		Broad flat bottom valleys (Paddy fields) Pangode, Bharathannur, Oolankuzhi	Low	<3
Peringammala		High		Broad flat bottom valleys (Paddy fields) Peringamala, Manthuruthi Banks of Chittiar	Low	
Palode				Banks of Vamanapuram ar, Broad flat bottom valleys (Paddy fields) Nanniyode Puliyoor Paluvalli	moderate	
Kurupuzha				Broad flat bottom valleys (Paddy fields) Kurupuzha, Thannimoodu, Pacha	Low	
Panavoor				Broad flat bottom valleys (Paddy fields) Panavoor, Aattukal	Low	
Thekkada				Broad flat bottom valleys (Paddy fields) Vembayam, Puvathur, Munnanamkuzhi	High	<3
Manikkal				Banks of Sarkara ar, Broad flat bottom valleys (Paddy fields) Pirappankode, Koppam, Amballoor	Low	
Nedumangadu				Banks of Killi ar, Broad flat bottom valleys (Paddy fields) Chellamkode, Irinchayam, Arasuparambu	moderate	
Anad				Banks of Killiyar Broad flat bottom valleys (Paddy fields) Vettampally, Vengavila, Panayam	High	
Karipur				Broad flat bottom valleys (Paddy fields) Karippur, Irumaram, Kollamkavu, Banks of Killi ar	Low	
Tholikkode		Low		Broad flat bottom valleys (Paddy fields) Tholikkode Panakkode,	High	

Vidhura	High			Chayam, Thottumukku		
Thennur	High			Broad flat bottom valleys (Paddy fields) Vithura, Pannikuzhi, Maruthmala Banks of Kallar		Low
				Banks of Kallar, Broad flat bottom valleys (Paddy fields) Thennur, Daivapuram		Low

NATURAL HAZARD ZONATION MAP - KOLLAM DISTRICT

TALUK	VILLAGE	LANDSLIDE	COASTAL EROSION	FLOODS	LIGHTNING	EARTHQUAKE (Magnitude)
KARUNAGAPALLY	Alappad		up to seawal level, High	Banks of kayamkulam kayal	Low	
	Clappana			Banks of kayamkulam kayal, Broad flat bottom valleys (Paddy fields) of Clappana N & clappana S	Low	
	Oachira			Broad flat bottom valleys (Paddy fields) of Ochira, Kottampalli, Changankulangara, Madathin karanma	High	
	Kulasekhara puram			Banks of Patticheri thodu, Banks of Thazha thodu, Banks of kayamkulam kayal	moderate	
	Thazhava			Banks of Paitalkala thodu, Banks of Patticheri thodu, Broad flat bottom valleys (Paddy fields) of Kadattur, Thazhava	Low	
	Pavumba			Banks of Vatta kayal, Broad flat bottom valleys (Paddy fields) of Manapally	Low	
	Thodiyoor			Banks of Paitalkala thodu, Pallikkal thodu & Broad flat bottom valleys (Paddy fields) of Valumel punja, Vengara, Pulitur vanji	Low	
	Adinad			Banks of Tazha thodu, Banks of kayamkulam kayal Broad flat bottom valleys (Paddy fields) of Adanattutekkomuri	Low	
	karunagapally			Banks of Kozhikottu kayal, Banks of Tazha thodu, Broad flat bottom valleys (Paddy fields) of Karunagapally, Alamkadavu	moderate	
	kallelibhagom			Banks of Kozhikottu kayal, Patticheri thodu & Idakulangara thodu	Low	

	Vadakkumthala			Banks of kayamkulam kayal, Kozhikottu kayal & Broad flat bottom valleys (Paddy fields) of Manayil, Kesdavapuram	Low
	Ayanivelikulan			Banks of kayamkulam kayal & Tahza thodu	moderate
	Pannana		up to seawal level, High	Banks of kayamkulam kayal & Broad flat bottom valleys (Paddy fields) of Sankaramangalam, Vaduthala, Nettiyaad, Edapalli kotta	moderate
	Chavara		up to seawal level, Low	Banks of Ashtamudi kayal & Broad flat bottom valleys (Paddy fields) of Cherusseribhagam, Kottukad, Velakkadu	Low
	Thevalakkara			Banks of Ashtamudi kayal, Thevelakkara thodu & Broad flat bottom valleys (Paddy fields) of Kottur, Pallikal, Muttaikal	Low
	Thekkumbhagam			Banks of Ashtamudi kayal	Low
	Neendakara		up to seawal level	Banks of Ashtamudi kayal	Low
KUNNATHUR	Sooranad N			Banks of Pallikkal thodu & Broad flat bottom valleys (Paddy fields) of Idapanayam, Padirikkal	low
	Poruvazhy			Banks of Pallikkal thodu	low
	Kunnathur			Banks of Kallada River	moderate
	Sasthamcottah			Banks of Kallada River, Sastamkottah Kayal	low
	Sooranad S			Banks of Pallikkal thodu & Broad flat bottom valleys (Paddy fields) of Kidangara N, Trikkunnapuzha	Low
	Mynagapally			Banks of Kozhikottu kayal & Broad flat bottom valleys (Paddy fields) of Kidangayam, Arinallur Chamavila, Thekke Mynagapally, Vadakke Mynagapally, Padinjattumkara	Low

	W Kallada			Banks of Kallada River, Cherayattu kayal & Ashtamudi kayal	Low
	Maloor			Banks of Kallada River, Kundayattu thodu& Kaduvathodu	Low
	Pattazhy			Banks of Kallada River & Kammimel thodu	moderate
	Thalavoor			Banks of Pazhanjil thodu & Broad flat bottom valleys (Paddy fields) of Pandithitta, Kura, Thalavoor, Njarakkadu	Moderate
	Vilakkudy			Banks of Kallada River, Pazhanjil thodu & Broad flat bottom valleys (Paddy fields) of Kariyara, Illampal, Vilakkudy	Low
	Punalur			Banks of Kallada River & Broad flat bottom valleys (Paddy fields) of Maniyar, Kuthirachira	Moderate 3.6
	Valakkod			Banks of Kallada River, Chitt Ar,	Low
	Pidavoor			Banks of Kallada River& Broad flat bottom valleys (Paddy fields) of Panampatta	Moderate
	Pathanapuram	Low (RF)		Banks of Kallada River & Broad flat bottom valleys (Paddy fields) of Nattukunnu, Edathara	Low
	Punnala	High (RF)		Banks of Kallada River, Achankovil Ar, Valiya thodu & Broad flat bottom valleys (Paddy fields) of Kurayanthur, Punnala	Low
	Piravanthur	High (RF)		Banks of Kallada River, Chitt Ar, Achankovil Ar & Broad flat bottom valleys (Paddy fields) of Piravnthur	Low
	Edamon			Banks of Kallada River, Achankovil Ar	Low
	Thenmala	High (RF, TS field Estate)		Banks of Kallada River	Low
	Aryankavu	High(Ta lapara mala, Edapala yam,Am		Banks of Achankovil Ar	Low

PATHANAPURAM

	banadue state)				
Kulathupuzha	High(for est, Rose mala)		Banks of Kolathupuzha Ar		Low
Thinkalkarikkakom	Low (forest)		Banks of Kallada River, Kolathupuzha Ar & Broad flat bottom valleys (Paddy fields) Elamkulam, Kalluvettan kuzhi		Low
Ayiranaaloor			Banks of Kallada River & Broad flat bottom valleys (Paddy fields) Mananpacha, Ailara, Emurkarikkakam, Muzhaland		moderate
Karavaloor			Banks of Kallada River & Broad flat bottom valleys (Paddy fields) Blavani, Panayam, Chudukatta, Mathra, Venchempu		Low
Arackal	Low (Punakad)		Broad flat bottom valleys (Paddy fields) Pattikkad, Idayam, Pullamkode, Podiyattuvara, Marur, Arkkal, Valakam		moderate
Edamulackal	Low (Vayakkal)		Banks of Ittikara Ar, Broad flat bottom valleys (Paddy fields) Idamulackal, Vayakkal, Akamon, Kizhattur, Ayur, Perungallur, Kaipallimukku, Pallimukku,		Low
Anchal			Banks of Ithikkara Ar, Broad flat bottom valleys (Paddy fields) in Eram, Panachavila, Anchal, Kottachira, Archal, Mavila, Kolachira Thazhamei		Low
Eroor			Broad flat bottom valleys (Paddy fields) Murikankode, Ailara, Pattadi, Panayam, Alancheri, Trikooyikkal		Low
Alayamon			Banks of Ithikkara Ar, Erayil thodu, Kadavarathu thodu, Broad flat bottom valleys (Paddy fields) Alayamon, Kannankode, Kuttanad, Erayil		Low
Channappetta	Low (Anakulam state, Kochari)		Banks of Ithikkara Ar, Broad flat bottom valleys (Paddy fields) Mangode, Vattaparambu vaval, Chillikkad, Anakulam		Low

		ppa)					
KOTTARAKKARA	Pavithreswaram				Banks of Kallada River, Broad flat bottom valleys (Paddy fields) Cherupoyka, Kaltakode	Low	<3
	Puthur				Banks of Kallada River, Broad flat bottom valleys (Paddy fields) Srinayanapuram, Puthur	Low	
	Kulakkada				Banks of Kallada River, Broad flat bottom valleys (Paddy fields) Mailamkulam, Madatanapuzha, Kulakkada kizhakku	Low	
	Kalayapuram				Banks of Kallada River, Anchaman thodu & Broad flat bottom valleys (Paddy fields) Puvattur Kizhakku, Inchakkadu	Low	
	Myiom				Banks of Anchaman thodu, Broad flat bottom valleys (Paddy fields) Tamarakudi, Pulaman, Pallikka	moderate	
	Mellia				Banks of Pazhinji thodu, Broad flat bottom valleys (Paddy fields) Kizhakke theruvu, Villur, Chengamanad	moderate	
	Chakkuvarakkal	Low (Kokad)			Broad flat bottom valleys (Paddy fields) Kaduvapara, Kottavattom, Chakkuvarakkal	Low	
	Vettikkavala				Banks of Anchaman thodu , Broad flat bottom valleys (Paddy fields) Kavunkode, Panaveli, Tettiyoode, Vetikavala, Chirattakonam, Talachira	Low	
	Kottarakkara				Banks of Kottarakkara thodu, Broad flat bottom valleys (Paddy fields) Trikkunnamangal, Nileswaram, Ambalapuram, Kottarakkara	moderate	
	Neduvathur				Broad flat bottom valleys (Paddy fields) Tevalapuram, Anakattur, Avanur, Naduvattom	Low	
	Ezhukone				Broad flat bottom valleys (Paddy fields) Pudusserikonam, Edavattom, Chittavattom, Edapadam, Kakkakode	moderate	
	Kareepra				Banks of Pallimon Ar Kaepra thodu, Broad flat bottom valleys (Paddy fields) Kulimattikadu Idakode, Kariankonam, Neduvarikavu	Low	
	Odanavattom				Banks of Pallimon Ar, Broad flat bottom valleys (Paddy fields) Kudavattur, Muttara, Odanavattom, Kizhakkekara, Pinattumukal, Vappala	Low	
	Ummannoor	Low(Nil amala			Broad flat bottom valleys (Paddy fields) Kochalumood, Nellikunnam, Nedumankavu Patterimukku, Plaoili, Chungattara	Low	

Valakam		kunnu)				Banks of Kulanji thodu, Broad flat bottom valleys (Paddy fields) cheruvalloor, Vayakkal, Marangattukonam, Valakam, Andoor		Low
Elanad						Banks of Kulanji thodu, Broad flat bottom valleys (Paddy fields) Paramkod, Cheruvallur, Valiyode, Cheruvakkal, Hamad, Tevannur		moderate
Veliyam						Banks of Pallimon Ar, Broad flat bottom valleys (Paddy fields) Veliyam, Malayail, Tannimukku, Padinjattumkara, Kizhakkakara		Low
Pooyappally		Low (Kozhikod mala)				Banks of Ithikkara Ar, Pallimon Ar & Broad flat bottom valleys (Paddy fields) Maruthamanpalli, Pooyampally, Kottara		moderate
Velinalloor						Banks of Ithikkara Ar, Broad flat bottom valleys (Paddy fields) Oyur, Chungathara, Karingannoor, Padapally, Palamkonam, Kannankode, Cheruvakkal		Low
Chadayamangalam						Banks of Ithikkara Ar, Broad flat bottom valleys (Paddy fields) Ilavakode, Chadayamangalam, Gurudeva Jn, Vettanchira, Ilambarakode		Low
Kottukkal						Banks of Ithikkara Ar, Vattaparambu thodu & Broad flat bottom valleys (Paddy fields) Vayala, Chelpalli, Sankarapuram,		moderate
Irtiva		Low (Vayyanam)				Banks of Ithikkara Ar, Vattaparambu thodu, Broad flat bottom valleys (Paddy fields) Kizhuthoni, Chuda, Irtiva, Kovur Manaluvattom, Peringad, Kattampalli, Vattaparambuvalayal, Valiyavenkadu, Vilayaibhagam		High <3
Kadakkal		Low (Madam ukalil kunnu)				Banks of Kadakkal thodu, Broad flat bottom valleys (Paddy fields) Perumanela, Idiathara, Vellarvattom, Ilampazhavannur, Kuttikkadu, Altharamoodu, Chennaiam, Kanjiramoodu		High
Chithara		Low (Madathara, Kankannod)				Broad flat bottom valleys (Paddy fields) Ayirakuzhi, Chithara, Valavupacha, Manjapara		High

Mangode		mala, Karara kunnu)				Banks of Mullakara thodu, Banks of Tholikuluzhi thodu & Broad flat bottom valleys (Paddy fields) Ambalamukku, Erappil, Pulode, Kollayil	High
Kummil		Low (Pullupana)				Banks of Mullakara thodu, Banks of Tholikuluzhi thodu & Broad flat bottom valleys (Paddy fields) Pullupana, Govindamangalam, Kondodi, Eyyakod, Marudaman	High
Nilamel		Low (NE& SE of Nilamel)				Banks of Nilamel tode, Broad flat bottom valleys (Paddy fields) Murukkuman, Kuriyode, Mulayakonam, Punkodi, Karithode	moderate
Thrikkaruva						Banks of Ashtamudi kayal	Low
Sakthikulangara			up to seawal			Banks of Vattakayal, Broad flat valleys (Paddy fields) of Thiruvallavaram	Low
Kollam			up to seawal			Banks of Ashtamudi kayal	Low
Mundakkal			up to seawal			Broad flat valleys (Paddy fields) of Mundakkal	Low
Iravipuram			up to seawal			Banks of Iravipuram kayal, Broad flat valleys (Paddy fields) of Karikkuzhivayal	Low
Mundrothuruth						Banks of Ashtamudi kayal, Munro Island	Low
Kizhakkekallada						Banks of R Kallada, Banks of Kubalattu kayal	moderate
Mulavana						Banks of kanjirakottu kayal, Broad flat valleys (Paddy fields) of	Mod
KOLLAM							

				Mulavana		erate
Perinad				Banks of Kanjirakottu kayal		Low
Panayam				Banks of Ashtamudi kayal		Low
Thrikkadavoor				Banks of Ashtamudi kayal		Low
Kottamkara				Broad flat bottom valleys (Paddy fields) of Kilikollur & Kottamkara		Low
Elampalloor				Broad flat bottom valleys (Paddy fields) of Perumpuzhaserri & Elangivalasserri		Low
Nedumpana				Banks of Nedumpanakkal thodu		Low
Pallimon				Banks of Pallimon Ar		Low
Thrikkovilvattom				Banks of Kilikolloor thodu, Broad flat bottom valleys (Paddy fields) Thrikonavattomsseri, Kannanallur		Mod erate
Thazhuthala				Banks of Kilikolloor thodu, Broad flat bottom valleys (Paddy fields) Vadakkemmailakkad, Kilavuseri, Thattamala		mod erate
Mayyand			up to seawal I	Banks of Paravoor kayal, Broad flat bottom valleys (Paddy fields) Umayanaloor, Kottiyam, Panniman		Low
Adichanalloor				Banks of Ithikara Ar& Pallimon Ar		Low
Kalluvathukkal				Banks of Ithikara Ar& Broad flat bottom valleys (Paddy fields) Puvathur, Elamkulam, Vattakuzhi, Nadakkal, Kalluvathukkal		Low
Meenadu				Banks of Ithikara Ar, Polachira & Broad flat bottom valleys (Paddy fields) Chathanur, Edanadu		mod erate
Paravoor			up to seawal I	Banks of Paravoor kayal		Low
Kottapuram			up to seawal I	Banks of Paravoor Thekke kayal		Low
Chirakkara				Banks of Polachira & Broad flat bottom valleys (Paddy fields) Vullyanad		mod erate
Paripally				Broad flat bottom valleys (Paddy fields) Kizhakkanela, Velamannur,		Low

NATURAL HAZARD ZONATION MAP - ALAPUZHA DISTRICT

TALUK	VILLAGE	LANDSLIDE	COASTAL EROSION	FLOODS	LIGHTNING	EARTH QUAKE (Magnitude)
CHERTHALA	Aroor			Banks of Kaitapuzha kayal,	Low	
	Perumbalam			Banks of Vembanad lake		
	Arookutty			Banks of Vembanad lake		
	Panavally			Banks of Vembanad lake & Vayalar lake		
	Ezhupunna			Banks of Vembanad lake & Broad flat bottom valleys (Paddy fields)	Low	
	Kodanthuruth		up to seawal 1	Erumalloor, Ezhupunna	Low	
	Kuthiathode		up to seawal 1	Banks of Vayalar lake & Broad flat bottom valleys (Paddy fields) Chellanum Ezhupunna S, Kodanathuruth		
	Thaicattussery			Broad flat bottom valleys (Paddy fields) Paryakkode, Kuthiyathode, Thuravur, Tazhippu, Pallithode		
	Thuravoor Thekku		up to seawal 1	Banks of Vembanad lake & Vayalar lake	Low	
	Pattanakkad		up to seawal 1	Banks of Vayalar lake & Broad flat bottom valleys (Paddy fields) Valamangalam, Padijarattukara, Mannakodam		
	Vayalar East		up to seawal 1	Broad flat bottom valleys (Paddy fields) Puthiyakavu, Konattussery, Panaveli Panayilbhagam, Vettukara, Konattussery		
				Banks of Vayalar lake & Broad flat bottom valleys (Paddy fields) Vayalar, Ulatla, Kalavankodam		

AMBALAPUZHA	Kadakkapally			Broad flat bottom valleys (Paddy fields) Tangi Tholikkal, Vayalar W	
	Pallipuram			Banks of Vayalar lake & Vayalar lake	Low
	Kokkothamangalam			Banks of Vembanad lake & Kattachira Ar	
	Cherthala N			Banks of Vayalar lake & Broad flat bottom valleys (Paddy fields) Cherthala, Puthiyavittilbhagam, Ayiramtal	Low
	Cherthala S			Broad flat bottom valleys (Paddy fields) Attipurambhagam, Arthunga, Puliyanakottubhagam	
	Thanneermukkom North			Banks of Vembanad lake & Kattachira Ar	
	Thanneermukkom South			Banks of Vembanad lake & Muppiri thodu	Low
	Mararikulam N			Broad flat bottom valleys (Paddy fields) Thiruvizha, Kanichukulangara Pollattu, Paltikulangara, Chitti	
	Kanjikuzhi			Banks of Muppiri thodu & Broad flat bottom valleys (Paddy fields) Perumthuratta, Kanjikuzhi, Mayilthara, Chalamangadam	
	Kalvoor		Low	Broad flat bottom valleys (Paddy fields) Kothankulangara, Valavanad, Kochanikulangara, Kalavoor, Valiya kalavoor	
	Mannanchery			Banks of Vembanad lake & Mannanchery thodu	Low
	Komalapuram			Banks of Vembanad lake & Mannan thodu	
	Pathirapally		Low	Broad flat bottom valleys (Paddy fields) Udaya studio	
	Aryad South		up to seawal 1	Banks of Vembanad lake	
	Mullakkal			Banks of Vembanad lake, Vatta kayal & Pamba Ar	
	Alappuzha West			Broad flat bottom valleys (Paddy fields) Vartiyil, Vadakkil, Alissey	Low
Pazhaveedu			Banks of Pamba Ar	4.3	
Paravoor			Banks of Pamba Ar		
Punnappra			Banks of Pamba Ar & Broad flat bottom valleys (Paddy fields) Vandanam, Medical College	Low	

	Karumady			Banks of Pamba Ar Kari thodu & Karumudi thodu	
	Ambalapuzha	Low		Broad flat bottom valleys (Paddy fields) Nirakunnam, Ambalapuzha, Kakazham	
	Purakkad	up to seawal		Banks of Puthan Ar, korankuzhi thodu & karithodu	
	Kainakary N			Banks of Vembanad lake, Reclaimed land (Paddy fields)	Low
	Kainakary S			Chitramangalam, Ranimangalam, Kuppapuram, Kainakkari	
	Pulinkunnu			Banks of Pamba Ar, Champakulam Ar, Puthupandam kayal, Vattakayal & Reclaimed land (Paddy fields)	
	Kunnumma			Pallathuruthi, Thottuvattala, Kainakkary, Chemnamkari	
	Kavalam			Banks of Pamba Ar & Reclaimed land (Paddy fields)	
	Neelamperoor			Chathurthiyakari, Kottabhagam, Pulinkunnu,	
	Veliyanad			Banks of Pamba Ar & Reclaimed land (Paddy fields) Akakodpuram, Velianad	
	Ramankary			Banks of Pamba Ar & Reclaimed land (Paddy fields) Kunnankari, Kainadi, Kavalam, H Block, Marankayal, Irupathinayiram	
	Champakulam			Banks of kari thodu & Reclaimed land (Paddy fields) Valadi, Neelamperror	
	Nedumudi			Banks of Pamba Ar & Reclaimed land (Paddy fields) Kunnankari, Kumarankari, Vellanad	
	Thakazhy			Banks of Pamba Ar & Reclaimed land (Paddy fields) Manaladi, Vezhapra, Ramankari, Mamgzhakari	
				Banks of Pamba Ar, Champakulam Ar & Reclaimed land (Paddy fields) Kandankari, Amacheri, Champakulam, Pulinkunnu, Punakkunnattusseri	
				Banks of Pamba Ar & Reclaimed land (Paddy fields) Thottuvattala, Nedumudi, Vaisyambhagam, Chembakassery	
				Banks of Pamba Ar & Reclaimed land (Paddy fields) Padakkaram, Thakazhi, Mukkada, Chekkidikkadu,	Low

KUTTAND

KARTHIKAPALLY		Edathua					Low
Muttar						Banks of Pamba Ar & Reclaimed land (Paddy fields) Puttukari, Thayam kari, Changamkari, Edathua, Pandankari, Kozhimukku, Pacha	
Thalavady						Reclaimed land (Paddy fields) on the banks of Manimala Ar & Pamba Ar	
Karuvatta						Banks of Manimala Ar & Reclaimed land (Paddy fields) Thalavady, Anaparambal, Naduvila, Neeretupuram	
Cheruthana						Reclaimed land (Paddy fields) on the banks of Puthan Ar & Achankovil Ar	
Veeyapuram						Reclaimed land (Paddy fields) on the banks of Pamba Ar, Achankovil Ar, Tandapura Ar	Low
Haripad						Reclaimed land (Paddy fields) on the banks of Pamba Ar & Achankovil Ar	
Kumarapuram						Banks of Achankovil Ar & Broad flat bottom valleys (Paddy fields) Thulamparambu, Harippad, Nidur	
Thrikkunnappuzha						Broad flat bottom valleys (Paddy fields) Karuvatta S, Tamallakkal, Kuttamkaitha, Kumarapuram	
Karthigapally					up to seawal	Banks of Thrikkunnappuzha Ar, Pullikkal Ar & Pullikkal kayal	Low
Pallippad						Banks of Kayamkulam kayal & Broad flat bottom valleys (Paddy fields) Pudukunnam, Mahadevikkad, Karthikapally	
Cheppard						Banks of Achankovil Ar	Low
Chingoli						Banks of Achankovil Ar & Reclaimed land (Paddy fields) Malamelkodu, Vallikuzhi, Evur N, Kanjoor Kottamukkam	
Arattupuzha					up to seawal	Banks of Kayamkulam kayal & Broad flat bottom valleys (Paddy fields) Karthikapally S, Chingoli	
						Banks of Kayamkulam kayal	

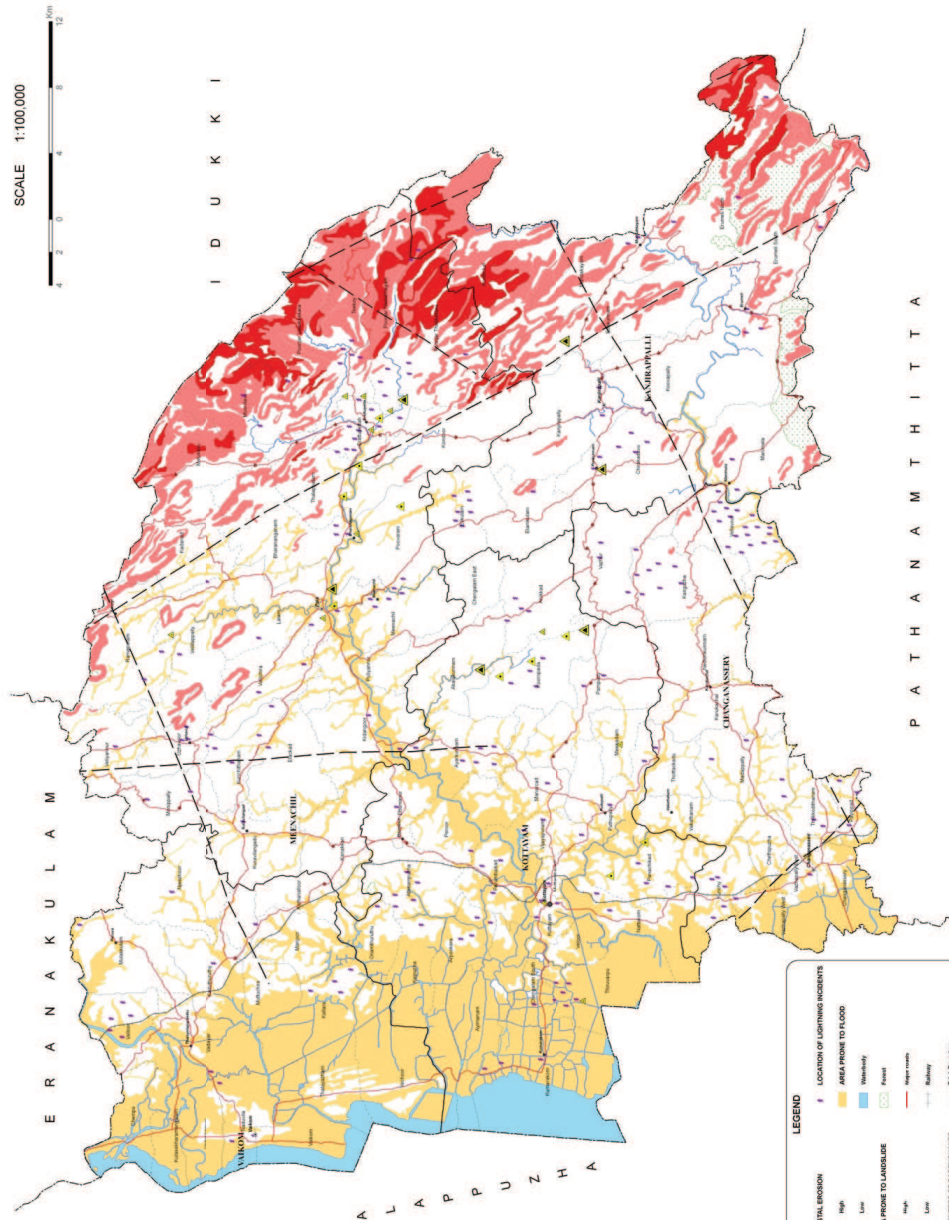
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Muthukulam				Broad flat bottom valleys (Paddy fields) Karuvattumuzhi, Kanakakunnu, Muthukulam	
Kandalloor				Banks of Kayamkulam kayal & Broad flat bottom valleys (Paddy fields) Pullukulangara, Venattukadakkal Vattaparambu,	
Keerikkad				Banks of Kayamkulam kayal & Broad flat bottom valleys (Paddy fields) Kannampallybhagam, Malamelbhagam, Pattiyurkala, Ramapuram	
Pathyoor				Banks of Kayamkulam kayal & Broad flat bottom valleys (Paddy fields) Evur S, Pattiyurkala, Yeruva, Bhavathi Gari	
Kayamkulom				Banks of Kayamkulam kayal & Broad flat bottom valleys (Paddy fields) Kayamkulam, Peringala, Chirakadavu	Moderate
Krishnapuram				Banks of Krishnapuram Ar & Broad flat bottom valleys (Paddy fields) Cheravalli, Naikanal, Kappil	
Puthupally				Banks of Kayamkulam kayal	
Kurattissery				Banks of Pamba Ar	
Mannar				Banks of Pamba Ar & Kakkad Ar	
Ennakkad				Banks of Pamba Ar, Achankovil Ar & Kakkad Ar	
Pandanad				Banks of Pamba Ar	low
Thiruvandoo				Banks of Pamba Ar & Manimala Ar	
Chengannur				Banks of Manimala Ar & Broad flat bottom valleys (Paddy fields) Mazhukir mel, Puthankavu, Chengannur, Mangalkavu	Moderate
Mulakuzha				Broad flat bottom valleys (Paddy fields) Viralassery, Kotta, Peringanala, Arikkara, Kazhuvallur	
Ala				Broad flat bottom valleys (Paddy fields) Venmony N, Pennukara,	
CHENGANNUR					

					Neduvarangad	
Puliyoor					Banks of Achankovil Ar & Broad flat bottom valleys (Paddy fields) Ilanjimel, Perisser, Puliyoor	
Cheriyana					Banks of Achankovil Ar & Broad flat bottom valleys (Paddy fields) Idavamkaki, Thuruthimel, Cheriyana, Attimancheri, Kodukalanji, Mambrapadam	Low
Venmony					Banks of Achankovil Ar & Broad flat bottom valleys (Paddy fields) Cheruvallur Venmony, Kodukalanji	Mod erate
Thriperumthura					Banks of Achankovil Ar & Broad flat bottom valleys (Paddy fields) Puthankottakkakom, Thrippunthura	Low
Chennithala					Banks of Achankovil Ar & Broad flat bottom valleys (Paddy fields) Cherukol, Oripam, Karma	
Kannamangalam					Banks of Achankovil Ar	Mod erate
Mavelikara					Banks of Achankovil Ar & Mavelikkara thodu	Low
Thazhakkara					Banks of Achankovil Ar	
Vettiya					Banks of Achankovil Ar & Broad flat bottom valleys (Paddy fields) Mangakuzhi, Vettiya, Arunuttimangalam	
Thekkekkara					Broad flat bottom valleys (Paddy fields) Umarkkadu, Pallarimangalam, Vattikulam, Kurattikadu, Bharanikavu N	
Perungala					Broad flat bottom valleys (Paddy fields) Menampalli, Nadakkavu, Olakkettiambalam	
Bharanikavu					Banks of Bharanikavu thodu & Broad flat bottom valleys (Paddy fields) Vattikulam, Thekkemanguzhi, Pallickal	
Kattanam					Banks of Paithalkala thodu, Bharanikavu thodu & Broad flat bottom valleys (Paddy fields) Palikal, Puvathur, Kattanam	Mod erate
Chundakkara					Banks of Bharanikavu thodu & Broad flat bottom valleys (Paddy fields) Komallur, Tazhakkara, Chundakkara N	Low
MAVELIKKARA						

Nooranad				Banks of Achankovil Ar & Karingalichal	Low	
Palamel				Broad flat bottom valleys (Paddy fields) Panayil, Adukkattukulangara, Kudaisand, Nuranad, Erumakuzhi, Kudumbanod, Kavukkad	Moderate	
Thamarakulam				Broad flat bottom valleys (Paddy fields) Puvathurchira, Karumulaikkal, Perurkaranma, Vayankarachira, Thamarakulam, Kottekkattucheri	Low	
Vallikunnam				Banks of Paitalkala thodu, Bharanikavu thodu & Broad flat bottom valleys (Paddy fields) Valachal, Karanma, Iluppakulangara, Chattiyyara, Vallikunnam, Kannanamkuzhi	Moderate	

KOTTAYAM DISTRICT

MULTIPLE HAZARD ZONATION MAP



LEGEND

- COASTAL EROSION**
 - High
 - Low
- AREA PRONE TO LIGHTNING INCIDENTS**
 - High
 - Low
- AREA PRONE TO FLOOD**
 - High
 - Low
- AREA PRONE TO LANDSLIDE**
 - High
 - Low
- EPICENTRES OF EARTHQUAKES**
 - < 1.0
 - 1-1.99
 - 2-2.99
 - > 3.0
- Other Symbols**
 - Water bodies
 - Railway
 - Taluk Boundary
 - Village Boundary
 - Station Headquarters
 - Taluk Headquarters
 - Important Places

Natural hazards in Kottayam district— Taluk wise

Taluk	Flood		Landslide		High		Low	
	Area Km ²	Area %	Area Km ²	Area %	Area Km ²	Area %	Area Km ²	Area %
Changanassery	3.8	0.9	10.9	23.8	5.4	85.1	10.4	19.4
Kottayam	195.0	38.5	7.5	37.9	5.6	104.8	15.5	
Muvattupuzha	159.0	49.7	21.0	61.8	2.8	190.5	8.7	
Total	461.3	21.0	61.8	2.8	190.5	8.7		

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NATURAL HAZARD ZONATION MAP - KOTTAYAM DISTRICT

TALUK	VILLAGE	LANDSLIDE	COASTAL EROSION	FLOODS	LIGHTNING	EARTH QUAKE (Magnitude)
MEENACHIL	Veliyannoor	Low (Tani mala)		Broad flat bottom valleys (Paddy fields) Puvakulam, Puduveli & Veliyannur	Low	
	Monipally			Broad flat bottom valleys (Paddy fields) Kurianad, Monipally	Low	
	Uzhavoor	Low (W of Uzhavoor)		Broad flat bottom valleys (Paddy fields) Arikara	Moderate	
	Vellilampally	Low (S of Kudappalam, Kuriyanad mala)		Banks of Payappara thodu & Broad flat bottom valleys (Paddy fields) Kudappalam, Vellilampally	Low	< 3
	Ramapuram	Low (Matathi para, Nof Kurinji & Niratana)		Banks of Payappara thodu & Broad flat bottom valleys (Paddy fields) Amarakara, Niratanam Kizhathiri, Ramapuram	Low	

Kadanad	m) Low (Perumkunnu, Nilur, Kurumannu)		Broad flat bottom valleys (Paddy fields) Pizhku & Kadanad	Low	
Melukavu	High (Kanjirankavala, Knippadu) Low (N of Melukavu, Chemala)			Low	
Moonilavu	High (Mankombu, Pirakkadu, Chovur) Low (Cherippadu, Kuttankallu, Mechchal)			Moderate	
Poonjar Vadakkekara	High (Talanad)			Moderate	

	Kalekan dam, Chitana para)				
Erattupetta	High (Kizhakumala) Low (Kondur mala, Kalattuk adavu)	Banks of Meenachil Ar	Mod erate	<3, 4.8	
Bharananganam	Low (Tevarmala, Bharananganam)	Banks of Meenachil Ar & Parayi thodu	Mod erate	< 3	
Lalam	Low (Poyappara)	Banks of Meenachil Ar & Payappara thodu	Low	< 3, 4.8	
Vallichira	Low (E of Kudakkachira)	Broad flat bottom valleys (Paddy fields) Vallichira & Idanad	Low		
Kurichithanam		Broad flat bottom valleys (Paddy fields) Mannarkad & Nellithanam	Mod erate		
Kuravilangad		Banks of Kottachira thodu & Broad flat bottom valleys (Paddy fields) Kuruvilangad, Kazha	Low		
Kanakkari		Banks of Kottachira thodu & Broad flat bottom valleys (Paddy fields) Karumallur, Vemballybhagam	Low		

Elakad				Banks of Kottachira thodu & Broad flat bottom valleys (Paddy fields) Andur, Marangattupally, Vayala	Low	
Kidangoor				Banks of Meenachil Ar, Pannagan thodu & Kotachira thodu	Low	
Puliyannoor				Banks of Meenachil Ar	Low	
Meenachil				Banks of Meenachil Ar & Mangani thodu	Mod-erate	3
Poovarany				Banks of Meenachil Ar, Mangani thodu & Ponnzhukku thodu	Low	
Kondoor		Low (Vattapparamala, Pulikka mala)		Banks of Meenachil Ar & Chittar Ar	Low	3,4
Poonjar Nadubhagam		High (Kallelikulam, Perunkulam)			Mod-erate	<3, 5
Poonjar Thekkekara		High (Kunnam, Adivaram) Low (Uppukulam, Chennad)		Banks of Meenachil Ar	Low	
Chempu				Banks of Vembanad Lake & Muvattupuzha River	Low	
Kulasekharamangalam				Banks of Vembanad Lake & Muvattupuzha River	Low	
Velloor				Banks of Muvattupuzha River	Mod-erate	
VAIKOM						

KOTTAYAM	Mulakulam			Banks of Muvattupuzha River & Perumbadavam thodu	Low
	Njeezhoor			Banks of Valitya thodu	Low
	Kaduthuruthy			Banks of Valiya thodu & Muvattupuzha River	Low
	Vadayar			Banks of Muvattupuzha River	Low
	Vadakkemuri			Banks of Vembanad Lake & Muvattupuzha River	Low
	Naduvile			Banks of Vembanad Lake & Kari Ar	Low
	Vaikom			Banks of Vembanad Lake & Kari Ar	Low
	Thalayazham			Banks of Vembanad Lake & Reclaimed land	Low
	Vechoor			Banks of Vembanad Lake & Reclaimed land	Low
	Kallara			Reclaimed land on the banks of Ullala thodu & Puttar thodu	Moderate
	Muttuchira			Banks of Kala thodu	Low
	Manjoor			Banks of Kurukkumchurathu thodu & Kuruppumthara thodu	Low
	Kothanalloor			Banks of Kurukkumchurathu thodu	Low
	Onamthuruth			Banks of Kurukkumchurathu thodu	Low
	Kaipuzha			Broad flat bottom valleys (Paddy fields) on the Banks of Puttar thodu	Low
	Athirampuzha			Banks of Athirampuzha thodu	Moderate
	Peroor			Banks of Meenachil Ar	Low
	Ettumanoor			Banks of Meenachil Ar & Broad flat bottom valleys (Paddy fields) Ettumanoor, Kizhakkumbahgam	Low
	Ayarkunnam			Banks of Meenachil Ar, Pannagan thodu, Puttachira thodu & Munnurchira thodu	Moderate
	Akalakunnam			Banks of Pannagan thodu	Low 4.3
Chengalam E			Banks of Thennagonal thodu	Low	
Annikkad			Banks of Pannagan thodu & MUKKANI thodu	Moderate >3	
Kooroppada			Banks of Kakkathodu	Moderate 3.3 .7 3.7	

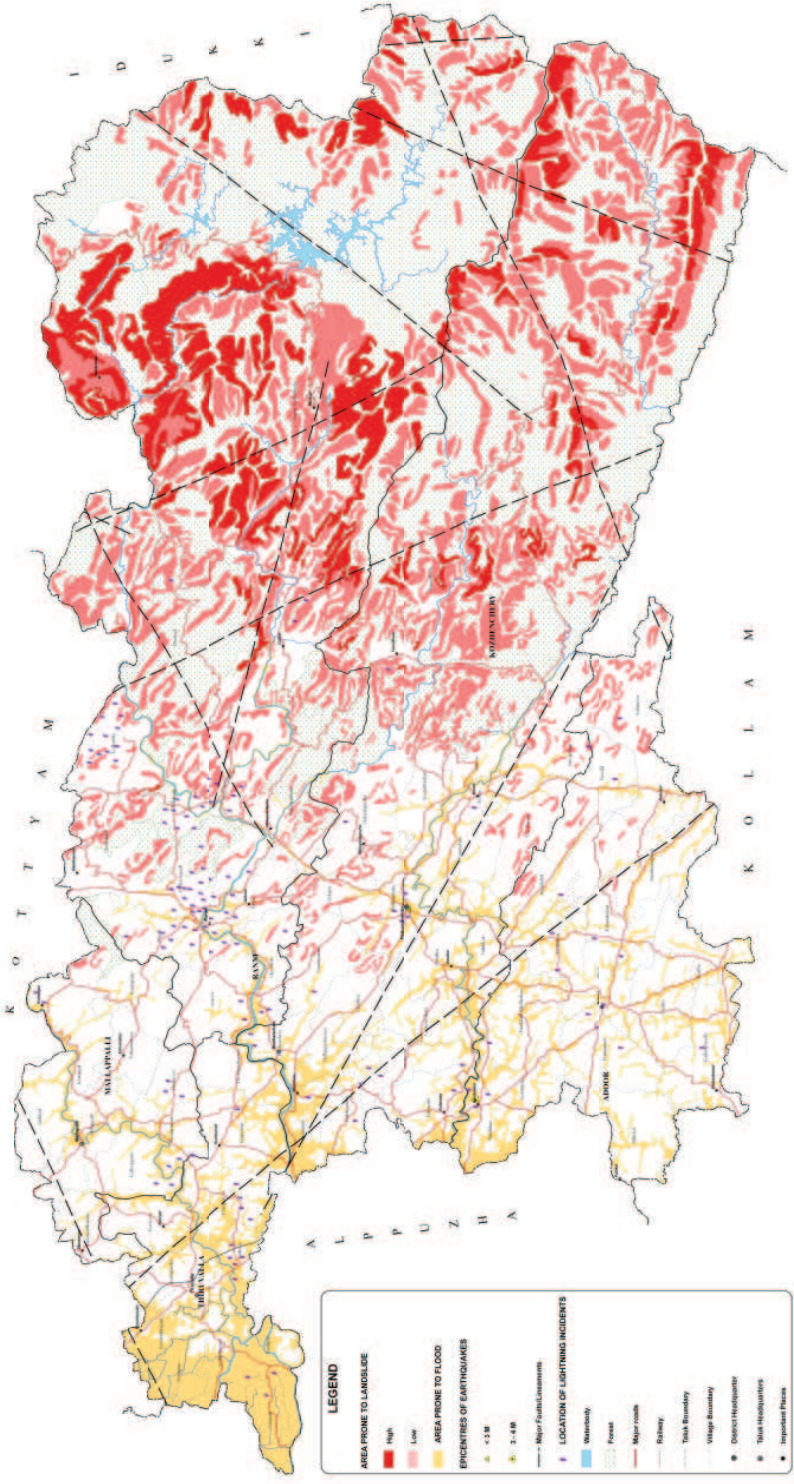
						4.3
Manarcad					Banks of Meenachil Ar, Minadam Ar & Velloor thodu	Low
Perembaikad					Banks of Meenachil Ar	Moderate
Arpookara					Reclaimed land on the banks of Vembanad Lake, Kaipuzha Ar & Pennar thodu	Low
Aimanam					Banks of Vembanad Lake & Meenachil Ar	Low
Kumarakam					Reclaimed land on the banks of Vembanad Lake	Low
Chengalam S					Reclaimed land on the Banks of Meenachil Ar	Low
Kottayam					Banks of Meenachil Ar	Moderate
Velloor					Banks of Meenachil Ar & Koduvan Ar	Low
Thiruvapur					Reclaimed land on the Banks of Koduvan Ar	Moderate
Nattakom					Banks of Koduvan Ar	Low
Panachikkad					Banks of Vettickal Ar	Moderate 3,3.7
Muttapalam					Banks of Meenachil Ar & Vettickal Ar	Moderate <3
Puthupally					Banks of Vettickal Ar & Valiya thodu	Low
Pampady					Banks of Velloor thodu, Porattu thodu & Kurattu thodu	Low
Menadam					Banks of Porattu thodu & Kurattu thodu	Low
Vakathanam					Banks of Vettickal Ar & Broad flat bottom valleys (Paddy fields) Vakathanam, Vallikkadu	Low
Kurichy					Banks of Vettickal Ar & Broad flat bottom valleys (Paddy fields) Kalambukattuchira, Chalachira, Kuruchi	Moderate
Chethipuzha					Banks of Vettickal Ar & Broad flat bottom valleys (Paddy fields) Kunandanam, Chiranchira, Chalachira	Low
Vazhapally East					Broad flat bottom valleys (Paddy fields) Changanassery	Low
Vazhapally West					Reclaimed land in Paral, Thuruthi, Kumarankari, Vettithuruth	Low
CHANGANASSER						

	chakiparamudi)				
Mundakayam	High(Anangumpadi) Low(Mundakayam)			Low	
Kanjirapally	Low(Tambalakkad)			Low	
Elikkulam			Banks of Ponnozhukku thodu	Moderate	
Elamgulam	Low (Vanjimala)			Low	
Chirakkadavu	Low (Valakayam)		Banks of Manimala Ar	Moderate	
Cheruvally					
Koovapally			Banks of Manimala Ar	Low	
Edakunnam	Low (Cherumala, Injiyani Chotti, Pazhamala, Palapara)			Low	
Erumeli N	High			Low	

		(forest) Low (Koratu, Pulikunnu, Vandanpatal)				
Erumeli S		Low (Erumeli, Muttapalli, Kaikkalkavu) High (forest)		Banks of Manimala Ar	Mod erate	
Manimala		Low (Pavatholimala, Vazhiyakunnu, forest)		Banks of Manimala Ar	Low	

PATHANAMTHITTA DISTRICT

MULTIPLE HAZARD ZONATION MAP



LEGEND

- AREA PRONE TO LANDSLIDE**
 - High
 - Low
- AREA PRONE TO FLOOD**
- EPICENTERS OF EARTHQUAKES**
 - < 1.5M
 - 1.5 - 4.0M
- LOCATION OF LIGHTNING INCIDENTS**
- Major Fault Lines**
- Waterbody**
- Roads**
- Major roads**
- Railway**
- Taluk Boundary**
- Village Boundary**
- District Headquarters**
- Town Headquarters**
- Important Places**

Natural hazards in Pathanamthitta district – Taluk wise

Taluku	Flood		Landslide		High		Low	
	Area Km ²	Area %	Area Km ²	Area %	Area Km ²	Area %	Area Km ²	Area %
Adoor	48.3	14.7	9.3	2.8	2.8	2.8	2.8	2.8
Kozhancherry	51.2	5.6	4.7	4.7	202.9	22.2	22.2	22.2
Mallappalli	16.7	11.0	0.7	0.7	0.7	0.5	0.5	0.5
Ranni	14.6	1.3	127.6	11.7	213.2	19.5	19.5	19.5
Thiruvalla	81.9	48.5	1.70.3	6.4	426.3	16.0	16.0	16.0
Total	213.3	8.0	1.70.3	6.4	426.3	16.0	16.0	16.0

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NATURAL HAZARD ZONATION MAP – PATHANAMTHITTA DISTRICT

TALUK	VILLAGE	LANDSLIDE	COASTAL EROSION	FLOODS	LIGHTNING	EARTH QUAKE (Magnitude)
THIRUVALLA	Niranam			Reclaimed land (Paddy fields) on the banks of Pamba Ar	Low	
	Kadapra			Reclaimed land (Paddy fields) on the banks of Pamba Ar & Manimala Ar		
	Nedumpuram			Banks of Manimala Ar & Broad flat bottom valleys (Paddy fields) Amichakari, Chattankari, Kavumbhagam		
	Peringara			Banks of Manimala Ar & Reclaimed land (Paddy fields) Chathankari, Vettiyaikonam, Mepral, Kuzhuvilipuram, Karakkal		
	Kavumbhagam			Banks of Manimala Ar & Reclaimed land (Paddy fields) Thirunellickara, Perumthuruthi, Vavanapuram, Alamthuruth, Kavumbhagam		
	Thiruvalla			Banks of Manimala Ar & Broad flat bottom valleys (Paddy fields) Muttur, Thiruvalla, Palliakara		
	Kuttoor			Banks of Manimala Ar & Broad flat bottom valleys (Paddy fields) Mazhukir, Odara W		
	Kuttapuzha			Banks of Manimala Ar & Broad flat bottom valleys (Paddy fields) Punnakunnam, Parayakkod, Chumathara, Muttur		
	Eraviperoor			Banks of Manimala Ar & Pamba Ar		
	Kaviyoor			Banks of Manimala Ar & Panamjapala thodu & Broad flat bottom valleys (Paddy fields) Navalbhagan, Padinjattucheri		
	Koipuram			Banks of Pamba Ar & Broad flat bottom valleys (Paddy fields) Kumbanad, Thottakkad, karuvankuzhi, Pullad		

	Thottapuzhasser				Banks of Pamba Ar		
	Kunnamthanam				Broad flat bottom valleys (Paddy fields) Anjithanam, Mandanam, Chengarur	Low	
	Mallappally				Banks of Manimala Ar, Elakka thodu & Broad flat bottom valleys (Paddy fields) Pathiman, Mallapally	Low	
	Anikkad				Banks of Manimala Ar	Low	
	Kottangal	Low (Ayalimala, Karuvalikkad mala)			Banks of Manimala Ar & Broad flat bottom valleys (Paddy fields) Kulathur, Cheruthuvazh	Moderate	
	Perumpatty	Low (Karuvalikkad mala)			Broad flat bottom valleys (Paddy fields) Perumpatty, Vrindavanam	Low	
	Kalloopara				Banks of Manimala Ar & Panjampala thodu	Moderate	
	Ezhumattoor				Broad flat bottom valleys (Paddy fields) Ezhumattur		
	Puramattom				Banks of Manimala Ar	Moderate	
	Thellyoor				Broad flat bottom valleys (Paddy fields) E of Vennikulam & N of Pullad	Moderate	
	Ayroor				Banks of Pamba Ar	Moderate	
R							
A							
	MALLAPPALLY						

	Cherukole	Low (Vayalathala, Thirumuttamkalarimala)		Banks of Pamba Ar	Moderate	
Ranni		Low (Puduserimala)		Banks of Pamba Ar	High	
Angadi		Low (Panalpara Trikkamala, Valavudikavu, Varavurmala)		Banks of Pamba Ar, Vallatukavu thodu & Broad flat bottom valleys (Paddy fields) Puzhikunnu, Ittichode	High	
Chethakkal		Low (Arayam para estate, Idamon, Kunnam, Kumbit, RF)		Banks of Palam thodu	Low	

	Pazhavangadi	Low (Manda mamudi, amuduk kottukavu & RF)		Banks of Pamba Ar & Vallatukavu thodu	High	
Vadasserikara		Low (Vilakulam, Kidangan, Tamapally, Puzhumpara & RF)		Banks of Pamba Ar & Kakkad Ar	Moderate	
Athikayam		Low (Naranimuzhi, Kudavuruti, Tannikadavu & RF)		Banks of Pamba Ar	Moderate	

	Kollamula	High(Chembanol i, RF) Low(Plavettitara, Nurakad, Olakuttam, Pambarikkumpara, Kollamula, Talapalli, Ezhukuman & RF)	Banks of Pamba Ar	Moderate	
Perunad	High (RF) Low(Kkad, KanavelEstate, PerinaduEstate, Pudukkara, Pernad & Forest)	Banks of Pamba Ar & Kakkad Ar	Moderate		

	Chittar Seethathodu	High (Sitathodumudi, Terakathumannu, Forest) Low (Kochan dimala, Kochathukayikkal, Minkuzhimudi, Anapara, Kuttachira, Kodumudi, Angamuzhi & RF)	Banks of Pamba Ar	Low	
KOZHENCHERY	Kozhanchery		Banks of Pamba Ar & Broad flat bottom valleys (Paddy fields) Melukara, Kozhanchery, Vanchithara	Moderate	< 3
	Naranganam	Low (Thirumuttamkalarimala, Chakkuparamala)	Broad flat bottom valleys (Paddy fields) Naranganam, Kakkanimala	Low	
	Aranmula		Banks of Pamba Ar, Perurthodu & Kazhithodu	Low	
	Mullappuzhasse		Banks of Pamba Ar & Broad flat bottom valleys (Paddy fields)	Low	

			(Paddy fields) Kurichimuttom, Karakkad, Kidangannur		
Elanthur		Low (Madhu mala, Kottattattim ala)	Broad flat bottom valleys (Paddy fields) Puthankulanji, Karoor, Ilanthur	Low	
Pathamthitta		Low (Peringamala, Vettipram, Mailadu mpara)	Banks of Achankovil Ar, nampakar thodu & Broad flat bottom valleys (Paddy fields) Kumbazha, Vettipram, Mylapra, Pathnamthitta	Moderate	>3
Mezhuveli			Banks of Achankovil Ar & Broad flat bottom valleys (Paddy fields) Pullelibhagam, Ilavanthitta, Chennikara	Moderate	
Kulanada			Banks of Achankovil Ar & Broad flat bottom valleys (Paddy fields) Ullannur, Vettuvelibhagam	Moderate	
Chenneerkara			Banks of Achankovil Ar & Broad flat bottom valleys (Paddy fields) Cheekanal, Ilavanthitta	Low	
Konnithazham		Low (Nadukanimala, Atubakulam, Avallikuzhi)	Banks of Achankovil Ar	Low	
Omaller			Banks of Achankovil Ar & Broad flat bottom valleys (Paddy fields) Chikanl, Omaller, Prakanam	Low	
Pramadom		Low (Puvampara)	Banks of Achankovil Ar & Broad flat bottom valleys (Paddy fields) Mallassery, Ilakollur, Anjilikunnu	Low	
Arupapalam		High	Banks of Achankovil Ar & Broad flat bottom valleys (Paddy fields)	Low	

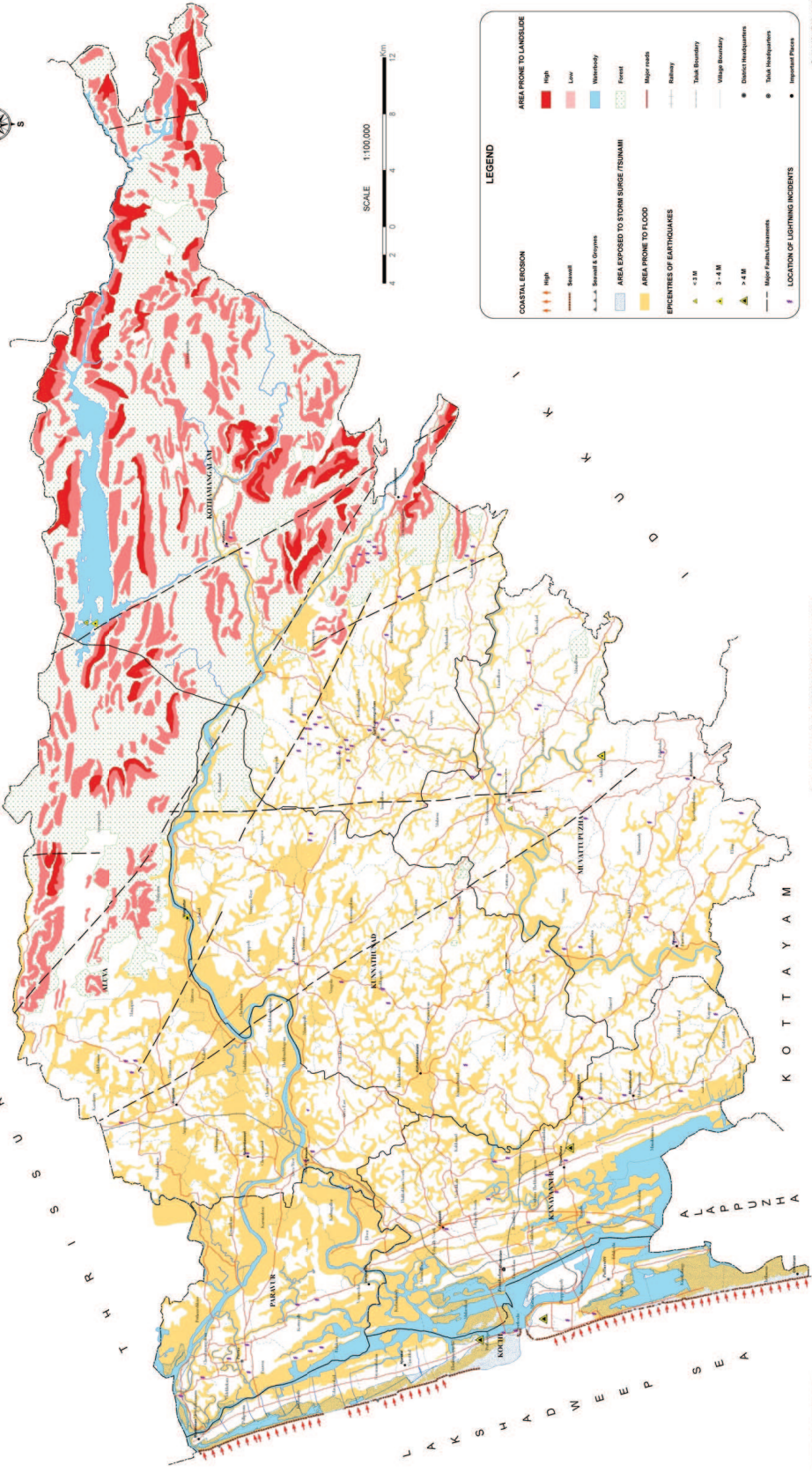
			Muthuvehzhukkal, Murinjakkallu	
	(Nimakulam, Forest) Low (Uttuparam, Munda perikal para, Athirangal Kottayam, Pappinikotta, Kakkathodu & Forest)			
Airavon	Low (Anakutti, Narveli, Pachmal)		Banks of Achankovil Ar & Broad flat bottom valleys (Paddy fields) Anakutti, Payyanamam	Low
Konni			Banks of Achankovil Ar	Low
Vallikkod			Banks of Achankovil Ar & Broad flat bottom valleys (Paddy fields) Mallasey, Chandanapally, Vallikkad	Low
V.Kottayam	Low (Chandanapally, Kottayam, Kairamurippu, Panikka)		Broad flat bottom valleys (Paddy fields) Vakayar, Kottayam	Low

		mpara)			
ADOOR	Pandalam			Banks of Achankovil Ar & karingalichal	Low
	Kurampala			Banks of Achankovil Ar & Broad flat bottom valleys (Paddy fields) Kurumpala, Mannamnagar	Low
	Pandalam			Banks of Achankovil Ar, Peran Banks of thodu & Broad flat bottom valleys (Paddy fields) Kirikuzhi, Thatta, Malliga	Low
	Thekkakara			Broad flat bottom valleys (Paddy fields) Chandanapally, Angadikkal	Low
	Angadickal	Low (Pnmina la, Chand anappall y Estate)		N, Ottathekku, Neduvankavu, Angadikkal	Low
	Kodumon			Broad flat bottom valleys (Paddy fields) Angadikkal S, Kodimon, Edathitta, Manimala,	Low
	Adoor			Broad flat bottom valleys (Paddy fields) Parakkode, adoor ,Munnalam,Pannipizha	Mod erate
	Peringanad			Broad flat bottom valleys (Paddy fields) kottanallur, Nellimgal, Parakuttam, Kunderinga	Mod erate
	Pallickal			Banks of Pallickal thodu & Broad flat bottom valleys (Paddy fields) Ilampally, Payyanallur, Thotuva	Low
	Kadampanadu			Banks of Kallida Ar & Broad flat bottom valleys (Paddy fields) Kalluvettankuzhi, Kadampanad, Nellimugal, Mannadi	Low
	Erathu			Banks of Pallickal thodu & Broad flat bottom valleys (Paddy fields) Churakkodu, Pucheribhagam, Tuvayur, Vadukkottukavu	Low
	Enathu			Banks of Kallada Ar & Broad flat bottom valleys (Paddy fields) Enath, Kadikka, Puducheribhagam	Low
	Ezhamkulam			Broad flat bottom valleys (Paddy fields) ezhamkulam, Mukkuzhikkal, parakkod	Low
	Enadimangalam	Low (N of Ilavannr,		Broad flat bottom valleys (Paddy fields) Kurubakara, Marur, Ilavannur, Pattarukonam, Kunnada	Low

Koodal	Kodumon Estate) Low (Kodumon Estate, W Murinjakkallu, W Karakkakuzhi, E Atiringali)		Broad flat bottom valleys (Paddy fields) Koodal, Murinjakkallu, Neduvankavu, Kochelimukku	Low	
Kalanjoor	Low (Rajagir Estate, vandaniKotta, Kallipara, Potthupara, Forest)		Banks of Kalanjoor thodu	Low	

MULTIPLE HAZARD ZONATION MAP

ERNAKULAM DISTRICT



LEGEND

- COASTAL EROSION**
 - High
 - Low
- AREA EXPOSED TO STORM SURGE/Tsunami**
 - Exposed
- AREA PRONE TO FLOOD**
 - High
 - Low
- EPICENTRES OF EARTHQUAKES**
 - < 3 M
 - 3 - 4 M
 - > 4 M
- LOCATION OF LIGHTNING INCIDENTS**
 - Major Fault/Lines
 - Major Roads
 - Railway
 - Taluk Boundary
 - District Boundary
 - State Boundary
 - District Headquarters
 - Taluk Headquarters
 - Important Places

Natural hazards in Ernakulam district – Taluk wise

Taluk	Flood		Landslide		Coastal erosion		Storm surge / Tsunami inundation	
	Area Km ²	Area %	High	Low	High with Sea wall	Length Km	Area Km ²	Area %
Kochi	51.8	35.8			33.4	69.0	45.1	31.1
Paravur	108.0	56.2					4.1	2.1
Kanayannur	117.2	36.8					8.9	2.8
Muvattupuzha	79.6	18.2						
Kunnathunad	155.3	33.0						
Aluva	136.0	25.3	8.0	1.5				
Kothamangalam	67.9	7.1	53.4	5.6	174.4	18.2		
Total	718.9	23.5	61.4	2.0	33.4	69.0	58.0	1.9

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NATURAL HAZARD ZONATION MAP – ERNAKULAM DISTRICT

TALUK	VILLAGE	LANDSLIDE	COASTAL EROSION	FLOODS	LIGHTNING	EARTH QUAKE (Magnitude)
KOCHI	Challanam		Up to Sea wall	Banks of Kaithapuzha kayal & Reclaimed land (Paddy fields) Maruvakadavu, Chellanam		
	Kumbalanghy		Up to Sea wall	Banks of Kitapuzha kayal & Reclaimed land (Paddy fields) Kumbalanghi, Maruvakadavu, Kundakadavu		
	Pallurudhy		Up to Sea wall	Banks of Kochi kayal & Reclaimed land (Paddy fields) Mundameli, Mandasseri		
	Edakochi			Banks of Kochi kayal		
	Ramaswaram		Up to Sea wall	Banks of Kochin kayal	Low	
	Thoppumpady			Banks of Kochin kayal		
	Mattancherry			Banks of Kochin kayal		5
	Fortkochi		Up to Sea wall	Banks of Kochin kayal	Low	
	Puthuvype			Banks of Ernakulam kayal & Reclaimed land (Paddy fields) PuduVypin,	Low	5.7
	Elankunnapuzha		Up to	Banks of Ernakulam kayal & Reclaimed land (Paddy fields)		

			Sea wall	Malippuram, Puduvely		
Njarakkal			Up to Sea wall	Banks of Ernakulam Kayal & Reclaimed land (Paddy fields) Neungad, Manjanakkad, Njarakkal		
Nayarambalam			Up to Sea wall	Banks of Tattapally River, Nedungad Puzha & Reclaimed land (Paddy fields) Nayarambalam, Bhagavathi ambalam		
Edavanakad			Up to Sea wall	Banks of Tattapally River, Anayil thodu & Reclaimed land (Paddy fields) Edavanakkad		
Kuzhupilly			Up to Sea wall	Banks of Tattapally River & Reclaimed land (Paddy fields) Kuzhipally, Cheruvaipu		
Pallipuram			Up to Sea wall	Banks of Periyar river & Tattapally River		
Muthakunnam				Banks of Periyar river & Tattapally River		Low
Vadikkekara				Banks of Tattapally River & Paravur Thodu		Moderate
Paravur				Banks of Periyar river & Paravur thodu		
Kottupally				Banks of Periyar river & Anachal thodu		Low
Ezhikara				Reclaimed land (Paddy fields) on the banks of Periyar river		Low
Varapuzha				Banks of Periyar river & Varapuzha		
Eloor				Banks of Periyar river & Varapuzha		
Kadungallor				Banks of Periyar river, Varapuzha, Varattupuzha & Onji thodu		
Alangad				Broad flat bottom valleys (Paddy fields) on the banks of Periyar river, Onji thodu, Anachal thodu		
Karumalloor				Banks of Periyar river & Anachal thodu		
Chennamangalo				Banks of Periyar river & Paravur thodu		
PARAVUR						

	m				
KANAYANNUR	Puthenvelikara			Banks of Periyar river, Chalakudi river & Kotakulangara thodu	
	Kunnukara			Banks of Periyar river, Chalakudi river & Kotakulangara thodu	
	Kadamakudy			Banks of Periyar river & Ernakulam kayal	
	Mulavucad			Banks of Periyar river & Ernakulam kayal	
	Cheranalloor			Banks of Periyar river, Varapuzha	
	Edapally North			Banks of Periyar river, Varapuzha & Edapally thodu	Low
	Eduppally South			Banks of Periyar river ,Eroor thodu & Broad flat bottom valleys (Paddy fields) Punnuruthi, Palarivattom	Low
	Ernakulom			Banks of Ernakulam kayal	
	Elankulom			Banks of Ernakulam kayal & Broad flat bottom valleys (Paddy fields) Kadavantara, Elamkulam, Kalloor	
	Poonithura			Banks of Eroor thodu & Broad flat bottom valleys (Paddy fields) Punnuruni, Karanakkod, Kallur	
	Maradu			Banks of Kaithapuzha kayal, Nettu thodu & Broad flat bottom valleys (Paddy fields) Nettu, Maradu, Thripunithura, Kundannur	Low
	Kumbalam			Banks of Kaithapuzha kayal & Nettu thodu	
	Manakunnam			Banks of Kaithapuzha kayal & Pan Ar	
	Amballur			Banks of Pan Ar & Broad flat bottom valleys (Paddy fields) Mambazha, Puduvassei, Kannjiramattom, Amballur, Chettikkod	Low
	Keecherry			Banks of Pan Ar & Broad flat bottom valleys (Paddy fields) Kattukunnu, Mambazha, Keecheri	
	Kulayettikara			Broad flat bottom valleys (Paddy fields) Kulayettikkara, Padinjattu, Tottara	
	Kaipattur			Banks of Muvattupuzha river & Broad flat bottom valleys (Paddy fields) Mangadapally, Tirumariyur, Tottur, Kaipattur	Low
	Edakkattuwayal			Broad flat bottom valleys (Paddy fields) Veliyanad, Edakkattuwayal, Paravakad, Uzhakkod, Kanjiramattom	
Mulanthuruthy			Banks of Pan Ar & Broad flat bottom valleys (Paddy fields) Perumballi, Palace mukku, Mulanthuruthy, Turuttikara, Pulikkamalli	Low	

					Banks of Mamala thodu & Broad flat bottom valleys (Paddy fields)	Low
Kanayannur					Talakkodu, Kanayannur	Low
Kureekad					Banks of Pan Ar, Mamala thodu	Low
Thekkunobhagom					Banks of Kaithapuzha kayal & Pan Ar	Low
Nadamel					Banks of Pan Ar, Eroor thodu & Tripunithura thodu	Low
Thiruvankulom					Banks of Pan Ar, Eroor thodu Mamala thodu	Low
Kakkanad					Banks of Kadambarayar & Broad flat bottom valleys (Paddy fields)	
Vazhakkala					Tengod, Kakkand	
					Banks of Kadambarayar & Broad flat bottom valleys (Paddy fields)	
					Edapally, Tudiyyur, Kakkand	
Thrikkakara N					Banks of Periyar river & Broad flat bottom valleys (Paddy fields)	
					Vadakkod,,Nalacom, Perungazha, Pallilam, Thrikkakara	
Maneed					Banks of Muvattupuzha river & Broad flat bottom valleys (Paddy fields)	
					Pambra, Maneed, Neechur, Vettuthura	
Piravam					Banks of Muvattupuzha river & Perumbadavam thodu	Low
Elanji					Banks of Perumbadavam thodu & Broad flat bottom valleys (Paddy fields)	Moderate
					Marangelly, Muttalapuram, Valumala	
Onakkur					Banks of Valiya thodu & Broad flat bottom valleys (Paddy fields)	Low
					Periyapuram, Pambakuda, Onakur	
Ramamangalam					Banks of Muvattupuzha river	
Memury					Banks of Muvattupuzha river	
Valakom					Banks of Muvattupuzha river & Kuriya thodu	Low
Marady					Banks of Muvattupuzha river & Todupuali Ar	Low >3
Thirumarady					Banks of Valiya thodu, Kavalamattom thodu & Broad flat bottom valleys (Paddy fields)	Low
					Manthur, Kakur, Thirumarady, Oliyapuram	
Koothattukulam					Broad flat bottom valleys (Paddy fields)	Moderate
					Kuthattukulam, Idayar, Kizhakombu, Vadakara	
Palakuzha						Low
Arakkuzha					Banks of Todupuali Ar Broad flat bottom valleys (Paddy fields)	Low
					Tottakkara, Pandapilli, Arakuzha	
MUVATTUPUZZHA						

	Muvattupuzha			Banks of Muvattupuzha river, Todupuali Ar & Broad flat bottom valleys (Paddy fields) Anikod, Avali	Low
	Velloorkunnam			Banks of Muvattupuzha river & Broad flat bottom valleys (Paddy fields) Vazhapally, Mudavur	Low
	Mulavur			Broad flat bottom valleys (Paddy fields) Thirukulathur, Punnapadi, Paipira, Mulavur	Low
	Enanalloor			Banks of Muvattupuzha river & Broad flat bottom valleys (Paddy fields) Karimattom, Puthur, Ayavana, Putiatanam, Enanalloor	Low
	Manjalloor			Banks of Todupuali Ar & Broad flat bottom valleys (Paddy fields) Mudapannur, Manjalloor, Vadakkod	Low
	Kalloorkad			Broad flat bottom valleys (Paddy fields) Kallurkad, Nagapuzha, Thazhavamkumnu	Low
	Thiruvaniyoor			Broad flat bottom valleys (Paddy fields) Vattakuzhi, Chemmand, Chettanikara, Talakkod, Thiruvaniyur	
	Puthenceruz			Banks of Mamala thodu & Broad flat bottom valleys (Paddy fields) Ambalamukal, Kanjirakad, Kuzhikkad, Brahmapuram, Muttam	
	Kunnathunad			Banks of Kadambarayar & Broad flat bottom valleys (Paddy fields) Kumarapuram, Erumeli, Marakala, Peringala	Low
	Kizhakkambalam			Banks of Kadambarayar & Broad flat bottom valleys (Paddy fields) pazhangand, Malayidamthuruth, Maliyekaipadi, Edathala, Ambunad	
	Pattimattom			Banks of Kadambarayar & Broad flat bottom valleys (Paddy fields) Chelakualm, Churakod, Erapanpara, Chengara, Kaithakad, Pulichod,	
	Aikaranad North			Banks of Muvattupuzha river & Broad flat bottom valleys (Paddy fields) Ezhipuram, Pangod, Koalancheri,	
	Vadavucode			Broad flat bottom valleys (Paddy fields) Vaduvakode	
	Aikaranad South			Banks of Muvattupuzha river & Broad flat bottom valleys (Paddy fields) Pariyaram, Vadayambad, Kolancheri, Temmanimattom	Low
	Mazhuvannoor South			Broad flat bottom valleys (Paddy fields) Kodainad, Nellina, Akkampara thodu, Mazhavannoor,	Low
	Irapuram			Broad flat bottom valleys (Paddy fields) Manur, Kuzhur, Tirukulathur,	Low

KUNNATHUNAD

	Arakkapady			Banks of Kadambarayar & Broad flat bottom valleys (Paddy fields) Vengola E, Vengola W, Arakkapady	Low
	Vazhakkulam			Broad flat bottom valleys (Paddy fields) Ezhipram S, Vazhakkulam	
	Manampilly			Banks of Periyar river	
	Vengola			Broad flat bottom valleys (Paddy fields) Panjaserri, Tandikkad, Vengolla, Pallipuram, Udayankuzhipadam	Low
	Rayamangalam			Broad flat bottom valleys (Paddy fields) Pul;Iuvazhi, Kizhillam, Vaikara, Rayamangalam, Kurupampadi	
	Asamannoor			Broad flat bottom valleys (Paddy fields) Mettala, Ekunnam, kadungaann, Asamannoor, Panachiam, Cherukunnam	Mod erate
	Vengoor			Broad flat bottom valleys (Paddy fields) Mekkappala, Nedungapra, Vengur, Kodampzilly	
	Vengoor West			Broad flat bottom valleys (Paddy fields) Elambakipalli, Vaniyapilli	
	Perumbavoor			Banks of Maravetti thodu, Perumbavoor thodu & Broad flat bottom valleys (Paddy fields) Irungal, Punnur	Low
	Chelamattam			Banks of Periyar river	
	Koovappady			Banks of Periyar river, Maravetti thodu & Broad flat bottom valleys (Paddy fields) KOovapady Aimuri, Kurumbaserri, Puppami	
	Kodanad			Banks of Periyar river	
	Kombanad			Banks of Periyar river & Broad flat bottom valleys (Paddy fields) Kozhikottukulangara, Paneli, Kumbanad, Pudumana	
	Aluva East			Banks of Periyar river & Broad flat bottom valleys (Paddy fields) Chunganveli, Edayapuram, Edathala, Maliyekalpadi	Low
	Aluva West			Banks of Periyar river	Low
	Chengamanad			Banks of Periyar river	Low
	Chowwara			Banks of Periyar river & Puliyaipalli thodu	
	Nedumpasseri			Banks of Periyar river, Kottakulangara thodu & Broad flat bottom valleys (Paddy fields) Parambuserri, kariyattu, Turuthuserri, Naduvannur	
	Angamali			Banks of Puliyaipalli thodu & Broad flat bottom valleys (Paddy	
ALUVA					

Parakkadavu								fields) Nayathodu, Angamali, Chambannur, Pichanikad	
Karukutty								Banks of Chalakudi river	
Mukkannur								Banks of Chalakudi river Broad flat bottom valleys (Paddy fields) Karayamparambu, Karukutti, Azhakam, Edakunnu	Low
Thuravoor								Broad flat bottom valleys (Paddy fields) Mulpara, Azhakam, Vattakad, Mukannur, Kokunni	Low
Kalady								Broad flat bottom valleys (Paddy fields) Vengoor, Kidangur, Kothakulangara	
Vadakkumbhagom								Banks of Puliampalli thodu & Broad flat bottom valleys (Paddy fields) Piravur, Mator, Thotakaom, Manikkamangalam	
Thekkumbhagom								Banks of Periyar river	
Kizhakkumbhagom								Banks of Periyar river	
Mattoor								Banks of Periyar river	
Manjapra								Banks of Kotayi thodu & Broad flat bottom valleys (Paddy fields) Sankarankuzhi, Anapara, Naduvattom, Manjapra	
Malayatur								Banks of Periyar river	3.5
Ayyampuzha								Banks of Periyar river	

KOTHAMANGALAM							
		e, Tattupara, Chulali, Kunthirikkamudi, Forest)					
	Kottapadi				Broad flat bottom valleys (Paddy fields) Pilamudi, Chinikuzhi, Airur, Cheranganal, Kottapadi		Moderate
	Trikariyoor				Broad flat bottom valleys (Paddy fields) Vadaserri, Panipara, Ayikod, Tenkulam, Thrikariyoor, Ilampra		Moderate
	Iramalloor				Broad flat bottom valleys (Paddy fields) Kuttilangai, Nellikuzhi, Venduvazhi, Cheruvathur		Low
	Kothamangalam				Banks of Kothamangalam Ar & Broad flat bottom valleys (Paddy fields) Kallad, Ramallur, Kumbalathurai		Moderate
	Varapetty				Banks of Kothamangalam Ar & Broad flat bottom valleys (Paddy fields) Varapetti, Inchur, Kozhipally, Vidavur, Pallarimangalam, Mayilin		Low
	Pothanikadu				Banks of Kothamangalam Ar & Broad flat bottom valleys (Paddy fields) Pallarimangalam, Pottankad, Puliathanam,		Low
	Kadavoor	Low (Tiyeriyannudi)			Banks of Kaliyar puzha & Broad flat bottom valleys (Paddy fields) Naduvakkad, Kadavoor, Chathamattom		Moderate
	Neriyamangalam	High (Tusiraparamala, RF) Low (Chenpankuzhi, Maniyan			Banks of Periyar river, Kothamangalam Ar & Broad flat bottom valleys (Paddy fields) Tallakkad, Nagaramudi, Thodikulam		Moderate

		para, Ner yamang alam, Talakka d,Forest)				
Kuttamangalam	Low (Peruma nnur)	Banks of Kothamangalam Ar & Broad flat bottom valleys (Paddy fields) Unnukal, Nellimattom			Mod erate	
Keerampara	Low (Panicha mudi, Pu nnakkad)	Banks of Periyar river & Broad flat bottom valleys (Paddy fields) Chenkara, Punnakd, Nadukani, Keerampara, Perumanoor			Mod erate	
Pindimana		Banks of Periyar river & Broad flat bottom valleys (Paddy fields) Pindimana, Malipara, Chelad			Mod erate	
Kuttumpuzha	High (Mamal akunna m, Penavur, Puttuku di, Forest) Low	Banks of Periyar river & Puyankutti river			Mod erate	2.5 , 2.5 , 3

				(Ilambac heri, Uru lanthani, Nayapaly, Kuthiramudi, Mettana para Forest)				
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NATURAL HAZARD ZONATION MAP – IDUKKI DISTRICT

TALUK	VILLAGE	LANDSLIDE	COASTAL EROSION	FLOODS	LIGHTNING	EARTH QUAKE (Magnitude)
THODUPUZHA	Kumaramangalam			Broad flat bottom valleys (Paddy fields) Ezhallur, Kothamangalam, Perumbillichira, Kappu, Vengallur	Low	
	Kodikulam			Banks of Kaliyar Puzha, Karimannur thodu & Broad flat bottom valleys (Paddy fields) Kodikulam, Parapuzha	Low	
	Vannappuram	High (Vannapuram, Forest) Low (Amaila kandam, Thommankuthu, Vannapuram, Forest)		Banks of Kaliyar Puzha & Broad flat bottom valleys (Paddy fields) Vannapuram, Mulankuthi	Low	
	Kanjikuzhy	High (Thottakani, Kirithod, Chelachvada)			Low	

	(Forest)				
Karimannoor				Neysseri, Malappuram	Moderate
Karikode				Banks of Karimannoor thodu & Broad flat bottom valleys (Paddy fields) Pallikkamuri, Manakaitandu, Karimannur	Low
Todupuzha				Banks of Thodupuzha Ar & Alakkode thodu	Moderate
Manakkad				Banks of Thodupuzha Ar & Broad flat bottom valleys (Paddy fields) Mudalakandam, Kolani	Moderate
Purappuzha	Low (Kurinjipara, Toyipara)			Banks of Thodupuzha Ar & Broad flat bottom valleys (Paddy fields) Periyambra, Pudukkottai	Moderate
Karimkunnam	Low (Nellapara, Ottalur, Ilayarimala)			Broad flat bottom valleys (Paddy fields) Vengallur, Vazhitala, Purappuzha	Moderate
Muttom	High (Kollankunnu, Kuzhiyanai, Tudonganad)			Broad flat bottom valleys (Paddy fields) Vadakkumuri, Mirala	>3
	Low (Kanayamala, Kollankunnu)			Broad flat bottom valleys (Paddy fields) Tudanganad	Low
Alacode	High (Ilamdes)			Broad flat bottom valleys (Paddy fields) Ancheri, Kurichi	Moderate

	am, Kon dilapalli) Low (Vettima ttom, On naramal a)			
Velliamattom	High (Paramb ukaduM ala, Pum ala, Velli yamatto m, Forest) Low (Mudiya mala, Ku vakanda m,)		Mod erate	
Idukki	High (Painavu , Karara, Forest) Low (Kulama vu, Tadiy ampadu, Forest)		Low	
Arakulam	High (Mulam		Mod erate	

		attom, N adukani mala, Tu mbikkal mala)			
	Kudayathoor	High (Kudaya ttoormal a, anakunn umudim ala)		Mod erate	
	Elappally	High (Edad, C hellikkal) Low (Kannik al, Mana pad)		Mod erate	
DEVIKULAM	Mannamkandam	High (Ayiram Acre, Ch attupara, Machipl avukudi Forest) Low (Machip lavu, Deviarc olny,		Low	

		ra, Periyakanal Estate, Naga mala Estate,)			
Poopara		High (Mullandu, Panniyar Estate, Forest) Low (Pupara, koranpara, Panniyar Estate)		Banks of Panni Ar	Low 5.7
Rajakumari		High (Manjalu, Muzhi, Mullandu, Panniyar Estate) Low (Kumbapara Estate, Panniyar Estate)		Banks of Panni Ar & Broad flat bottom valleys (Paddy fields) Rajakumari	Low
Rajakadu		Low		Broad flat bottom valleys (Paddy fields) Rajakkad, Mullakanam	Low

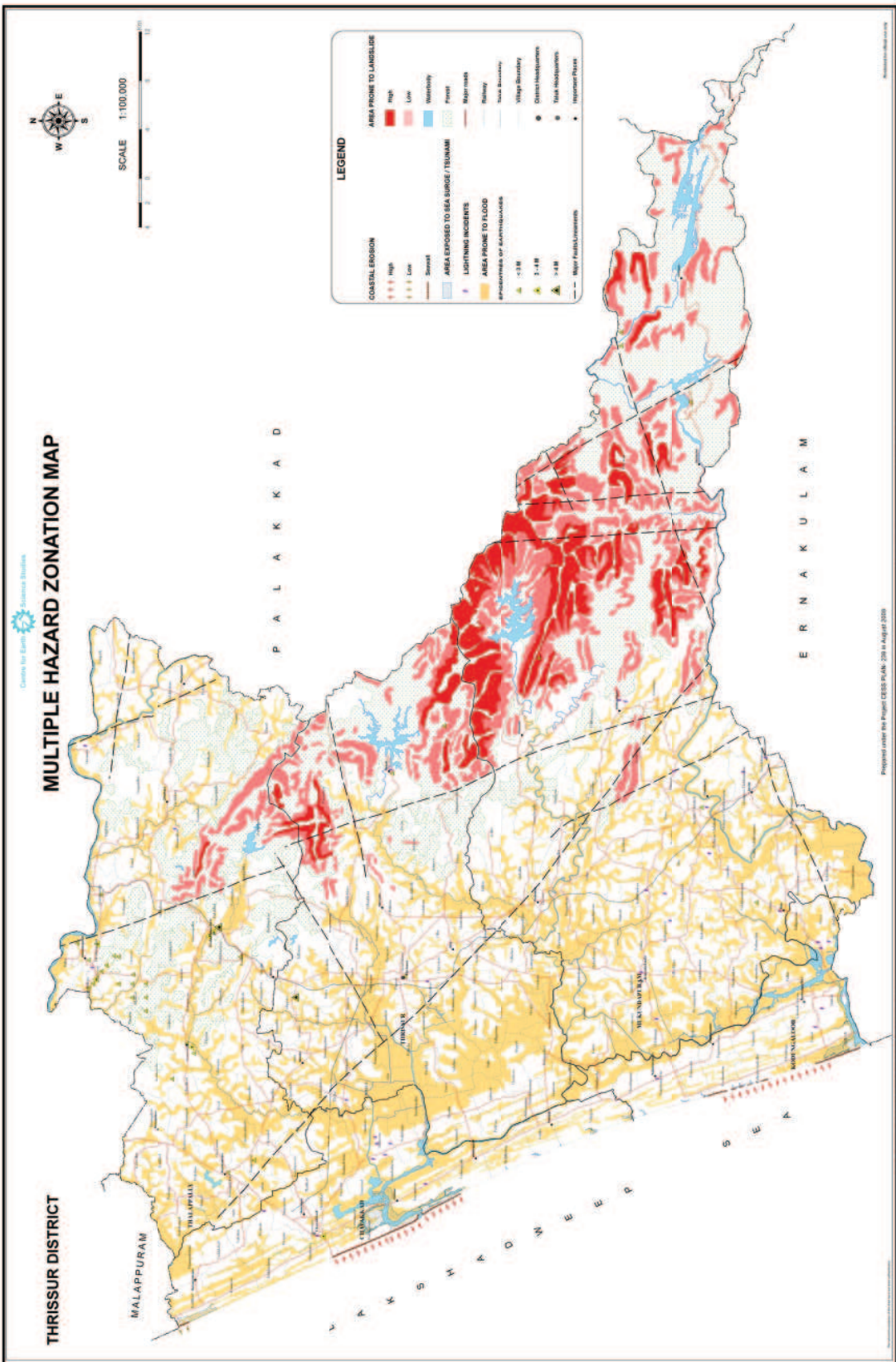
	Estate)			
Kanthipara	Low (GandhiparaEstate, Kuttankal)	Banks of Chemman Ar	Low	
Santhanpara	High (NadupaniEstate) Low (IlayakodEstate, Apparpullu Estate, Estate, KaliparaEstate)	Banks of Panni Ar	Low	
Chadhuramga para	High (Talayan kavu Estate)	Banks of Chemman Ar	Low	
Parathodu	High (IsvarimedEstate, Nainar mudi) Low (Nedumkandam,		Low	4.1

	Asokavanam Estate, Valpara Estate)	Low (Ponnamala, Irtthoppu, Kumbanmala)	Banks of Irattayar	Low	3.4, 4.5
Kalkoonthal					
Vathikudy	High (Chembakapara, Padamukkam) Low (Topinkudi, Monigapara, Vattikudi, Murikkasser)	Broad flat bottom valleys (Paddy fields) Padamukham, Vattikudi	Low		
Upputhode	High (KarikkumMedu) Low (Rajamudi Upputod)		Low		
Thankamany			Low		
Kattappana	High	Broad flat bottom valleys (Paddy fields) ValiyaKandan, Vellayamkudi	Low		

	rtolu, Puliyam ala)				
Anakkara	Low (Pampuppara)	Broad flat bottom valleys (Paddy fields) Kochara Ar	Low		
Chakkupallam	Low (Sitampara Estate, Chakkupalam Estate)	Broad flat bottom valleys (Paddy fields) Chakkupalam	Low		
Ayyappancoil	High (Tahsilpara Estate, Forest) Low (Karinkulam Estate, Kallottu, Forest)	Broad flat bottom valleys (Paddy fields) Kachiyar	Low	>3	
Anavilasom	Low (Tahsilpara Estate, Madhavankamm Estate, e.)		Low		

PEERMADÉ					
Vagamón	High (Vedikuzhi, Alampally Estate) Low (Pulikkam Estate, Kotamala Estate, Chintala, Pasupara Estate, Vagamon Estate)				Moderate
Upputhara	Low (Muttattom, Chinthar Estate, Karintara Estate)				Low
Elappara	High (Annambila, Theppakulam Estate, Glanmary Estate)				Moderate

		(Forest) Low (Attapaa m, Muru kkadiEst ate, Dym ock, Che nkara, V ellaramk unnu, Forest)			
	Mlappara	High (Periyar RF) Low (R F)			
				Low	>3



MULTIPLE HAZARD ZONATION MAP

THRISSUR DISTRICT

LEGEND

- COASTAL EROSION**
 - High
 - Low
- AREA EXPOSED TO SEA SURGE / TSUNAMI**
 - Second
 - First
- LIGHTNING INCIDENTS**
- AREA PRONE TO FLOOD**
- AREAS PRONE TO SLIP/SLIDING**
 - < 5M
 - 5-10M
 - > 10M
- AREA PRONE TO LANDSLIDE**
 - High
 - Low
- Other Features**
 - National Highway
 - State Highway
 - Major Road
 - Railway
 - Water Boundary
 - Village Boundary
 - Cheruvu/Reservoir
 - Sea
 - Major Public Concerns

Natural hazards in Thrissur district - Taluk wise

Taluk	Flood			Landslide			Coastal erosion			Storm surge / Tsunami inundation		
	Area Km ²	Area %	Area Km ²	Area %	Area Km ²	Area %	Area Km ²	Area %	Area Km ²	Area %	Area Km ²	Area %
Cheruvu	48.1	13.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chirayinkeezh	101.4	27.7	0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5
Thrissur	143.5	39.3	1.8	5.2	0.9	2.6	1.0	3.3	1.4	3.7	2.2	5.9
Total	688.4	186.1	2.0	5.7	1.1	3.4	1.6	4.9	3.6	9.2	4.6	12.3

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NATURAL HAZARD ZONATION MAP - THRISSUR DISTRICT

TALUK	VILLAGE	LAND SLIDE	COASTAL EROSION	FLOODS	LIGHTNING	EARTHQUAKE (Magnitude)
KODUNGALUR	Edathiruthy			Banks of Karuvannur,Puzha & KarjiraPuzha	Low	
	Chendrapinni			Banks of KarjiraPuzha & Broad flat bottom valleys (Paddy fields) Charamkallu,Perumpadappu	Low	
	Kaipamangalom			Banks of KarjiraPuzha & Broad flat bottom valleys (Paddy fields) N,Perinjalam,Kaipannur	Low	
	Perinjalam			Banks of ConollyThodu & Broad flat bottom valleys (Paddy fields) Perinjanam	Low	
	Pappirivattom			Banks of ConollyThodu & Broad flat bottom valleys (Paddy fields) Pappinivattom, Onachanmavu	Low	
	Koolimuttom		High with Seawall	Broad flat bottom valleys (Paddy fields) Kazhuvilanga,Emmad, Koolimattom	Low	
	Padinjare Vemballur		High with Seawall	Broad flat bottom valleys (Paddy fields) Vekkad,Pathayakkad, W.Vemballur	Low	
	Panangad			Banks of ConollyThodu & Broad flat bottom valleys (Paddy fields) nelpinni,Panangad, Puzhakkavu	Low	
	Edavilengu		High with Seawall	Broad flat bottom valleys (Paddy fields) Anchangad,Thattankadavu, Kunneni, Vadakkumpuram, Attani	Low	
	Ala			Banks of PullutRiver	Low	
	Pullut			Banks of PullutRiver & TachanpalliThodu	Low	
	Lokamaleswaram			Banks of PullutRiver & Broad flat bottom valleys (Paddy fields) Tandamkulam, Kodungallur	Low	
	Eriyad		High with Seawall	Broad flat bottom valleys (Paddy fields) Eriyad, Arattuvazhi, Cheraman, Manjali, Madavana	Low	
	Azhikode			Banks of PeriyarRiver	Low	
	Methala			Banks of PeriyarRiver & PullutRiver	Low	
	Pallippuram			Banks of PullutRiver & Broad flat bottom valleys (Paddy fields) Chemthuruti, Pallipuram, Udumbarutti	Low	
Poyya			Banks of PullutRiver & Broad flat bottom valleys (Paddy fields) Poyya, Mandali	Low		

Madathumpady					
				Broad flat bottom valleys (Paddy fields) Madathampadi	Low
Thirumukalam				Banks of ChalakudyRiver	Low
Kakkulisserry				Banks of ChalakudyRiver & Broad flat bottom valleys (Paddy fields) Airanikulam, Tanisseri, Poyyanttukara, Kuzhur, Eravattur	Low
Kuruviassery				Broad flat bottom valleys (Paddy fields) Kuruvilasseri, Tanisseri	Low
Alathur				Broad flat bottom valleys (Paddy fields) Meladur, Kizhadur, Payyanattukara, Kumbidi, Kallur, Vennur, Alathur	Low
Kallur Thekkummuri				Banks of ChalakudyRiver & Broad flat bottom valleys (Paddy fields) Padinjareemuri	Low
Kallur Vadakkummuri				Banks of ChalakudyRiver & Broad flat bottom valleys (Paddy fields) Cheruvallur, Kodikulam	Low
Annallur				Banks of ChalakudyRiver & Broad flat bottom valleys (Paddy fields) Puzhakara, Kolkunnu	Low
Vadakkumbhagam				Banks of MuttikaThodu & Broad flat bottom valleys (Paddy fields) Marekad, Ambalakad, Palayamparambu	Low
Vadama				Banks of MuttikaThodu & Broad flat bottom valleys (Paddy fields) Andikad, Kuruvilasseri, Mala	Low
Puthenchira				Banks of MuttikaThodu, Tachapallithodu & Broad flat bottom valleys (Paddy fields) Vadakkumuri, Thekkumuri, Muttikal	Low
Karumathra				Banks of PullutRiver	Low
Thekkumkara				Banks of PullutRiver & Broad flat bottom valleys (Paddy fields) Karumathara, Manattukunnu	Low
Vallivattom				Banks of PullutRiver	Low
Padiyoor				Banks of PullutRiver	Low
Poomangalom				Broad flat bottom valleys (Paddy fields) Aripalam, Kalparambu, Edakulam	Low
Vadakkumkara				Broad flat bottom valleys (Paddy fields) Vellangallur, Vadakkumkara, Kaiparabu	Low
Kottanellur				Broad flat bottom valleys (Paddy fields) Kottanellur, Vayikilachira, Tumbur	Low
Thazhakkad				Broad flat bottom valleys (Paddy fields) Kizhikkattusseri, E. Puthanchira, Tazhakkad,	Low
Kallettumkara				Broad flat bottom valleys (Paddy fields) Kallettumkara, Irinjalakuda, Vallakunnu	Low
Muriyad				Banks of VallakunnuThodu & Broad flat bottom valleys (Paddy fields) Muriyad, Parakkattukara	Low
Pullur				Banks of VallakunnuThodu & Broad flat bottom valleys (Paddy fields) Pullur, E. Irinjalakuda	Low
Kadappashery				Banks of VallakunnuThodu & Broad flat bottom valleys (Paddy fields) Avittathur, Kadappasseri	Low
Vellokkara				Broad flat bottom valleys (Paddy fields) Nadavarambu, Vellokkara	Low

MUKUNDPAPURAM

Manavalassery				Banks of Shanmugham Canal & Broad flat bottom valleys (Paddy fields) Tanisseri, Ayinikkad	Low
Edathirangi				Banks of Conolli Thodu & Shanmugham Canal	Low
Kattur				Banks of Karuvannur River & Conolli Thodu	Low
Karalam				Banks of Karuvannur River & Broad flat bottom valleys (Paddy fields) Vellani, Pullathara, Chemmanda, Kizhuthanni	Low
Irinjalakuda				Broad flat bottom valleys (Paddy fields) Iringalakuda, Kudamaikkam, Manavaisseri,	Low
Porathisheri				Banks of Karuvannur River & Broad flat bottom valleys (Paddy fields) Porattisseri, Murkanad, Karuvannur	Low
Madayikkonam				Broad flat bottom valleys (Paddy fields) Kundazhi, Talliyikonam, Mapranam, Pichampalikonam, Kuzhikattukulam	Low
Anandapuram				Banks of Vayalur Thodu & Broad flat bottom valleys (Paddy fields) Anandapuram	Low
Thottippad				Banks of Karuvannur River & Kurumali Puzha	Low
Nammenikkara				Banks of Manali River & Kurumali Puzha	Low
Trikkur				Banks of Manali River & Broad flat bottom valleys (Paddy fields) Chittilasser, Palliyara	Low
Kallur				Banks of Manali River & Broad flat bottom valleys (Paddy fields) Kallur, Kavallur	Low
Amballur				Banks of Manali River & Broad flat bottom valleys (Paddy fields) Mangalamtandu, Mannampetta, Pukkod, Vendur, Amballur	Low
Thorava				Banks of Kurumali Puzha	Low
Parappukara				Banks of Kurumali Puzha & Broad flat bottom valleys (Paddy fields) Nellai, Mutratikara	Low
Chengallur				Banks of Kurumali Puzha & Broad flat bottom valleys (Paddy fields) Maruvancheri, Chengallur	Low
Varandarapilly				Banks of Kurumali Puzha & Broad flat bottom valleys (Paddy fields) Varandarapilly	Low
Muppiliyom				Banks of Kurumali Puzha & Broad flat bottom valleys (Paddy fields) Muppilayam	Low
Nandipulom				Banks of Kurumali Puzha	Low
Nellai				Banks of Kurumali Puzha & Broad flat bottom valleys (Paddy fields) Vayalur, Pantalur, Alathur	Low
Mattathur				Banks of Kurumali Puzha & Broad flat bottom valleys (Paddy fields) mattathur, Kodali, Nuivali	Low
Kodakara				Broad flat bottom valleys (Paddy fields) Kodakara, Perambra, Puttukavu, N. Alur, Taisseri	Low
Potta				Broad flat bottom valleys (Paddy fields) Potta, Chy	Low
Perambra				Broad flat bottom valleys (Paddy fields) Ajayaravagapuram, Perambra	Low
Aloor				Banks of Parayan Thodu & Broad flat bottom valleys (Paddy fields)	Low
Kizhake				Turuthuparambu, Kombodinjankal, Karur, Alur	Low
Chalakudi				Banks of Chalakudy River	Low
Padinjara				Banks of Chalakudy River & Parayan Thodu	Low

Chalakudi							
Muringoor Vadakkummuri					Banks of ChalakudyRiver	Low	
Muringoor Thekkummuri					Broad flat bottom valleys (Paddy fields) Korati,Kodikulam, Konur, Tirumadikunnu	Low	
Kizhakkummuri					Broad flat bottom valleys (Paddy fields) Edamcheri, Nallikettu, Kizhakkemuri,	Low	
Melur					Banks of ChalakudyRiver & Broad flat bottom valleys (Paddy fields) Palappilli, Pushpagiri	Low	
Elinjipra					Banks of ChalakudyRiver & Broad flat bottom valleys (Paddy fields) Elanjipra, Pariyaram	Low	
Kodassery		Low (N. Taisseri, N.Kodassery, S.Monodi)			Banks of KappaThodu & Broad flat bottom valleys (Paddy fields) Navirangad, Kodasseri, manodi, Mankuttiadam	Low	
Velikulangara		Low (chakanna)			Broad flat bottom valleys (Paddy fields) Murukkangal, KizhakkKodali, Kudanga, Vellikulangara	Low	
Kuttichira		Low (N.Marankod)			Banks of KappaThodu & Broad flat bottom valleys (Paddy fields) kurmala, Arichankuzhi, Karapadam, Viranchira	Low	
Pariyaram		High (Kumakuzhi, Imburmuzhi, Randukal, Chimonimate, Forest) Low (Vaicheri, velikulam, PudukkadeState, Arumuzhi, Chikali, Vellikut			Banks of ChalakudyRiver ,KurumaliPuzha &KappaThodu	Low	2.8

		tangara)			
THRISSUR	Kizhupillikkara			Banks of KaruvannurRiver	Low
	Tanniyam			Banks of KaruvannurRiver	Low
	Kurunpilavu			Banks of KaruvannurRiver & Broad flat bottom valleys (Paddy fields) Chirakkal, Pazhuvil	Low
	Inchamudi			Banks of KaruvannurRiver	Low
	Alappad			Broad flat bottom valleys (Paddy fields) Porattur, Alappad	Low
	Pullu			Broad flat bottom valleys (Paddy fields) Pullu	Low
	Anthicad			Broad flat bottom valleys (Paddy fields) Anthikkad, Cheriya Anthikkad, Talamuri	Low
	Chazhoor			Broad flat bottom valleys (Paddy fields) Chazhur, Puthanpidaka, Irumpayur	Low
	Kizhakkummuri			Broad flat bottom valleys (Paddy fields) Kizhakkemuri	Low
	Vadakkummuri			Banks of KaranjiraPuzha & Broad flat bottom valleys (Paddy fields) Chemmappalli, Vadakkemuri	Low
	Padiyam			Banks of KaranjiraPuzha & Broad flat bottom valleys (Paddy fields) Muttichur, Mangattukara	Low
	Karamuck			Banks of KaranjiraPuzha	Low
	Manalur			Broad flat bottom valleys (Paddy fields) Poonilur, Kalanji, Ayyappankavu	Low
	Eravu			Broad flat bottom valleys (Paddy fields) Eravu	Low
	Parakkad			Banks of ChettupuzhaCanal, Parakkad, Vadakkumpuram	Low
	Adat			Broad flat bottom valleys (Paddy fields) Turuthi, Adat, Puranattukara	Low
	Chalakkal			Broad flat bottom valleys (Paddy fields) Ayanikkad, Mallur, Chalakkal	Low
Tholur			Banks of AlurPuzha & Broad flat bottom valleys (Paddy fields) Tolur	Low	
Chittilappilly			Banks of PerumangalamThodu & Broad flat bottom valleys (Paddy fields) chittilappalli, Pincappil	Low	
Peramangalam			Banks of PerumangalamThodu & Broad flat bottom valleys (Paddy fields)	Low	

Edakkalathur				Perumangalam, Varadiyam Banks of AlurPuzha & Broad flat bottom valleys (Paddy fields) Edakalathur, Anandaparambu	Low
Anjur				Broad flat bottom valleys (Paddy fields) Pazhayamukku, Mundur, Arampalli, Valakkod	Low
Kaiparamba				Broad flat bottom valleys (Paddy fields) Puttur, Kaiparamba, Kollanur	Low
Avannur				Broad flat bottom valleys (Paddy fields) Varadiyam, Avanur, E.Manithara	Low
Thangaloor				Broad flat bottom valleys (Paddy fields) Edakulam, Tangalur, Valakod	Low
Velappaya				Broad flat bottom valleys (Paddy fields) Velappaya, Edakkulam	Low
Chulissery				Broad flat bottom valleys (Paddy fields) Chulisseri, Kolangattukara	Low
Pattore				Broad flat bottom valleys (Paddy fields) Attur, Naranathara, Pattoor, W.Kolazhi	Low
Kolazhy				Broad flat bottom valleys (Paddy fields) Kolazhi, Pottachira, Tamikudam	Low
Killannur				Broad flat bottom valleys (Paddy fields) Gramala, Kottikunnu, Mulankunnathukavu, Chattupara	Low
Kurichikkara				Banks of KallaiThodu	Low
Madakkathara		Low (Kachat odu,Ana kutanga ra,N.Pul lamikad, Varikul ams,Pul lamkan dam)		Banks of KallaiThodu & Broad flat bottom valleys (Paddy fields) Chirakadavu, Pullanikod, Madakathara	Low
Vellanikkara				Broad flat bottom valleys (Paddy fields) Muppantheruvu, Vellamkara,	Low
Ollukkara		Low (Mullak ara,Mud ikkod,N .Kuttala)		Broad flat bottom valleys (Paddy fields) Kalathodu, Ollukara, Mannuthi, Mullakkara, Ayyappankavu	Low
Nettissery				Banks of KallaiThodu & Broad flat bottom valleys (Paddy fields) Nallankara, Nettisseri	Low
Perungavu				Banks of KallaiThodu & Broad flat bottom valleys (Paddy fields) Poravathani, Perungavu	Low
Thrissur				Broad flat bottom valleys (Paddy fields) Kokkala, Thrissur, S.Ponkunnam	Low
Punkunnam				Banks of KallaiThodu	Low
Vilvattam				Banks of KallaiThodu	Low
Viyur				Banks of KallaiThodu & Broad flat bottom valleys (Paddy fields) Viyur	Low

Kuttoor			Banks of KallaiThodu & Broad flat bottom valleys (Paddy fields) Pambur, Kuttur, Chamakadu	Low
Puzhakkal			Broad flat bottom valleys (Paddy fields) Ambalakkad, Puzhakkal, Churakkattukara	Low
Puranattukara			Broad flat bottom valleys (Paddy fields) Kol krishi development project filed	Low
Ayyanthole			Broad flat bottom valleys (Paddy fields) Ayyanthol, Kanattukara, Kol krishi development project filed	Low
Aranattukara			Banks of ChettuPuzhaCanal	Low
Pullazhi			Banks of ChettuPuzhaCanal & Broad flat bottom valleys (Paddy fields) Kol krishi development project filed	Low
Veluthur			Broad flat bottom valleys (Paddy fields) Vilakkumadam, Kaipili	Low
Manakkodi			Broad flat bottom valleys (Paddy fields) Manakodi, Kizhakkumpuram	Low
Kodannur			Broad flat bottom valleys (Paddy fields) Chakkiryakad, Vadakkumuri, Tamikkamunayam	Low
Pallipuram			Broad flat bottom valleys (Paddy fields) Pallipuram, E. Mullakkaa	Low
Paralom			Broad flat bottom valleys (Paddy fields) Parinjayam, Ammadam	Low
Cherpu			Broad flat bottom valleys (Paddy fields) Cherpu, Ceruchanam	Low
Oorakam			Banks of KaruvannurRiver & Broad flat bottom valleys (Paddy fields) Peruvanam	Low
Arattupuzha			Banks of KaruvannurRiver & Broad flat bottom valleys (Paddy fields) Palisseri	Low
Vallachira			Banks of KaruvannurRiver & Broad flat bottom valleys (Paddy fields) Cherusseri, Chattakulam	Low
Chovvur			Broad flat bottom valleys (Paddy fields) Perumpulisseri, Puchumpadam, Thiruvattakavu	Low
Palissery			Broad flat bottom valleys (Paddy fields) Palakkal, Cheruvatheri	Low
Venginissery			Broad flat bottom valleys (Paddy fields) Parakkad, Mampuzhakkal	Low
Kanimangalam			Broad flat bottom valleys (Paddy fields) Nedumpuzha, Panamukku	Low
Kurukkanchery			Broad flat bottom valleys (Paddy fields) Vadukara, Kurukkancheri	Low
Chiyyaram			Broad flat bottom valleys (Paddy fields) Chiyyam, Kannankulam, Valiyattukkal	Low
Avanissery			Broad flat bottom valleys (Paddy fields) Avanissery, Vattisseri, Perumcheri	Low
Edakkunni			Broad flat bottom valleys (Paddy fields) Taikkattusseri, Edakunni	Low
Marattakkara			Banks of ManaliRiver	Low
Ollur			Broad flat bottom valleys (Paddy fields) Kuttanallur, Ollur, Ancheri	Low
Nadathara			Banks of ManaliRiver & Broad flat bottom valleys (Paddy fields) Nadathara, Krishnapuram	Low
Puttur			Banks of ManaliRiver & Broad flat bottom valleys (Paddy fields) Vetukadu, Puthanakadu	Low
Mannamangalom			Banks of PullaThodu	Low
Kainoor			Banks of ManaliRiver	Low
Kozhikkully			Banks of ManaliRiver & Broad flat bottom valleys (Paddy fields) Kozhikkully	Low
Mulayam	Low (Nellani)		Banks of ManaliRiver & Broad flat bottom valleys (Paddy fields) Nellani, Ayyappankavu	Low

Peechi		Maraya kali)	High (Forest) Low (Manjak unnu, Th ekkekul am, Vell akartad am, Maji yan kara, Vallur)			Banks of Manali River & Broad flat bottom valleys (Paddy fields) Thekkumpadam, Idapalam	Moderate	<3	
Panancheri		High (Kurpat ukad, Forest) Low (N, Pattikad, Tap ipadam, Kombaz ha)				Banks of Manali River & Broad flat bottom valleys (Paddy fields) Paramchri, Chattankulam, Pattikkad, Ayavad	Moderate		
Valappad						Broad flat bottom valleys (Paddy fields) Valapad, Karimuttam, Muriyathodu, Kizhimbram	Low		
Nattika						Banks of Karanjira Puzha & Broad flat bottom valleys (Paddy fields) Nattika, Tripayar	Low		
Thalikkulam						Banks of Karanjira Puzha & Broad flat bottom valleys (Paddy fields) Thalikkulam	Low		
Vadanappilly		High with Seawall				Banks of Karanjira Puzha & Broad flat bottom valleys (Paddy fields) Vadanapilly, Thirunallur	Low		
Engandiyur		High with Seawall				Banks of Karanjira Puzha & Broad flat bottom valleys (Paddy fields) kundazhiyur, Engandiyur	Low		
Kundazhiyur						Banks of Karanjira Puzha & Broad flat bottom valleys (Paddy fields) Kundazhiyur	Low		
Venkidanggu						Banks of Karanjira Puzha & Broad flat bottom valleys (Paddy fields) Venkidangu, Enamavu	Low		
Irimbranallur						Banks of Karanjira Puzha & Broad flat bottom valleys (Paddy fields) Irimbranallur	Low		
Annakara						Banks of Alur Puzha & Broad flat bottom valleys (Paddy fields) Madhukara, Anakara, Penagami	Low		
CHAVAKKAD									

Elavally				Banks of AlurPuzha & Broad flat bottom valleys (Paddy fields) Parakkad, Elavalli, Vaga, Kadavallur, Peruvallur	Low
Brahmakulam				Broad flat bottom valleys (Paddy fields) Chittattukara, Puvathur, Kakkasser	Low
Mullassery				Broad flat bottom valleys (Paddy fields) Thirunellur, Mullasser, Changalai	Low
Vammenad				Banks of ChettuwaIPuzha	Low
Pavaratty				Banks of ChettuwaIPuzha & Broad flat bottom valleys (Paddy fields) Pavaratty	Low
Orumanayar				Banks of ChettuwaIPuzha & Broad flat bottom valleys (Paddy fields) Orumanayar, Elangad	Low
Kadappuram		High		Banks of ChettuwaIPuzha & Broad flat bottom valleys (Paddy fields) Erattapuzha, Made, Adithuruthi	Low
Manathala		High with Seawall		Banks of Conolly Canal & Broad flat bottom valleys (Paddy fields) Manathala, Thiruvatte	Low
Peragam				Broad flat bottom valleys (Paddy fields) Vazhapilli, Peragam, Kavidu	Low
Guruvayur				Banks of ChettuwaIPuzha & Broad flat bottom valleys (Paddy fields) Chavakkad, Guruvayoor	Low 3.6
Chavakkad				Banks of ChettuwaIPuzha & Broad flat bottom valleys (Paddy fields) Chavakkad, Paluvaya	Low
Thaikkad				Broad flat bottom valleys (Paddy fields) Nenmini, Taikkad, Chavallurpadi	Low
Iringappuram				Broad flat bottom valleys (Paddy fields) Chulapuram, Iringsapuram, Tiruvenkidam	Low
Pookode				Broad flat bottom valleys (Paddy fields) Kappur, Thozhiyur, Pukkode, Pilakkad	Low
Vailathur				Broad flat bottom valleys (Paddy fields) Nenminikkad, Vailathur	Low
Edakkazhiyur				Banks of Conolly Canal & Broad flat bottom valleys (Paddy fields) Edakkazhiyur, Koranjyur	Low
Punnayar				Banks of Conolly Canal & Broad flat bottom valleys (Paddy fields) Edakkara, Punjyur	Low
Vadakkkekad				Broad flat bottom valleys (Paddy fields) Kochannur, kallur, Vadakkkekad, Thiruvalayannur	Moderate
Kadikkad		Low		Banks of Conolly Canal & Broad flat bottom valleys (Paddy fields) Edakkara, Nakkola, Cheruvaya, Kadikkad	Moderate
Punnayurkulam				Banks of ViyyamKayal & Broad flat bottom valleys (Paddy fields) Uppungal, Parur, Chemmannur	Moderate
Kadavallur				Broad flat bottom valleys (Paddy fields) Korattikara, Kolancheri, Kadavallur, Kallumpuram	Moderate
Karikkad				Broad flat bottom valleys (Paddy fields) Poravur, Kotul, Pattimuri, Karikkad	Moderate
Perumpilavu				Broad flat bottom valleys (Paddy fields) Perumpilavu, Thippilisseri	Moderate

TALAPILLI

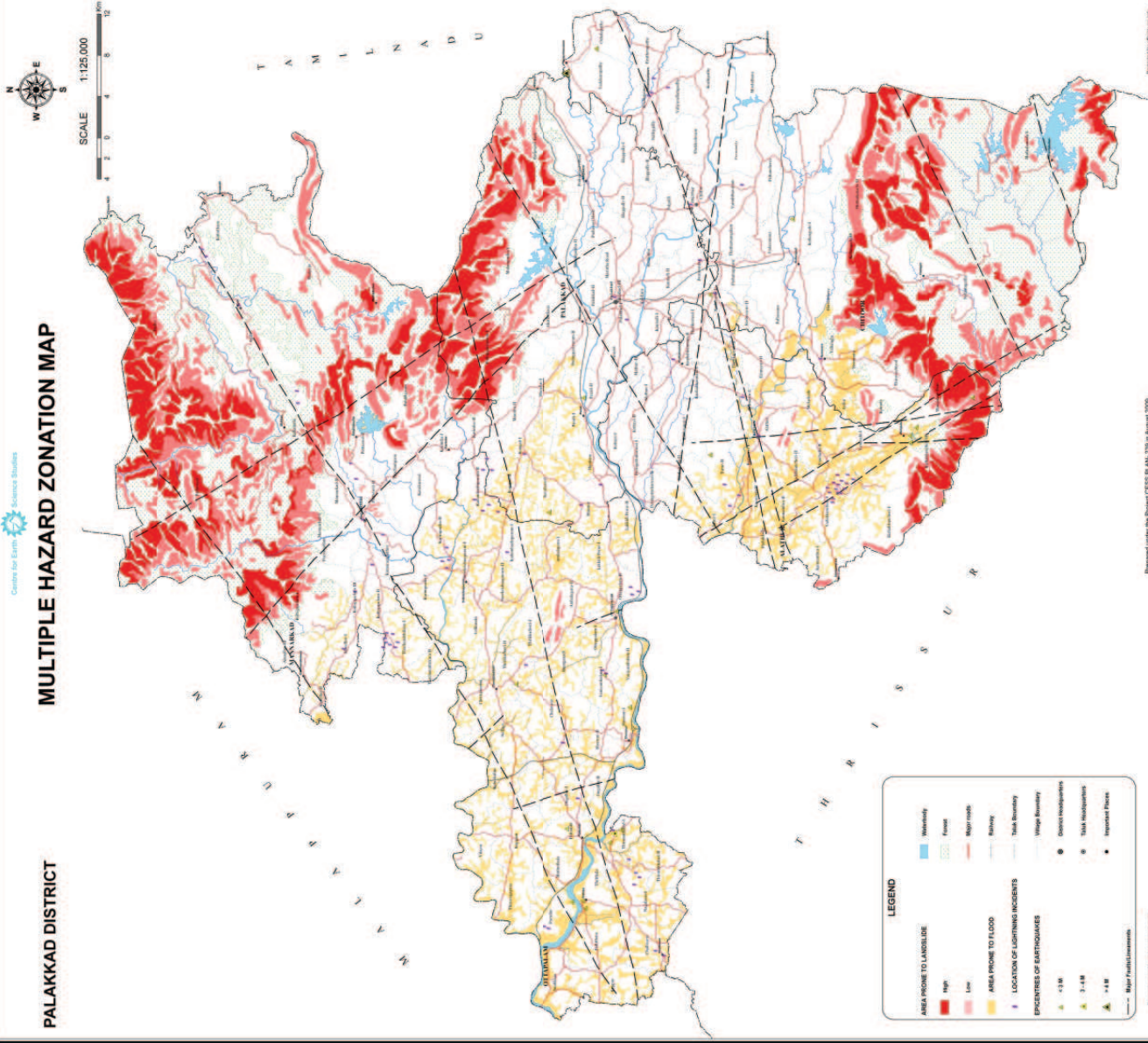
Kadangodu				Broad flat bottom valleys (Paddy fields) Kodungod	Low
Thichur				Broad flat bottom valleys (Paddy fields) Thichur, Pallipadam, Thali, Chelur	Low
Arangottukara				Broad flat bottom valleys (Paddy fields) Arangottukara	Low
Pallur				Banks of BharataPuzha	Low
Desamangalom				Banks of BharataPuzha	Low
					<3, 2.8
Thalassery				Broad flat bottom valleys (Paddy fields) Thalassery	Low
Pilakkad				Broad flat bottom valleys (Paddy fields) Kadukkasseri, Pilakkad	Low
Varavoor				Broad flat bottom valleys (Paddy fields) Varavur, Kumaranapur	Low
Nedumpura				Banks of BharataPuzha & Broad flat bottom valleys (Paddy fields) Nedumpura, Vettikkathiri	Low
Cheruthuruthi				Banks of BharataPuzha	Low
Painkulam				Banks of BharataPuzha	Low
Mayannur				Banks of BharataPuzha	Low
Kaniyarakode				Banks of BharataPuzha & GayathriPuzha	Low
Pampady				Banks of BharataPuzha	Low
Thiruvilwamala				Banks of GayathriPuzha & Broad flat bottom valleys (Paddy fields) Mallesamangalam, Kuttianchira, Eravatodi	Low
Vadakkethara				Banks of GayathriPuzha & Broad flat bottom valleys (Paddy fields) Kadattur	Low
Kondazhy				Banks of GayathriPuzha & Broad flat bottom valleys (Paddy fields) Vazhadu	Low
Chelakkode				Broad flat bottom valleys (Paddy fields) Chelakkod	Low
Venganellur				Banks of GayathriPuzha & Broad flat bottom valleys (Paddy fields) Vengallur, Parakkad, Meppadam	Low
Killimangalam				Broad flat bottom valleys (Paddy fields) Udayadi, Killimangalam	Low
Panjai				Broad flat bottom valleys (Paddy fields) Cheronganam, Panjai, E. Vettikkathiri	Low
Attur				Broad flat bottom valleys (Paddy fields) Manaladi, Attur	Low
Mullurkara				Broad flat bottom valleys (Paddy fields) Karakkod Mullakara, Kanjirasseri	Low
Kanjirakkode				Broad flat bottom valleys (Paddy fields) Kanjirakkod	Low
Chittanda				Banks of VadakkancheriPuzha & Broad flat bottom valleys (Paddy fields) Chittanda	Low
Kottapuroom				Banks of VadakkancheriPuzha & Broad flat bottom valleys (Paddy fields) Mangad,	Low

Nelluwaye						N.Putturuthy Banks of VadakkancheriPuzha & Broad flat bottom valleys (Paddy fields) Muringatteri, Kuttancheri		Low	
Kariyannur						Banks of VadakkancheriPuzha & Broad flat bottom valleys (Paddy fields) Pazhiyattumuri, Mandanparambu		Low	<3, <3,3
Vellarakkad						Broad flat bottom valleys (Paddy fields) Nindur, Velliheri, Vellarakad		Low	
Chiramanangad						Broad flat bottom valleys (Paddy fields) Chiramangad, Pannithadam,		Low	
Akathiyoor						Broad flat bottom valleys (Paddy fields) Akathiyur, Akkikavu		Moderat e	
Porkulam						Broad flat bottom valleys (Paddy fields) Konganur, Porkulam		Moderat e	
Pazhanji						Broad flat bottom valleys (Paddy fields) Perumthuruthi, Cheruthuruthi Panji		Moderat e	
Kattakampal						Broad flat bottom valleys (Paddy fields) Katakampala, Cherayakkad, Chirakkal,		Moderat e	
Mangad						Broad flat bottom valleys (Paddy fields) Muttuvammal, Mangad, Kanjirattinkal		Moderat e	
Anjur						Broad flat bottom valleys (Paddy fields) Vaduthala, Cheruvathani		Moderat e	
Kunnamkulam						Broad flat bottom valleys (Paddy fields) Kunnamkulam, Tiruthikkad, Kizhur, Chiralayam		Low	>3
Arthat						Broad flat bottom valleys (Paddy fields) Chittanjur, Arthat, Chemmanur		Low	
Kandanassery						Broad flat bottom valleys (Paddy fields) Kandanasseri, Chowallur, Ariyannur		Low	
Kanaipayyur						Broad flat bottom valleys (Paddy fields) Porkalangad, Kanaipayyur		Low	
Chowannur						Broad flat bottom valleys (Paddy fields) Kavanamchittur, Chowannur, Panthallur, Maruthankod		Low	
Eyyal						Banks of VadakkancheriPuzha		Low	
Chemmanthatta						Broad flat bottom valleys (Paddy fields) Putusseri Puzhunnana, Chemmanthatta		Low	
Choondal						Banks of VadakkancheriPuzha & ChundalThodu		Low	
Alur						Banks of VadakkancheriPuzha & Broad flat bottom valleys (Paddy fields) Mattom Vettukad, Alur		Low	
Eranellur						Banks of VadakkancheriPuzha & Broad flat bottom valleys (Paddy fields) Mazhuvancheri		Low	
Chiranellur						Banks of VadakkancheriPuzha & Broad flat bottom valleys (Paddy fields) Chiranallur, Manali,		Low	
Vellattanjur						Banks of VadakkancheriPuzha		Low	
Thayyur						Banks of VadakkancheriPuzha		Low	
Velur						Broad flat bottom valleys (Paddy fields) Velur, Kurumal, Talikkottukara		Low	
Kiralur						Broad flat bottom valleys (Paddy fields) Kiralur		Low	
Mundathikode						Broad flat bottom valleys (Paddy fields) Mundathikod		Low	

Peringandoor			Broad flat bottom valleys (Paddy fields) Ambalapuram, Peringandor	Low
Minalur			Broad flat bottom valleys (Paddy fields) Minalur, Attani	Low
Parlikkad			Broad flat bottom valleys (Paddy fields) Parlikkad	Low
Puthuruthy			Broad flat bottom valleys (Paddy fields) Puduthuruthi	Low
Vadakkanchery			Banks of VadakkancheriPuzha	Low
Kumaranallur			Banks of VadakkancheriPuzha	Low
Enkakkad			Banks of VadakkancheriPuzha & Broad flat bottom valleys (Paddy fields) Ottupara, Enkakkad	Low
Thekkunkara			Banks of VadakkancheriPuzha	Low
Karumathra			Banks of VadakkancheriPuzha	Low
Viruppakka			Banks of VadakkancheriPuzha & Broad flat bottom valleys (Paddy fields) Vazhani, Virupaka	Low
Manalithara	High (Forest) Low (Palaya mpada m, W.Ka llapara, Mellila m)		Broad flat bottom valleys (Paddy fields) Manalithara, Punnamparambu	Low
Pangarappilly			Broad flat bottom valleys (Paddy fields) Pangarappilly, Malampadam, Kallapara	Low
Kurumala			Broad flat bottom valleys (Paddy fields) Vattoli, Kurumala	Low
Thonnurkara			Broad flat bottom valleys (Paddy fields) Thonnurkara	Low
Chelakkara			Broad flat bottom valleys (Paddy fields) Kolathur, Chelakkara	Low
Pulakkode			Broad flat bottom valleys (Paddy fields) Adaikod, Pulakod	Low
Pazhayanur			Banks of GayathriPuzha, MangalamPuzha & Broad flat bottom valleys (Paddy fields) Kakarchola, Pota, Pazhayannur	Low
Vennur			Broad flat bottom valleys (Paddy fields) Vattapara, Vennur	Low
Elanad			Broad flat bottom valleys (Paddy fields) Thrikkad, Elanad, Poruttippa, Adicharal	Moderate

PALAKKAD DISTRICT

MULTIPLE HAZARD ZONATION MAP



LEGEND

AREA PRONE TO LANDSLIDE

- High
- Low

AREA PRONE TO FLOOD

-

LOCATION OF LIGHTNING INCIDENTS

- +1.3k
- 7-14k
- +14k

EXPERIENCES OF EARTHQUAKES

-

Other Features

- Boundary
- Forest
- Roadroads
- Railway
- Talk Boundary
- Village Boundary
- Control Headquarters
- Talk Headquarters
- Important Places

Map Palakkad District

Prepared under the Project CEES/PLAN/239 in August 2009

Natural hazards in Idukki district- Taluk wise

Taluk	Flood		Landslide		Total
	Area Km ²	Area %	Area Km ²	Area %	
Ottumaram	194.7	23.0	2.1	0.3	
Manjeri	89.1	7.4	133.7	12.8	191.0
Alathur	107.7	18.9	32.1	5.6	184.0
Chittoor	78.1	6.8	82.7	7.2	104.2
Total	567.2	12.7	324.6	7.2	366.9

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NATURAL HAZARD ZONATION MAP - PALAKKAD DISTRICT

TALUK	VILLAGE	LANDS LIIDE	COASTAL EROSION	FLOODS	LIGHTNING	EARTHQUAKE (Magnitude)
CHITTUR	Vadakarapathy			Banks of Varattar Puzha & KummattiPatti River	Low	<3
	Ozhalapathy			Banks of Varattar Puzha & KummattiPatti River	Low	6
	Eruthiapathy			Banks of Korayar River & KummattiPatti River	Low	
	Kozhipathy			Banks of Korayar River & Chittur Puzha	Low	
	Valiyavallampadhy			Banks of Korayar River & Broad flat bottom valleys (Paddy fields) Valara	Low	
	Kozhinjampara			Banks of Korayar River	Low	
	Nalleppilly			Banks of Vandi thode	Low	
	Thathamangalam			Banks of Chittur Puzha & Broad flat bottom valleys (Paddy fields) Karuppali, Pilapulli	Low	
	Moolathara			Banks of Chittur Puzha	Low	
	Chittur			Banks of Chittur Puzha	Low	
	Perumatty			Banks of Chittur Puzha	Low	
	Thekkedesam			Banks of Chittur Puzha	Low	
	Pattancherry			Broad flat bottom valleys (Paddy fields) Pattincheri	Low	
	Vandithavalam			Banks of Chittur Puzha	Low	
	Koduvayur-I			Broad flat bottom valleys (Paddy fields) Koduvayur, Marutarad	Low	
	Koduvayur-II			Banks of Kakkayar thode	Low	
	Muthalamada-I	High (Forest) Low (Chappajkkad)		Banks of Gayatripuzha & Minkara Puzha	Low	
	Muthalamada-II	High (Palakap and Estate, Karimala Estate, Forest) Low (Anamed Estate)		Banks of Gayatripuzha	Low	
	Pallassana			Banks of GayatriPuzha & Broad flat bottom valleys (Paddy fields)	Low	

Kollangode-I									Low
Vadavannur									Low
Kollangode-II									Low
Elavanchery									Low
Pudunagaram									Low
Nemmara									Low
Vallangi									Low
Kairady									Low
Nelliampathy									Low
									<3

		ate, Fores t)				
ALATHUR	Thiruvazhiyod				Banks of VandazhiPuzha & AyiloorPuzha & Broad flat bottom valleys (Paddy fields) Chettikolambu	Low
	Ayloor				Banks of AyiloorPuzha & Broad flat bottom valleys (Paddy fields) Tiranjakkode	Low
	Kottayi-I				Banks of Bharathapuzha	Low
	Kottayi-II				Banks of Vadakke thodu & Broad flat bottom valleys (Paddy fields) Kariyankod	Low
	Mathur-I				Banks of Vadakke thodu	Low
	Mathur-II				Banks of KannadiAr & Vadakke thodu	Low
	Thenkurussi -I				Broad flat bottom valleys (Paddy fields)Elamannam, Thenkurussi	Low
	Thenkurussi -II				Banks of Manjalur thodu	Low
	Kuzhalmannam-I				Banks of Vadakke thodu & Thekke thodu	Low
	Kuzhalmannam-II				Banks of Vadakke thodu & Thekke thodu	Low
	Kuthanur-I				Banks of Vadakke thodu & Thekke thodu	Low
	Kuthanur-II				Banks of Vadakke thodu & Thekke thodu	Low
	Peringottukurussi-I				Banks of Vadakke thodu	Low
	Peringottukurussi-II				Banks of Bharathapuzha, Vadakke thodu & Broad flat bottom valleys (Paddy fields) Chulannur	Low
	Tarur-I				Banks of Gayatripuzha	Low
	Tarur-II				Banks of Gayatripuzha	Low
	Erumayr-I				Banks of Gayatripuzha & Banks of Manjalur thodu	Low
	Erumayr-II				Banks of Gayatripuzha	Low
	Melarkode	Low (Kottakulam Mala)			Banks of Gayatripuzha & AyalurPuzha	Low
	Alathur	Low (Vizhu Mala)			Banks of Gayatripuzha	Low
	Kavasseri-I				Banks of Gayatripuzha	Low
	Kavasseri-II				Banks of Gayatripuzha & MangalamPuzha	Low
	Pudukkode				Banks of MangalamPuzha & Broad flat bottom valleys (Paddy fields) Manapadam, Tachanodi, Talikkod	Low
	Kannambra-I	Low (Manimala Estate)			Broad flat bottom valleys (Paddy fields) Kannambra, Puthur	Low
	Kannambra-II				Banks of MangalamPuzha	Low
	Vadakkamchery-I				Banks of MangalamPuzha	Moderat

PALAKKAD	Vedakkanchery-II	Low (Vizhu Mala)		Banks of MangalamPuzha				Moderate
	Vandazhi-I			Banks of CherukunnuPuzha & Vandazhi Puzha				
	Vandazhi-II			Banks of MangalamPuzha & Ayilur Puzha				
	Kizhakkanchery-I	High (Forest) Low (Kuttana dEstate, Goolfoa mEstate)		Banks of CherukunnuPuzha				0.8
	Kizhakkanchery-II	High (Forest) Low (Kadapa ng, Odam thodEstate)		Banks of CherukunnuPuzha				Moderate
	Mangalam Dam	High (Forest) Low (Odamth odEstate)						1.1, 1.1
	Mannar							
	Mankara			Banks of Mucheri thode & Broad flat bottom valleys (Paddy fields) W Mankara,				Low
	Keralaserri			Banks of Bharathapuzha & Broad flat bottom valleys (Paddy fields) Mankurussi				Low
	Kongad-I			Banks of Mucheri thode				Low
	Kongad-II			Banks of Puliampalli thodu, Mucheri thodu				Low
				Banks of Mucheri thodu & Broad flat bottom valleys (Paddy fields)				Low
	Mundur-I			Trippalamunda, Peringad				
	Mundur-II			Broad flat bottom valleys (Paddy fields) Mundur				Low
	Parli-I			Banks of Puliampalli thodu				Low
	Parli-II			Banks of Bharathapuzha				Low
	Akathethara	Low (Kazhuk othi Mala)		Banks of Bharathapuzha, KannadiAr & KalpathiPuzha				Low
	Putuppariyaram-I	High		Banks of KalpathiPuzha				Low
			Broad flat bottom valleys (Paddy fields) Nochipulli				Low	

		(Forest) Low (Kumba Mala)				
Puduppariyaram-II				Banks of KalpathiPuzha & Erivari Thodu		Low
Pirayiri				Banks of KannadiAr & KalpathiPuzha		Low
Palakkad-I				Banks of KannadiAr & KalpathiPuzha		Low
Palakkad-II				Banks of KalpathiPuzha		Low
Palakkad-III				Banks of KannadiAr		Low
Kannadi-I				Banks of KannadiAr & Vadakke thodu		Low
Kannadi-II				Banks of KannadiAr		Low
Yakkara				Banks of KannadiAr		Low
Peruvembu				Banks of KannadiAr & Broad flat bottom valleys (Paddy fields) N.Pudunagaram, Tannisseri		Low
Kodumbu				Banks of KannadiAr & Vandi Thodu		Low
Marutha Road				Broad flat bottom valleys (Paddy fields) Kalmandapom, Kallepulli		Low
Malampuzha-I		High (Kalliyar aEstate, E lakEstate , Forest) Low (Andazhi , Elival, N ettuveng ai, Forest)				
Malampuzha-II				Banks of MalamPuzha & Koraiyar River		Low
Pudusseri East		High (Forest)		Banks of ValayarRiver		Low
Pudusseri Central				Banks of Koraiyar River & ValayarRiver		Low
Pudusseri West				Banks of Koraiyar River & Broad flat bottom valleys (Paddy fields) Kollepulikkalam, Pudusseri		Low
Elappully-I				Banks of Koraiyar River & Vandi Thodu		Low
Elappully-II				Banks of Koraiyar River & Vandi Thodu		Low
Elappully-III				Banks of Koraiyar River, Vandi Thodu & Broad flat bottom valleys (Paddy fields) Ramasseri		Low
Polpulli				Banks of Vandi Thodu & Kannadi River		Low
Anakkara				Banks of Bharathapuzha		Low
Kappur				Broad flat bottom valleys (Paddy fields) Vellaloor, Kumaranallur, Edavakkad,		Moderat

				Kappur, Kollannoor	e	
Challasseri				Broad flat bottom valleys (Paddy fields) Kanjirakodu, Pattisseri, Perumannur, Chalisseri, Kunnatheri	Moderate	
Nagalasseri				Broad flat bottom valleys (Paddy fields) Chalapuram, VadakkeVavannur, Tazhukkod, Nativankod, Pilakkuthiri, Nagalasseri, Kottachira, Peringod	Moderate	
Pattithara				Banks of Bharathapuzha	Low	
Parudur				Banks of Bharathapuzha & Tuthapuzha	Low	
Thrihala				Banks of Bharathapuzha	Low	1.6, 1.6
Thirumittakod-I				Banks of Bharathapuzha	Low	1.7, 2.3, 3.6
Thirumittakod-II				Broad flat bottom valleys (Paddy fields) Chazhiyathiri, Chattanur, Mattupulli, Karukapatpur, Ozhuvathara	Low	
Pattambi				Banks of Bharathapuzha & Broad flat bottom valleys (Paddy fields) Vallur, Amayur	Low	2
Muthuthala				Banks of Bharathapuzha & Muthuthala thodu	Low	
Thiruvegapura				Banks of Tuthapuzha & Vilathur thodu	Low	
Vilayur				Banks of Tuthapuzha	Low	
Koppam				Broad flat bottom valleys (Paddy fields) Amayur, Melmuri, Kizhumuri	Low	
Ongallur-I				Broad flat bottom valleys (Paddy fields) Ongallur, Tandiyannur	Low	
Ongallur-II				Banks of Bharathapuzha	Low	
Kulukkallur				Banks of Tuthapuzha	Low	
Vallapuzha				Broad flat bottom valleys (Paddy fields) Cherukod, Vallapuzha	Low	
Shornur-I				Banks of Bharathapuzha	Low	
Shornur-II				Banks of Bharathapuzha & Vallapuzha thodu	Low	
Chalavara				Broad flat bottom valleys (Paddy fields) Chalavara, Mundakkattukurissi,	Low	
Nellaya				Banks of Tuthapuzha & Broad flat bottom valleys (Paddy fields) Irimbalasseri, Ezhuvanahala	Low	
Cheruplasseri				Banks of Tuthapuzha & Broad flat bottom valleys (Paddy fields) Cheruplasseri, Panniyamkurissi	Low	
Thrikkadeeri-I		Low (Kunan Mala)		Broad flat bottom valleys (Paddy fields) Okizhur, Munnurkod	Low	
Thrikkadeeri-II				Broad flat bottom valleys (Paddy fields) Pudakkad, Karattusseri	Low	
Ananganadi		Low (Anangar Mala)		Broad flat bottom valleys (Paddy fields) Mundanattukara, Pathamkulam	Low	
Vaniyamkulam-I				Broad flat bottom valleys (Paddy fields) Kunnathara, Panayur	Low	1.6
Vaniyamkulam-II				Banks of Bharathapuzha	Low	
Ottappalam-I				Banks of Bharathapuzha & Broad flat bottom valleys (Paddy fields) Tottukara	Low	
Ottappalam-II				Banks of Bharathapuzha & Mulanur thodu	Low	1.6

Ambalapara-I							Banks of Mulamnur thodu & Mucheri thodu		Low
Ambalapara-II		Low (Anangar Mala)					Banks of Mulamnur thodu & Tirundi thodu		Low
Lakkidi Perur-I							Banks of Mulamnur thodu		Low
Lakkidi Perur-II							Banks of Bharathapuzha		Low
Sreekrishnapuram-I							Banks of Tuthapuzha		Low
Sreekrishnapuram-II							Broad flat bottom valleys (Paddy fields) Kadamanna, Tanaykal, Tanikunnu		Low
Kadambazhipuram-I							Broad flat bottom valleys (Paddy fields) Nilamangalam, Kadambazhipuram, Alangad		Low
Kadambazhipuram-II							Banks of Tuppenac puzha & Broad flat bottom valleys (Paddy fields) Pullundasseri, Pulapatta		Moderate
Karimpuzha-I							Banks of Tuthapuzha & Kunthipuzha		Moderate
Karimpuzha-II							Banks of Tuthapuzha, Kanhirapuzha & Tuppenac puzha		Moderate
Vellinezhi							Banks of Tuthapuzha & Broad flat bottom valleys (Paddy fields) Pakaravur, Glanakurissi, Tirunarayanapuram		
Alanelur-I							Banks of Velli Ar		Moderate
Alanelur-II							Banks of Velli Ar		Moderate
Alanelur-III		High (Forest)					Banks of Velli Ar		Moderate
Thachanattukara-I							Banks of Tuthapuzha & Broad flat bottom valleys (Paddy fields) Nattukal, Attassei		Moderate
Thachanattukara-II							Banks of Tuthapuzha		Low
Kottappadam-I		High (Forest) Low Thiruvaz hamkunu					Banks of Palakazhi Puzha & Meleriyam thodu		Low
Kottoppadam-II		High (Forest) Low (Potuvap adam)					Banks of Ariyur thodu & Broad flat bottom valleys (Paddy fields) Bhimnad, Kottapadam		Low
MANNARKAD									

Kottoppadam-III			Banks of Ariyur thodu & Broad flat bottom valleys (Paddy fields) Ariyur, Vasseipuram	Low
Payyanadam	High (Forest)		Banks of KunthiPuzha	Low
Kumaramputhur			Banks of KunthiPuzha, NelliPuzha & Broad flat bottom valleys (Paddy fields) Kumaramputur, Valluvampuzha	Low
Mannarkad-I	High (Forest) Low (Tattangalam)		Banks of KunthiPuzha & NelliPuzha	Low
Mannarkad-II			Banks of NelliPuzha & Broad flat bottom valleys (Paddy fields) Cherukulam, Thenkara	Low
Pottasseri-I	Low (Imbakac hola)		Banks of KanjiraPuzha & NelliPuzha	Low
Pottasseri-II			Banks of KanjiraPuzha & NelliPuzha	Low
Thachampara			Banks of KanjiraPuzha	Low
Karakurussi			Banks of KanjiraPuzha & ThuppanadPuzha	Moderate
Karimba-I	Low (PozhikunnuMala)		& Broad flat bottom valleys (Paddy fields) Karimba, Edakurussi	Moderate
Karimba-II	High (KalladikodMala)		Banks of ThuppanadPuzha & Puliampalli thodu	Low
Palakkayam	High (Palakka yam, Kanjirapuzha, Kundampetti, Forest) Low (Injikunnu, Forest)			Low
Kallamala	High (Chunda)			Low

	Sholayur	High (Forest) Low (Ganjiyola, Surinjola, Malavaram, Estate)		Low	
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NATURAL HAZARD ZONATION MAP - MALAPPURAM DISTRICT

TALUK	VILLAGE	LAND SLIDE	COASTAL EROSION	FLOODS	LIGHTNING	EARTHQUAKE (Magnitude)
PONNANI	Perumbadappu		Low	Banks of ViyyamKayal & Broad flat bottom valleys (Paddy fields) Kodathur, Ralapetti	Low	
	Veliyamkod		Low	Banks of ViyyamKayal, Kanjiramukku Puzha & Broad flat bottom valleys (Paddy fields) Pazhrji, Gramam, Maracheri	Moderate	
	Ponnani Nagaram		Low & High with Seawall	Banks of BharathaPuzha & Kanjiramukku Puzha	Low	
	Izhuvattirutti			Banks of BharathaPuzha & Kanjiramukku Puzha	Low	
	Kalady			Banks of BharathaPuzha	Moderate	
	Tavanur			Banks of BharathaPuzha & Broad flat bottom valleys (Paddy fields) Kallur, Kodancheri	Low	
	Vattamkulam			Broad flat bottom valleys (Paddy fields) Kavupra, Melmuri, Mudur, Naduvattom, Kuttipala	Moderate	<3
	Edappal			Banks of ViyyamKayal & Broad flat bottom valleys (Paddy fields) Edappal, Palakkara, Pukkarattara, Kollambu	Moderate	
	Maranjeri			Banks of Kanjiramukku Puzha, ViyyamKayal & Broad flat bottom valleys (Paddy fields) Parichgam, Marancheri	Low	
	Nannamukku			Banks of ViyyamKayal	Moderate	
	Alamkod			Broad flat bottom valleys (Paddy fields) Nellasserikara, Pandavar, Kakkidapuram	Moderate	
	TIRUR	Purathur		High with Seawall	Banks of BharathaPuzha & Tirur Puzha	Low
Mangalam				Banks of Tirur Puzha & Broad flat bottom valleys (Paddy fields) Chennai, Valamaruthur	Low	
Thriprangode				Banks of BharathaPuzha	Low	
Talakkad				Banks of Tirur Puzha & VellilaPuzha	Moderate	
Vettam				Banks of Tirur Puzha & Broad flat bottom valleys (Paddy fields) Vettam,	Moderate	

					Pachathiri, Kanur	e
Trikkandiyur					Banks of Tirur Puzha & VellilaPuzha	Moderat e
Tirur					Banks of Tirur Puzha	Moderat e
Niramaruthur					Broad flat bottom valleys (Paddy fields) Thmarakavu, Pattampad, Korangettur	Low
Tanalur					Broad flat bottom valleys (Paddy fields) Kerladiswarapuram, Tanalur,Parakka	Moderat e
Tanur					Broad flat bottom valleys (Paddy fields) Edakkadapuram, Rayirimangalam	Low
Pariyapuram					Banks of Puraparamba River & Broad flat bottom valleys (Paddy fields) Panangathur, Payiripuram	Moderat e
Ozhur					Broad flat bottom valleys (Paddy fields) Omachchampuruzha, Ozhur	Low
Perumanna					Broad flat bottom valleys (Paddy fields) Perumanna, Klari	Low
Ponmundam					Broad flat bottom valleys (Paddy fields) Kuttipala, Ponmundam, Chilavil	Moderat e
Cheriyamundam					Banks of Tirur Puzha	Moderat e
Valavannur					Broad flat bottom valleys (Paddy fields) Karimannom, Nallaparamba, Cheruvannur	Moderat e
Thirunnavaya					Banks of BharathaPuzha	Moderat e
Naduvattam					Banks of BharathaPuzha	Low
Kuttippuram					Banks of BharathaPuzha	Low
Irimbilyam					Banks of BharathaPuzha & TuthaPuzha	Low
Edayur					Broad flat bottom valleys (Paddy fields) Vadakumbra, Attipatta, Pukkatteri	Moderat e
Kattipparuthi					Broad flat bottom valleys (Paddy fields) Valancheri, Kattipparuthi, Tazhuvannur	Moderat e
Athavanad					Broad flat bottom valleys (Paddy fields) Athavanad	Moderat e
Ananthavur					Broad flat bottom valleys (Paddy fields) Valiyaparappur, Kaladithara	Moderat e
Kurumbathur					Broad flat bottom valleys (Paddy fields) Edasserri	Moderat e
Kalpakancheri					Broad flat bottom valleys (Paddy fields) Thozhanur	Moderat e
Marakkara					Broad flat bottom valleys (Paddy fields) Murkkanad, Erkara	Moderat e
Kottakkal					Broad flat bottom valleys (Paddy fields) Kottakkal,Indyanur, Kuttipuram	Moderat e

TIRURANGADI								
Ponmala						Banks of KadaludiPuzha & Broad flat bottom valleys (Paddy fields) Talakappu, Mannazhi, Chengottur	e	Moderat e
Melmuri						Broad flat bottom valleys (Paddy fields) Karekkad, Melmuri	e	Moderat e
Parappanangadi						Banks of Puraparamba River	e	Moderat e
Neduva					High with Seawall	Banks of Puraparamba River & KadaludiPuzha	e	Moderat e
Ariyallur					Low & High with Seawall	Banks of KadaludiPuzha		Low
Vallikunnu					High with Seawall	Banks of KadaludiPuzha	e	Moderat e <3
Chelembra						Banks of KadaludiPuzha & ChaliyamPuzha	e	Moderat e
Pallikkal						Broad flat bottom valleys (Paddy fields) Kaipur, Puthur, Vellara, Vennayur	e	Moderat e
Tenjippalam						Banks of KadaludiPuzha & Broad flat bottom valleys (Paddy fields) Thenjippalam	e	Moderat e
Munniyur						Banks of KadaludiPuzha	e	Moderat e
Tirurangadi						Banks of KadaludiPuzha, Puraparamba River & Broad flat bottom valleys (Paddy fields) Venniur, Tirurangadi	e	Moderat e
Nannambra						Broad flat bottom valleys (Paddy fields) Kodinni, Kundur, Nannambra	e	Moderat e
Thennala						Banks of KadaludiPuzha & Broad flat bottom valleys (Paddy fields) Edarikkod, Kundur	e	Moderat e
Parappur						Banks of KadaludiPuzha	e	Moderat e
Vengara						Banks of KadaludiPuzha	e	Moderat e
Koduvayur						Banks of KadaludiPuzha & Broad flat bottom valleys (Paddy fields) Enavur		Low
Peruvallur						Broad flat bottom valleys (Paddy fields) Enavur, Peruvelloor, Kayappa, Puthur		Low
Kannamangalam					Low (Puttadi Mala)			Low
Urakam					Low	Banks of KadaludiPuzha		Moderat e

ERNAD		(Urage mMel muri)							e
	Othukungal					Banks of KadaludiPuzha			Moderat e
	Vazhakkad		Low (S.Che ruvatur)			Banks of ChaliyarRiver			Moderat e
	Vazhayur					Banks of ChaliyarRiver			Moderat e
	Cherikavu					Broad flat bottom valleys (Paddy fields) Chevayur,Perigad, Puthupadam			Moderat e
	Pullikkal		Low (Olava tturKu nnu)			Broad flat bottom valleys (Paddy fields) Olavattur,Muttayur, Pullikkal			Low
	Chikkod		Low (Oman urMala)			Banks of ChaliyarRiver			Moderat e
	Muthuvallur					Banks of Ponkudithodu			Moderat e
	Kondotti					Banks of KondottiThodu			Low
	Nediyiruppu		High (Puttad iMala) Low (Arimb raMala)			Banks of KondottiThodu			Moderat e
	Kuzhimanna		Low (Mund akkal Mala)			Banks of Ponkudithodu			Low
	Pulpatta					Banks of Ponkudithodu			Low
	Morayur		High (Arimr a Kunnu						Moderat e

Pukkottur)			Banks of ValiyaThodu	Moderate
Melmuri	Low (W.Me Imuri)			Banks of ValiyaThodu	Moderate
Panakkad				Banks of KadaludiPuzha & ValiyaThodu	Moderate
Malappuram				Banks of KadaludiPuzha	Moderate
Anakkayam				Banks of KadaludiPuzha & Broad flat bottom valleys (Paddy fields) Vangallur, Vakkathodi	Moderate
Pandalur	High (PandalurMalala)			Banks of KadaludiPuzha	Low
Payyanad				Banks of KadaludiPuzha	Low
Manjeri				Banks of KadaludiPuzha & Broad flat bottom valleys (Paddy fields) Minjeri, Vakkathodi	Moderate
Narukara				Banks of PonkudiThodu	Moderate
Trikkalangod				Broad flat bottom valleys (Paddy fields) Thrikkalangad, Karikkad	Moderate
Kavanur				Banks of ChaliyarRiver & Broad flat bottom valleys (Paddy fields) Iretti, Kavanur, Muttannur, Elayur	Moderate
Arikkode				Banks of ChaliyarRiver & PonkudiThodu	Moderate
Keezhuparambe				Banks of ChaliyarRiver	Moderate <3
Uoornattiri	Low (Mullakkattu Mala)			Banks of ChaliyarRiver, Kailanthodu & Broad flat bottom valleys (Paddy fields) Uoornathiri	Moderate
Vetilappara	High (Kundolli, E. Chundattupai, Forest)				Low

				Banks of ChaliyarRiver,PerakamannaThodu & KaylaniThodu	Moderate
Perakamanna	High (Koliparamala) Low (Palliparamala)				
Edavanna	High (Koliparamala) Low (N.Othai,Edavana)			Banks of ChaliyarRiver & PerakamannaThodu	Moderate
Karakunnu				Banks of PerakamannaThodu	Moderate
Elankur				Banks of KakkaThodu & EraniThodu	Low
Vettikkattiri				Banks of KadalundiRiver & KakkaThodu	Moderate
Pandikkad				Banks of Oli Puzha & Broad flat bottom valleys (Paddy fields) Pulamanna, Kalaparambu, Pandikkad	Moderate
Chembrasser				Banks of KakkaThodu & Broad flat bottom valleys (Paddy fields) Chembrasser, Kodasser	Moderate
Koottiangadi				Banks of KadalundiRiver, MankadaThodu & CheriyaPuzha	Moderate
Kodur				Banks of KadalundiRiver & Broad flat bottom valleys (Paddy fields) Palamallor, Kodoor	Low
Kuruva				Banks of KadalundiRiver ,CheriyaPuzha & Broad flat bottom valleys (Paddy fields) Pangu, Chengottur, Vattalur,	Moderate
Vadakkangara				Banks of CheriyaPuzha & Broad flat bottom valleys (Paddy fields) Vadakkangara	Moderate
Puzhakkattiri				Banks of CheriyaPuzha & Broad flat bottom valleys (Paddy fields) Kadangapuram, Puzhakkattiri, Kottuvad	Moderate
Moorkanad				Banks of TuthaPuzha & Broad flat bottom valleys (Paddy fields) Kulathur, Vengad	Low
Kuruvambalam				Banks of TuthaPuzha	Low
Pulamanhole	Low (Fathimapur)			Banks of TuthaPuzha	Low
PERINTALMANNA					

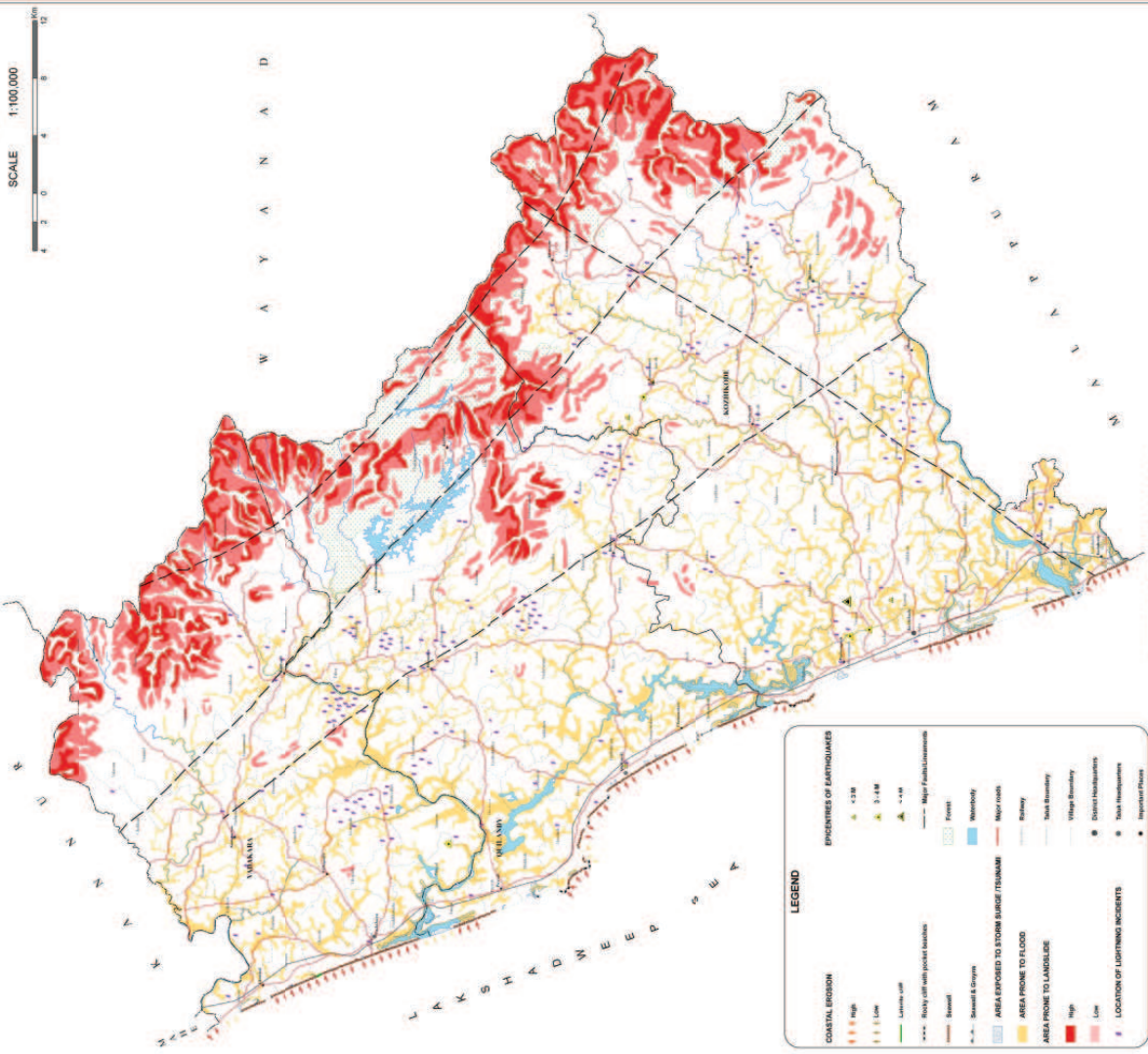
	amEste)				
Elamkulam	Low (Kumukavu, Cheratt Mala)		Banks of TuthaPuzha & Broad flat bottom valleys (Paddy fields) Elamkulam, Cherukara	Low	
Anamangad	Low (Manalaya)		Banks of TuthaPuzha & Broad flat bottom valleys (Paddy fields) Anamangad, Valamkulam, Chettanakurissi	Low	
Aliparambe			Banks of TuthaPuzha	Low	
Thazhekkode	High (Ponniyakurisi) Low (Ammi nikkad)		Broad flat bottom valleys (Paddy fields) Thazhekod, N. Vazhankada	Low	
Perinthalmanna	Low (Ammi nikod Mala)		Banks of CheriyaPuzha & Broad flat bottom valleys (Paddy fields) Perinthalmanna, Kakkut	Moderate	
Pathayikkara			Broad flat bottom valleys (Paddy fields) Padayikkara, Eravimangalam, Kunnappally		
Angadipuram	Low (Pariyapuram)		Banks of CheriyaPuzha & Broad flat bottom valleys (Paddy fields) Puthanangadi	Moderate	
Valambur			Banks of CheriyaPuzha	Moderate	
Mankada	High (PandalurMalala)		Banks of MankadaThodu	Moderate	
Nenmini	High (Nenminimala)		Banks of KadalundiRiver	Moderate	
Keezhattur	Low (Mulliyakurisi)		Banks of Velli Ar & Broad flat bottom valleys (Paddy fields) Mulliyakurissi, Pallikuth	Moderate	

NILAMBUR										
	Melattoor		i)				Banks of Velli Ar		Moderate	
	Edapatta		Low (ParayanMalala)				Banks of Velli Ar & Puliyan Thodu		Moderate	
	Kariyavattam		High (Thelakkad, MannarMala)				Broad flat bottom valleys (Paddy fields) Kariyavattom, Thalakkod		Moderate	
	Vettathur		Low (Prana kodan Mala)				Broad flat bottom valleys (Paddy fields) Vettathur, Thalakod		Low	
	Arakkuparambe		Low (Prana kodan Mala)				Broad flat bottom valleys (Paddy fields) Aranellur, Puthur, Arakuparamba		Low	
	Karuvarakundu		High (Forest) Low (ParayanMalala, CheraMba)				Banks of OliPuzha & Broad flat bottom valleys (Paddy fields) Punnakkad, Iringathiri		Moderate	
	Kerala Estate		High (Forest) Low (Kerala Estate)				Banks of ArimanalPuzha		Moderate	
	Kalikkavu		High (Forest) Low (Manjalapara, Pulam paraM)				Banks of ArimanalPuzha & KallikavuPuzha		Moderate	<3

Thuvur									Moderate
Vellayur									Moderate
Porur									Moderate
Tiruvalli									Moderate
Wandur									Moderate
Chokkad									Low
Amarambalam									Low
Nilambur									Low
Mambad									Low
Pullipadam									Low
Akampadam									Low

	(Ambu MalaE state,Forest)					
Kurumbilangodu	High (Forest) Low (Chand anakun nu)		Banks of ChaliyarRiver		Low	
Chungathara	High (Forest) Low (Mund eri)		Banks of ChaliyarRiver, Punnapuzha & KarimPuzha		Low	
Edakkara	Low (MalayarMalar, Velumbapadam)		Banks of PunnaPuzha, Pandipuzha & Broad flat bottom valleys (Paddy fields) Muthedam, Thalamkalli, Pachalipadam, Kakkariparatta, Uppada, Palamedu		Low	
Vazhikadavu	High (Forest) Low (Vendekumpatti, Karakod, Kutipara)		Banks of PunnaPuzha, MaradiPuzha, karakkoduPuzhaa, KurudiPuzha		Low	
Karulai	High (Forest)		Banks of KarimPuzha		Low	

KOZHICKOD DISTRICT MULTIPLE HAZARD ZONATION MAP



LEGEND

- COASTAL EROSION**
 - High
 - Medium
 - Low
- EPICENTERS OF EARTHQUAKES**
 - < 2.0
 - 2 - 4.0
 - 4 - 6.0
- LANDSLIDE**
 - Landslide with
 - Rocky cliff with pocket landslides
- STORM SURGE/Tsunami**
 - Storm Surge
 - Small & Sparse
 - Wastebay
 - Major roads
- AREA PRONE TO FLOOD**
 - Taluk Boundary
 - Village Boundary
- AREA PRONE TO LANDSLIDE**
 - High
 - Low
- LOCATION OF LIGHTNING INCIDENTS**
 - Taluk Headquarters
 - Important Places

Prepared under the Project GESS PLAN-230 in August 2009

Natural hazards in Kozhikkode district - Taluk wise

Taluk	Flood		Landslide		Storm surge	
	Area (km ²)	Pop. (%)	Area (km ²)	Pop. (%)	Area (km ²)	Pop. (%)
Kozhikkode	113.0	12.7	87.8	8.9	2.1	0.2
Chavara	86.9	11.7	27.8	3.7	8.8	1.1
Malappuram	206.5	12.3	109.0	6.5	26.7	3.8
Total						

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NATURAL HAZARD ZONATION MAP – KOZHIKODE DISTRICT

TALUK	VILLAGE	LAND SLIDE	COASTAL EROSION	FLOODS	LIGHTNING	EARTHQUAKE (Magnitude)
KOZHIKODE	Kadalundy		High with Seawall	Banks of Kadalundy River & Chaliyam Puzha	Low	
	Karuvanthuruthi			Banks of Chaliyar River & Chaliyam Puzha	Low	
	Faroke			Banks of Chaliyar River & Chaliyam Puzha	Moderate	
	Ramanattukara			Banks of Chaliyar River & Chaliyam Puzha	Moderate	
	Pantheerakavu			Banks of Chaliyar River & Kallayi Puzha	Low	
	Olavanna			Banks of Chaliyar River & Kallayi Puzha	Low	
	Cheruvannur			Banks of Chaliyar River & Broad flat bottom valleys (Paddy fields) Nallam, Cheruvannur	Low	
	Beypore		High with Seawall	Banks of Chaliyar River & Broad flat bottom valleys (Paddy fields) Naduvattom, Beypore	Low	
	Panniamkara		High with Seawall	Banks of Kallayi River & Broad flat bottom valleys (Paddy fields) Panniyamkara, Thiruvanchira	Low	
	Nagaram		High with Seawall	Banks of Kallayi Puzha	Low	
	Kasaba			Banks of Kallayi River	Low	
	Kottuli			Broad flat bottom valleys (Paddy fields) Kottuli, Parayancheri, Nadakavu	Low	<3
	Valayanad			Banks of Kallayi River & Broad flat bottom valleys (Paddy fields) Valayanad, Govindapuram	Moderate	
	Nellicode			Broad flat bottom valleys (Paddy fields) Kovur, Nellikod	Low	
Chevayur			Banks of Pannur Puzha & Broad flat bottom valleys (Paddy fields) Chevayur	Moderate		
Vengeri			Banks of Pannur Puzha & Broad flat bottom valleys (Paddy fields) Vengeri, Karaparambu, Nadugattur	Low	4	

Kacheri				Broad flat bottom valleys (Paddy fields) Nadakavu	Low	
Puthiyanganadi				Banks of PannurPuzha & Broad flat bottom valleys (Paddy fields) Puthiyangadi	Low	4
Elathur		Low & High with Seawall		Banks of PannurPuzha & Broad flat bottom valleys (Paddy fields) Puthur, Edakkad	Low	
Thalakulathur				Banks of Akala Puzha & Ramanallurthode	Moderat e	
Chelannur				Banks of PannurPuzha, AkalaPuzha & Broad flat bottom valleys (Paddy fields) Chelannur, Palat, Iruvalur	Moderat e	
Kakkodi				Banks of PannurPuzha & Akala Puzha	Low	
Kuruvattur				Banks of PannurPuzha & Broad flat bottom valleys (Paddy fields) Karuvattur, Parambil, Palur	Moderat e	
Chelavoor				Banks of PannurPuzha & Broad flat bottom valleys (Paddy fields) Poinattapuram, Mayanad	Moderat e	
Kuttikattur				Banks of Nam Puzha & Broad flat bottom valleys (Paddy fields) Puvattuparambu, Kuttikattur	Moderat e	
Perumanna				Banks of ChaliyarRiver & Nam Puzha	Moderat e	
Peruvayal				Banks of ChaliyarRiver, Cheru Puzha & Broad flat bottom valleys (Paddy fields) Peringalam, Peruvayil	Moderat e	
Mavoor				Banks of ChaliyarRiver & Cheru Puzha	Moderat e	
Pulakode				Banks of ChaliyarRiver, Iruvanni Puzha & Cheru Puzha	Moderat e	
Chattamangalam				Banks of Cheru Puzha	Moderat e	
Kunnamangalam				Banks of Cheru Puzha & PannurPuzha	Moderat e	
Madavoor				Banks of PannurPuzha & Broad flat bottom valleys (Paddy fields) Paimbalasseri, Madavoor, Pullalur	Moderat e	
Kakkur				Banks of Ramallur thode & Broad flat bottom valleys (Paddy fields) pavannur, Punnurcherapuram	Moderat e	
Namminda				Broad flat bottom valleys (Paddy fields) Namida, Chikkilod, W. Panangad	Low	
Narikuni				Broad flat bottom valleys (Paddy fields) Pannikattur, Nediyaand, Parannur	Moderat e	
Kizhakothe				Banks of PannurPuzha & Broad flat bottom valleys (Paddy fields) Elelttil	Moderat e	
Koduvalli				Banks of PannurPuzha & Cheru Puzha	Moderat e	

Vavad				Banks of PannurPuzha & Cheru Puzha	e	
Raroth				Banks of Cheru Puzha & Broad flat bottom valleys (Paddy fields) Tamarasseri, Kedavur, Chembra, Andona	Moderate	<3, 3.7
Koodattayi				Banks of Cheru Puzha & Broad flat bottom valleys (Paddy fields) Panniyamkuzhi, Malkavu, Perili	Moderate	
Puthur				Banks of Cheru Puzha & Broad flat bottom valleys (Paddy fields) Pulapeyi, Puttur, Vennokkod	Moderate	
Neeleswaram				Banks of Iruvani Puzha & Broad flat bottom valleys (Paddy fields) Palanur, Techiyod	Moderate	
Thazhekkad				Banks of Iruvani Puzha & Broad flat bottom valleys (Paddy fields) Chennamangallur, Tazhakkad, Manasseri	Moderate	
Kakkad		Low (Fathima Estate)		Banks of Iruvani Puzha	Moderate	
Kodiyattur		Low (Nellupar ambu, MysoreK unnu,Fat himaEstate)		Banks of ChaliyarRiver, Iruvani Puzha & Cheru Puzha	Moderate	
Kumaranalloor		Low (Thekkumkutti,FathimaEstate)		Banks of Iruvani Puzha & KartunuppraPuzha	Moderate	
Kodaranji		High (AtoteMala,Forest) Low (TumbakodMala, Pularampara,KattiyatuMala)		Banks of Payilingal Puzha & Kartunuppra Puzha	Moderate	
Thiruvambadi		Low (Pottamk)		Banks of Iruvani Puzha & Payilingal Puzha	Moderate	

		ottamala)							
Nelippoyil		High (Kattipoyil, Forest)						Low	
Kodancheri		High (Alakkal, Forest) Low (Kodancheri, Perumkandi)				Broad flat bottom valleys (Paddy fields) Vellancoe, Kuttur		Moderate	
Puthuppadi		High (Adivaram, Forest) Low (Mayiladumpanstate)						Moderate	
Engapuzha		Low (Kanottipara)						Moderate	
Kedavoor		High (N.W. Ingapuzha, Kuttipara, Forest) Low (Chamel)				Banks of PannurPuzha		Moderate	<3
Iringal						Banks of MuratRiver & Broad flat bottom valleys (Paddy fields) Ayinikkad		Low	
Payyoli				Low & High with Seawall		Banks of MuratRiver & Broad flat bottom valleys (Paddy fields) Payyoli		Low	
Thikodi						Banks of AgalaPuzha		Low	
Moodadi				Low & High with Seawall		Banks of AgalaPuzha & Broad flat bottom valleys (Paddy fields) Mudadi, Elambilad, Purakkal, Virayancheri		Low	
Viyur				High		Banks of AgalaPuzha & Broad flat bottom valleys (Paddy fields) Marallur,		Low	
QUILANDY									

				Puliancheri			
Panthalayini		with Seawall		Banks of AgalaPuzha & Broad flat bottom valleys (Paddy fields) Rantalayani	Low	<3	
Chengottukavu		High with Seawall		Banks of AgalaPuzha & Broad flat bottom valleys (Paddy fields) Elatteri, Elakualm, Chengottukavu	Low		
Chemancheri		Low & High with Seawall		Banks of KoraPuzha & Broad flat bottom valleys (Paddy fields) Vengulam, Chemmancheri, Thiruvannur	Low		
Atholi				Banks of KoraPuzha & Broad flat bottom valleys (Paddy fields) Atholi, Kalakkad	Moderate		
Ulliyeri				Banks of KoraPuzha & Broad flat bottom valleys (Paddy fields) Ulliyeri, Mundath	Moderate		
Naduvannur				Banks of KoraPuzha & Broad flat bottom valleys (Paddy fields) Kavil, Naduvannur, Mannankavu, Elangamal	Moderate		
Arikulam				Banks of KoraPuzha, AgalaPuzha & Broad flat bottom valleys (Paddy fields) Kurichikala, Arikulam, Vagmoli, Karayad, Nochad	Moderate		
Keezhariyur				Banks of AgalaPuzha	Moderate		
Thurayur				Banks of MuratRiver & AgalaPuzha	Moderate		
Kozhukallur				Broad flat bottom valleys (Paddy fields) Kuttipra, kayalad, Kozhukallur	Moderate		
Meppayur				Broad flat bottom valleys (Paddy fields) Meppayur, Kuzhippayur, Changaramvalli	High		
Cheruvannur				Banks of MuratRiver & Broad flat bottom valleys (Paddy fields) Avala, Kuttottu	High		
Eravattur				Banks of MuratRiver & Broad flat bottom valleys (Paddy fields) Eravattur, Kallod,	High		
Nochad				Broad flat bottom valleys (Paddy fields) Meppayur, Valliyakkod, Nochad, Kaipattur, Velliyyur	High		
Kottur			Low (Chengottu Mala)	Broad flat bottom valleys (Paddy fields) Kottur, Thiruod	Moderate		
Avittanallur				Banks of KoraPuzha	Moderate		
Balusseri			Low	Banks of KoraPuzha & Broad flat bottom valleys (Paddy fields) Balisseri,	Moderate		

					panai, Eramankulam	e	
Panangad					Banks of KoraPuzha	Moderate	
Sivapuram					Broad flat bottom valleys (Paddy fields) Viriambram, Malur, Sivapuram, Mangod	Moderate	
Unnikulam					Banks of TalayattuPuzha	Moderate	
Kinalur					Banks of KoraPuzha & Broad flat bottom valleys (Paddy fields) Mundakara, Puvamboyi	Moderate	
Koorachundu				High (ManickheriMala, N.kinalur) Low (Talayatt, Kavulla Mala)		Moderate	
Kanthalad				High (Killickudukki, Kakayam) Low (Kallnod)	Banks of CheruPuzha	Moderate	
Chakkittapara					Banks of KuttiyadiRiver & Broad flat bottom valleys (Paddy fields) Sankaravayal, Kalangali	Low	
Kayanna			Low (PuvattumKunnu)		Banks of CheruPuzha & Broad flat bottom valleys (Paddy fields) Attiyod, Cherukad, Kayanna	Moderate	
Menjanyam					Banks of CheruPuzha & Broad flat bottom valleys (Paddy fields) Parambra, Marutari,	High	
Perambra					Banks of CheruPuzha & Broad flat bottom valleys (Paddy fields) Puliperuvanna, Perambra	Moderate	
Koothali					Banks of CheruPuzha & Broad flat bottom valleys (Paddy fields) Kuttali, Payittot	High	
Paleri					Banks of MuratRiver, CheruPuzha & Broad flat bottom valleys (Paddy fields) Valiyakumbalam, Vadakkumbad, Kallur	High	
Changaroth					Banks of NiduvanPuzha, KadiyangadPuzha & Broad flat bottom valleys	High	

				(Paddy fields) Changattur, Kadiyangad	
Chembanoda	High (Puzhithod Estate, Forest) Low (Alapara, Ekkal)				Low
Vadakara		High with Seawall & Low		Banks of Kotta Puzha & Broad flat bottom valleys (Paddy fields) Arakkilad, Muthungal, Mayyannur	Low
Cherode		High with Seawall		Broad flat bottom valleys (Paddy fields) Kurikkilad, Cherode, Vykilasseri, Varisyakunni	Low
Onchiyam		High with Seawall		Broad flat bottom valleys (Paddy fields) Kannukara, Nellesse, Onchiyam, Tattolikara	Low
Azhiyur		Low & High with Seawall		Banks of Mahe River	Moderate
Eramala				Banks of Mahe River & Broad flat bottom valleys (Paddy fields) Orkatteri, Muiypra, Azhiyur,	Moderate
Villyappalli				Broad flat bottom valleys (Paddy fields) Memunda, Villyapalli	Moderate
Nadakkuthazha				Banks of Murai River & Broad flat bottom valleys (Paddy fields) Pudupanam, Puthur	Low
Palayad				Banks of Murai River	Moderate 3.5
Maniyur				Banks of Murai River	Moderate
Thiruvallur				Banks of Murai River & Broad flat bottom valleys (Paddy fields) Thiruvallur	Moderate
Kottapalli				Broad flat bottom valleys (Paddy fields) chemmarath, Velliyo, N. Thiruvallur	Moderate
Ayancheri				Broad flat bottom valleys (Paddy fields) Panmeri, Parambil, kadameri, Ayancheri, W. Cherapuram	Moderate
Velom	Low			Banks of Murai River & Broad flat bottom valleys (Paddy fields) Tikunni,	High

VADAKARA

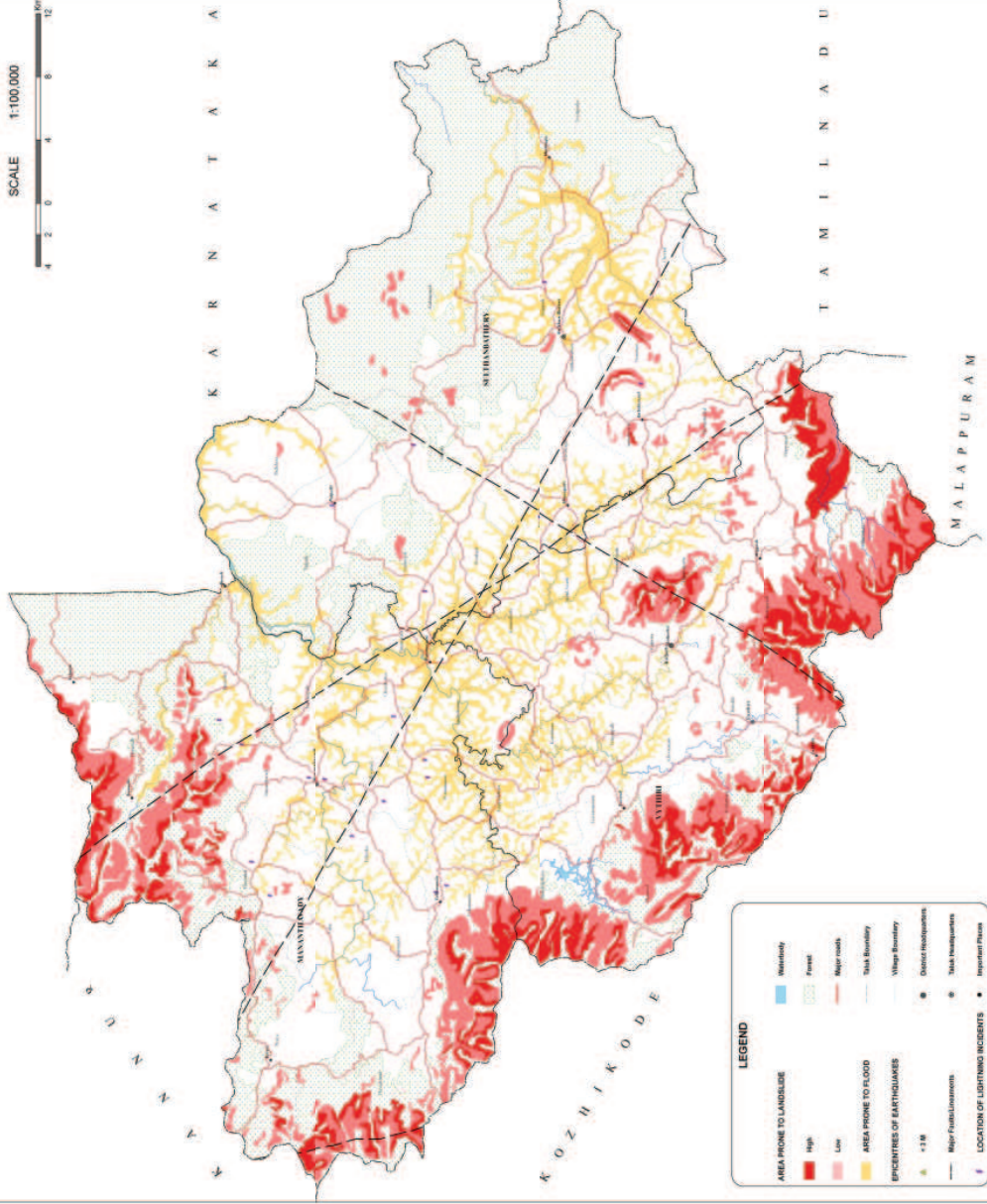
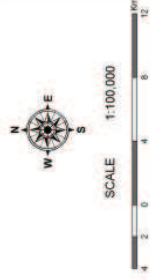
Purameri		(ManiMa la)			Kurichakara, Cherukunnu	Broad flat bottom valleys (Paddy fields) elayadam, Perumundasseri	Moderat e	
Edacheri					Banks of Mahe River & Broad flat bottom valleys (Paddy fields) Edacheri, Kodancheri		Moderat e	
Thunery					Banks of Mahe River & Broad flat bottom valleys (Paddy fields) Tuneri, Iralapram, Velloor, Kummankod		Moderat e	
Chekkiad		High (Forest) Low (N.Kuru vanderi)			Banks of Mahe River & Broad flat bottom valleys (Paddy fields) Parakadavu		Moderat e	
Valayam		High (Forest) Low (N.Valay am)			Broad flat bottom valleys (Paddy fields) Valayam		Low	
Vanimel		Low (N.Velliy od)			Banks of Mahe River		Low	
Nadapuram					Banks of Mahe River & Broad flat bottom valleys (Paddy fields) Nadapuram, Kuttipuram		Moderat e	
Kunnummel					Broad flat bottom valleys (Paddy fields) Mokari, Vattal, Kakkattil		Moderat e	
Kuttiady					Broad flat bottom valleys (Paddy fields) Vadayam, Nittur, Uratt		Moderat e	
Maruthonkara		Low (Kuttyar Estate, Mayilota ra)			Banks of NiduvanPuzha		Moderat e	

	Kavilumpara	High (Karingd, Puthanpara, Pasukadavu, Kadapadi Forest) Low (Valankodimala, Mundiyod Mala, Muttatheplavu Kunduthode)			Low	
Kayakkodi		High (MundiyodeMala) Low (PlayatMala, Kayakkodi)		Broad flat bottom valleys (Paddy fields) Karandod, ChangaranKulam, Kavumkundu, Valayannur	Moderate	
Narippatta		Low (Kappil Kunnu, Playat Mala)		Banks of Mahe River	Low	
Thinnur		High (Valuk, N.Karingod, Pullippara) Low (VayatMala, Veliyod, kayappately.)			Low	
Vilangad		High (Madanc			Low	

				heri, Udu mbarangi , Manhak unnu, Vel liyod) Low (Adichip ara, Panat hu)				
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WAYANAD DISTRICT

MULTIPLE HAZARD ZONATION MAP



LEGEND

- AREA PRONE TO LANDSLIDE**
 - High
 - Low
- AREA PRONE TO FLOOD**
- EPICENTRES OF EARTHQUAKES**
 - $M > 1.8$
- LOCATION OF LIGHTNING INCIDENTS**
- Major Public Livelihoods
- Taluk Boundaries
- Village Boundary
- District Headquarters
- Taluk Headquarters
- Important Places

Prepared under the Project CEES PLAN 220 in August 2008

Natural hazards in Wayanad district – Taluk wise

Taluk	Flood		Landslide			
	Area Km ²	Area %	High Area Km ²	High Area %	Low Area Km ²	Low Area %
Sydtal	60.1	9.7	64.7	10.3	101.9	16.3
Southanchery	84.1	13.2	0.1	0.1	12.8	1.7
Thottumukkal	67.6	10.4	0.1	0.1	1.9	0.3
Total	215.4	33.3	102.6	4.8	196.6	32.3

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NATURAL HAZARD ZONATION MAP – WAYANAD DISTRICT

TALUK	VILLAGE	LANDSLIDE	COASTAL EROSION	FLOODS	LIGHTNING	EARTHQUAKE (Magnitude)	
VYTHIRI	Vellarimala	High (Mundakay, PuttuMala, VellariMala, Forest) Low (HopeEstate)			Low		
	Muppainad	High (Forest)		Banks of CholadiPuzha & Broad flat bottom valleys (Paddy fields)Puttadi, Mudakkara,	Low		
	Thrikkaipetta	High (KalluMala, Forest) Low (KalluMala)		Broad flat bottom valleys (Paddy fields) Parur, Thrikkappetta,	Low		
	Kottappady	High (ChenbrapeakEstate, KuttimundEstate, Forest) Low (Elambalri, Anapara)		Banks of KotturAr	Low		
	Kunnathidavaka	High (EagleEstate, Lakkidi)			Low		
	Chundel	Low (ChundelEstate)			Low		
	Pozhuthana	High (Vannatipara, Forest) Low (KurichiarMala, AthurEst			Low		

Achooranam	ate) Low (AthurEstate)				Banks of PozhuthanaPuzha & Broad flat bottom valleys (Paddy fields) Muthirapara			Low	
Kalpetta	High (MuttelMala ,Forest) Low (E.Kalpetta)				Banks of BinhiPuzha & Broad flat bottom valleys (Paddy fields) Kozhatatta, Mundari			Low	
Muttill South	Low (RocksidesEs tate)				Banks of KagaPuzha & Broad flat bottom valleys (Paddy fields) Parakkal,Mundat, Erinneri,Kalluradi			Low	
Muttill North					Broad flat bottom valleys (Paddy fields) Pariyaram, Pullimala, Mutil, Vellithode, Karaladi,Mmutimukku			Low	
Kaniyambetta					Banks of ChundalPuzha & Broad flat bottom valleys (Paddy fields) Ambalachal, Padikkara, Changadakunnu,Triniyambetta,Pangnichikallur			Low	
Kottathara	Low (kurumbaala Mala)				Banks of VenniyottuPuzha,CaradPuzha & Broad flat bottom valleys (Paddy fields) Vandiyampetta,Anerivayal, Chalavayal			Low	
Vengappalli					Banks of VenniyottuPuzha & Broad flat bottom valleys (Paddy fields) Kindiyur, Ambalapadi			Low	
Kavummandam					Banks of VenniyottuPuzha & Broad flat bottom valleys (Paddy fields) kanicheri			Low	
Tariyod	High (Forest) Low (Tariyod)				Banks of VenniyottuPuzha			Low	
Padinharathara	High (Forest) Low (Padinjareth ara, Varampe tta)				Banks of Karaman thodu & Broad flat bottom valleys (Paddy fields) Puthiyenirath, W.kattathara			Low	
Kuppadithara					Banks of VenniyottuPuzha & Karaman thodu & Broad flat bottom valleys (Paddy fields) Kuppadithara,Kurumbala			Low	
Vellamunda	High (Forest) Low (Pulinjal,Ma ngalasseri,V				Banks of Karaman thodu & Broad flat bottom valleys (Paddy fields)Pulinjal,Mathakara			Low	
MANANT HAVADY									

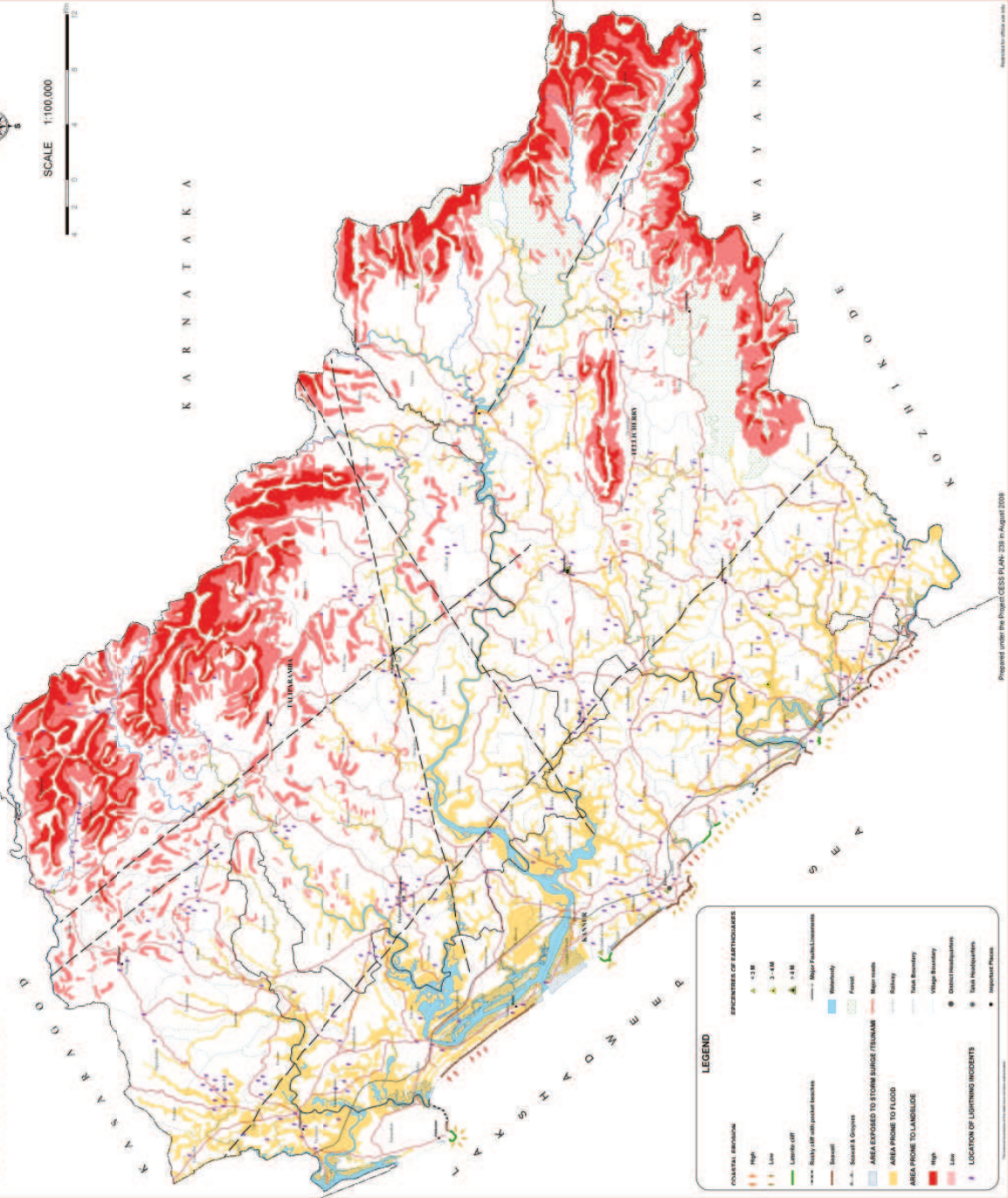
	ellamunda)				
Kanjirangad	High (Forest) Low (S.Makkiad, S.Tandar)			Banks of MananthavadiRiver	Low
Thondernad	High (Forest) Low Thondar				Low
Periya	High (Forest) Low (W.Periya,Paramatma)			Banks of Periyapuzha	Low
Valad				Banks of MananthavadiRiver	Low
Edavaka				Banks of MananthavadiRiver & Broad flat bottom valleys (Paddy fields) Achappitika,Kallodi,Elamanna	Low
Porunnanore				Banks of Karaman thodu & Broad flat bottom valleys (Paddy fields) Changadam,Karingari,Kotugalli	Low
Anchukunnu	Low (Kurumbila Mala)			Banks of PanamaramPuzha & Broad flat bottom valleys (Paddy fields) Kalutungal, Ullisseri	Low
Panamaram				Banks of PanamaramPuzha	Low
Cherukattur				Banks of PanamaramPuzha	Low
Nalloornad				Banks of MananthavadiRiver	Low
Payyampalli	Low (kannivayal)			Banks of MananthavadiRiver, KabaniRiver & Broad flat bottom valleys (Paddy fields)Pudukode, Manalvayal, Nelliayat	Low
Thrissileri	High (Mullamkoll i, Forest) Low (Trissileri,Muriode,Forest)			Banks of KabaniRiver, BavaliPuzha & Broad flat bottom valleys (Paddy fields) Trissileri, Kakkavayal, Onivayal	Low
Mananthavady	High (Forest) Low (Cherakkana Estate,Jessie			Banks of MananthavadiRiver & Broad flat bottom valleys (Paddy fields) Kurikkalat, Mangalari, Kaniyaram, Mandakamula	Low

		Estate, Kaipatt, Forest)				
Thavinhal	High (Makki, Forest) Low (Fringferd Estate, Tavinna I Estate)			Banks of Mananthavadi River & Broad flat bottom valleys (Paddy fields) Tindummal, Idikkara, Kazhukottur, Teythat	Low	
Thirunelli	High (Thirunelli, Manikolli, Forest) Low (Vaduvakkulam, Meladi, Akkolli Estate, Vellaravayal)			Banks of Bavali Puzha	Low	
Pulpalli				Banks of Kabani River & Kadamari thodu	Low	
Padichira	Low Sasimala			Banks of Kabani River & Mudalli thodu	Low	
Irulam	Low (Matamangalam)			Banks of Narasi Puzha	Low	
Nadavayal	Low (Nekkuppa)			Banks of Narasi Puzha & Broad flat bottom valleys (Paddy fields) Nelliyanbaram, Karadam, Chittalur, Nadavayal	Low	
Poothadi				Banks of Narasi Puzha, Chundal Puzha	Low	
Purakkodi				Banks of Chundal Puzha & Kana Puzha	Low	
Krishnagiri				Banks of Padiri Puzha & Kana Puzha	Low	
Sulthan Bathery	Low (Kattayad, Sulthan Batherly)			Broad flat bottom valleys (Paddy fields) Pazhupattur, Mavadi, Kallivayal	Low	>3
Ambalavayal	Low (Mattappara)			Broad flat bottom valleys (Paddy fields) Ambalavayal, Vellada	Low	
Thomattuchal				Broad flat bottom valleys (Paddy fields) Nallarchal, Pangalari, Odavayal	Low	
Nenmeni	Low (Kuppamudi Estate, Toda)			Banks of Choladi Puzha, Nul Puzha & Broad flat bottom valleys (Paddy fields) Palakunni, Malankara,	Low	
SULTHANBATHERY						

MULTIPLE HAZARD ZONATION MAP

KANNUR DISTRICT

SCALE 1:100,000



LEGEND

COASTAL EROSION

- High
- Low

EXPONENTIAL OF EARTHQUAKES

- < 1 M
- 1 - 3 M
- 3 - 6 M
- > 6 M

AREA EXPOSED TO STORM SURGE / TSUNAMI

- Major Faults/Lineaments
- Waterbody
- Forest
- Soil and Slopes
- Major roads
- Railway
- Taluk Boundary
- Village Boundary
- Waterbody
- Waterbody
- Waterbody

AREA PRONE TO FLOOD

- High
- Low

AREA PRONE TO LANDSLIDE

- High
- Low

LOCATION OF LIGHTNING INCIDENTS

- Important Places

Prepared under the Project/CESB/P/AN/208/P/AUGUST/2008

Map scale: 1:100,000

Natural hazards in Kannur district – Taluk wise

Taluk	Flood		Landslide		Low Coastal erosion		High Coastal erosion		Storm surge / Tsunami inundation	
	Area Km ²	Area %	Area Km ²	Area %	Length Km	Length %	Length Km	Length %	Area Km ²	Area %
Talipuzha	114.4	8.4	81.0	6.1	152.7	11.5	2.6	29.3	3.8	0.3
Kannur	116.2	26.7	8.1	0.9	1.9	0.1	13.3	31.5	3.8	8.9
Thiruvananthapuram	116.2	26.7	8.1	0.9	1.9	0.1	13.3	31.5	3.8	22.5
Total	339.2	11.4	165.7	5.7	272.6	9.2	17.4	26.6	9.3	14.3

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NATURAL HAZARD ZONATION MAP – KANNUR DISTRICT

TALUK	VILLAGE	LANDSLIDE	COASTAL EROSION	FLOODS	LIGHTNING	EARTHQUAKE (Magnitude)
THALASSERY	Peringathur			Banks of MahiRiver& Broad flat bottom valleys (Paddy fields) Peringathur, Aniyaram, Puthur	Moderate	
	Tripurangottur	High (VadakkulamEsate) Low (Poyilur)		Banks of MahiRiver & OtaniPuzha	Moderate	
	Kolavallur			Banks of OtaniPuzha	Moderate	
	Puthur			Broad flat bottom valleys (Paddy fields) Puthur,Chendayad	Moderate	
	Panur			Banks of OtaniPuzha & Broad flat bottom valleys (Paddy fields) Panur,Palattai	Moderate	
	Pannyanur			Banks of EranholiPuzha & Broad flat bottom valleys (Paddy fields) Nidumbam, Pukkam, Payyanur	Low	
	Chokli			Banks of MahiRiver & Broad flat bottom valleys (Paddy fields) Chokli, Kaviyur, Menapram	Moderate	
	Kodiyeri	High with Seawall		Banks of MahiRiver & Broad flat bottom valleys (Paddy fields) Kodiyeri, Puduva cheri, Jaganath	Moderate	
	Kadirur			Banks of DharmadomPuzha & ErannoliPuzha	Moderate	
	Erannoli			Banks of DharmadomPuzha & EranholiPuzha	Low	
	Thiruvangad	High with Seawall		Banks of ErannoliPuzha & Broad flat bottom valleys (Paddy fields) Thiruvangad, Kavumbhagam	Moderate	3.2
	Talasseri	Low		Banks of DharmadomPuzha & ErannoliPuzha	Moderate	
	Dharmadam	Low		Banks of DharmadomPuzha & AnjarakandiPuzha	Moderate	
	Pinarayi			Banks of DharmadomPuzha & AnjarakandiPuzha	Moderate	

Pathiriyad				Banks of AnjarakandiPuzha	Moderate	
Eruvatti				Banks of DharmadomPuzha & Broad flat bottom valleys (Paddy fields) Eruvatti	Moderate	
Kottayam				Banks of DharmadomPuzha & Broad flat bottom valleys (Paddy fields) Kottayam	Moderate	4
Pattayam				Banks of ErannoliPuzha	Moderate	
Cheruvancherry	High (S.Ka nava mCol ony,F orest) Low (Para mbuk avum ale,Pe ruva, Chak ari)			Banks of ErannoliPuzha & Broad flat bottom valleys (Paddy fields) Makkeri	Moderate	
Manamteri				Broad flat bottom valleys (Paddy fields) Chittaripambu, Mananderi	Moderate	<3
Kuthuparambu				Broad flat bottom valleys (Paddy fields) Kuthuparambu	Moderate	
Kandan Kunnu				Banks of AnjarakandiPuzha	Low	
Mangattidam				Banks of AnjarakandiPuzha & Broad flat bottom valleys (Paddy fields) Kurumbakkal, Sankaranellur, Koylott	Moderate	
Paduvilayi				Banks of AnjarakandiPuzha	Moderate	
Pazhassi				Banks of AnjarakandiPuzha & Broad flat bottom valleys (Paddy fields) Perincheri,Pazhassi	Moderate	4.5
Keezhallur				Banks of AnjarakandiPuzha	Moderate	
Koodali				Broad flat bottom valleys (Paddy fields) Koodali, Puvathur	Moderate	
Pattannur				Banks of ValapattanamRiver	Moderate	

Kolari				Banks of ValapattanamRiver		Moderate	
Chavassery				Banks of ValapattanamRiver		Moderate	
Keezhur				Banks of ValapattanamRiver		Moderate	
Thillankeri				Broad flat bottom valleys (Paddy fields) Thillangeri		Moderate	
Sivapuram				Banks of AnjarakandiPuzha & Broad flat bottom valleys (Paddy fields) Malur, Kanhileri		Moderate	
Kannavam				Banks of AnjarakandiPuzha, IdumbaThodu & Broad flat bottom valleys (Paddy fields) Vattoli, Tadikkalam		Moderate	
Tolambra				Banks of IdumbaThodu		Moderate	
Vellarveli				Banks of IdumbaThodu		Moderate	
Kolayad				Banks of IdumbaThodu		Low	
Vekkalam	Low (Nidupunja)					Low	
Vellarveli	High (Forest) Low (Vellarvalli)					Moderate	
Manathana	Low (Muri ngodi)			Banks of KanhiraPuzha		Moderate	
Kanichar	High (Forest) Low (kanichar, Vallerd)			Banks of KanhiraPuzha, PalaPuzha		Low	
Kelakam	High			Banks of BavaliPuzha		Low	<3

	(Tala kkani, Kotti yur,A dakka thod, Chun gakun nu,Fo rest) Low (Nidu noke, Talak Talani)					
Kottiyur	High (Palac hura, Akkar aKotti yurFo rest) Low (Amb alam)				Low	<3
Aralam	High (Fore st) Low (Man godM ala)			Banks of BavaliPuzha & UruttiPuzha	Low	
Muzhakkunnu	High (Gra mam Chem pukan iMala) Low (Vira)			Banks of AralamPuzha	Moderate	

Payam									Moderate
Velamana									Low
Ayyankunnu									Low
Muzhappilangad							Low		Moderate
Kadambur									Moderate
Mavilayi									Moderate
Makreri									Moderate
Ancharakandi									High
KANNUR									

Irriveri				Broad flat bottom valleys (Paddy fields) Iriveri,Kanayannur	Moderate	
Chembold				Broad flat bottom valleys (Paddy fields) Kayad,Chala	Moderate	
Edakkad		Low		Broad flat bottom valleys (Paddy fields) Tottada, Chirakuttiazha	Moderate	
Kannur-I		Low & High with Seawall		Banks of TilanurThodu	Moderate	<3
Kannur-II		Low		Broad flat bottom valleys (Paddy fields) Talap	Moderate	
Pallikunnu		Low		Broad flat bottom valleys (Paddy fields) Chalod, Talap	Moderate	
Puzhathi				Banks of KattampalliPuzha	Moderate	
Elayavur				Banks of KattampalliPuzha & KappadThodu	Moderate	
Chelora				Banks of KappadThodu	Moderate	
Kannirod				Broad flat bottom valleys (Paddy fields) Kannirod,Talamunda	High	
Munderi				Banks of KattampalliPuzha & Broad flat bottom valleys (Paddy fields) Echehur,MUnderi	Moderate	
Valiyannur				Banks of KattampalliPuzha & Broad flat bottom valleys (Paddy fields) Varam, Valiyannur	Moderate	
Kannadiparamba				Banks of KattampalliPuzha	Moderate	
Narath				Banks of ValapattanamRiver & KattampalliPuzha	Moderate	
Chirakkal				Banks of ValapattanamRiver & KattampalliPuzha	Moderate	
Valapattanam				Banks of ValapattanamRiver	Moderate	
Azhikkod South				Broad flat bottom valleys (Paddy fields) Chirakkal,Azhikkode	Moderate	<3
Azhikkod North				Banks of ValapattanamRiver	Moderate	
Pappinisseri				Banks of ValapattanamRiver	Moderate	

					Banks of ValappattanamRiver & Broad flat bottom valleys (Paddy fields) Irinava,Kalliasseri	Moderate	
					Banks of KuppamRiver & KuttikolPuzha	Moderate	
					Banks of KuppamRiver	Moderate	
			High with Seawall & Low		Banks of KuppamRiver & ChempalliKundu	Moderate	
					Banks of KuppamRiver & KuttikolPuzha	Moderate	
					Banks of KuppamRiver	Moderate	
					Banks of VannattiPuzha & Broad flat bottom valleys (Paddy fields) Narikkampalli, Mandur,Atiyadam, Varanakod, Cheruthazham	Moderate	
					Banks of VannattiPuzha	Moderate	
					Banks of VannattiPuzha & Broad flat bottom valleys (Paddy fields) Kottumchal, Chittanur	Moderate	
					Banks of VannattiPuzha & Broad flat bottom valleys (Paddy fields) Panappuzha, Mundapara	Moderate	
			Low		Banks of VannattiPuzha, Kavayikayal	Low	
			Low		Banks of VannattiPuzha & Kavayipuzha	Moderate	
					Banks of VannattiPuzha, Kavayipuzha	Moderate	
					Banks of Kavayipuzha & Broad flat bottom valleys (Paddy fields) Karivellur	Moderate	
					Banks of Kavayipuzha, BanatiChal	Moderate	
					Broad flat bottom valleys (Paddy fields) Ettukudukka, Padavanur, Manjatayatotti	Moderate	

TALPARAMBU

Kankol				Broad flat bottom valleys (Paddy fields) Kankol, Karinkuzhi	Moderate	
Korome				Banks of VannattiPuzha & Broad flat bottom valleys (Paddy fields) Kanayi, Korom,	Moderate	
Eraman				Banks of PeruvambaPuzha & ChalaChal	Moderate	
Perinthatta				Banks of AravanchalThodu & MukkuthomkaraChal	Moderate	
Kuttur				Banks of PeruvambaPuzha	Moderate	
Vellora	Low (Kari yapatti, Cheriya, Cheriya, Cheriya)			Banks of VannattiPuzha	Moderate	
Peringome	Low (Chattiyol, Peringom, N. E. M. ndapa dam)			Banks of MuttalaThodu	Moderate	
Vayakkara	High (N. Pr. epayil, Periyankot, alu)			Banks of PerambattaPuzha	Moderate	
Pulingom	High (Kuttathala)				Moderate	

Thimiri	High (Vimalaseeri, Chittadi) Low (Kottakunnu, Trimiri, Eruvatti, Talavil)		Banks of KuppamRiver	Moderate	
Kuveri	Low (Padappengad, Manankara, Edakkom)		Banks of KuppamRiver	Moderate	
Pariyaram			Banks of KuppamRiver	Moderate	
Kuttiyeri			Banks of KuppamRiver & Broad flat bottom valleys (Paddy fields) Mavicheri, Talara	Moderate	
Taliparambe			Banks of KuppamRiver & KuttikolPuzha	Moderate	
Pattuvam			Banks of KuppamRiver & KuttikolPuzha	Moderate	
Morazha			Banks of KuttikolPuzha & Broad flat bottom valleys (Paddy fields) Morazha, Kanul,	Moderate	
Andur			Banks of ValapattanamRiver	Moderate	
Kayaralam			Banks of ValapattanamRiver	Moderate	
Kolacheri			Banks of ValapattanamRiver & Broad flat bottom valleys (Paddy fields) Pattayam, Kolacheri, Perumacheri	Moderate	
Cheleri			Banks of KattampalliPuzha & Broad flat bottom valleys (Paddy fields) Cheleri, Nunneri	Moderate	
Maniyur			Banks of KattampalliPuzha & Broad flat bottom valleys (Paddy fields)	Moderate	

Mayyil					Chekkikutam, Maniyur, Parayur, Kavundazha Banks of Mayyil Thodu	Moderate	
Kuttiyattur					Banks of Valapattanam River & Broad flat bottom valleys (Paddy fields) Kuttiyattur	Moderate	
Malapattom					Banks of Valapattanam River & Srikandapuram Puzha	Moderate	
Chengalayi					Banks of Valapattanam River, Srikandapuram Puzha & Valakkayi Thodu	Moderate	
Kurumattur					Banks of Valapattanam River & Varadul Thodu	Moderate	
Panniyur	Low (Mazhur, Panniyur)				Banks of Varadul Thodu	Moderate	
Chuzhali	Low (Chuzhali, Chembantheri,)				Banks of Valakkai Thodu	Moderate	
Naduvil	Low (Naduvil, Kallodi, Velladu, Thattiar, Malarkotta, Mala, Mandalam, Pulikurumb, Kari, Velad)				Banks of Karuvancheri Thodu	Moderate	

Nidiyenga	Low (Cheparambala, Norakota Kunnal, Nayanarkunnu)	Banks of Kayumbathodu	Moderate	
Sreekandapuram	Low (Kaniyeri)	Banks of SrikandapuramPuzha & Broad flat bottom valleys (Paddy fields) Kuttumukkam, Thrikadambu, Niduvangod	Moderate	
Irikkur		Banks of ValapattanamRiver	Moderate	
Kalliyad	Low (Chettuvatti)	Banks of ValapattanamRiver & ParikkatamPuzha	Moderate	
Padiyur	Low (Urattur)	Banks of ValapattanamRiver	Moderate	
Vayathur	High (Kalanagu, Arabikulam) Low (Mattara, Angadicheri, Thottipalam, Peratta)	Banks of NuchiyadPuzha, UrankottuThodu, & TanThodu	Moderate	
Nuchiyad	High (Chapangeri, Forest)	Banks of NuchiyadPuzha	Moderate	

NATURAL HAZARD ZONATION MAP – KASARAGOD DISTRICT

TALUK	VILLAGE	LANDSLIDE	COASTAL EROSION	FLOODS	LIGHTNING	EARTHQUAKE (Magnitude)
HOSDURG	Trikaripur South		Low	Banks of KavvayiPuzha & ThurtiPuzha	Moderate	
	Trikaripur North			Banks of MuniyatThodu & ThurtiPuzha	Moderate	
	Padne		Low	Banks of ThurtiPuzha	Moderate	
	Udinoor			Banks of ThurtiPuzha & MuniyatThodu	Moderate	
	Maniyat			Banks of MuniyatThodu	Moderate	
	Pilicode			Banks of ThurtiPuzha & MuniyatThodu	Moderate	
	Kodakkad			Banks of MuniyatThodu	Moderate	
	Cheemeni-I	Low (Kundayara)		Banks of KaringoteRiver	Moderate	
	Cheemeni-II	Low (Mukkada,Nalichapmata m)		Banks of KaringoteRiver	Low	
	Karindalam	Low (Kinanur,Aralam)		Banks of KaringoteRiver	Low	
	Kayyur	Low (Cheriyakata)		Banks of KaringoteRiver & NappeChal	Moderate	
	Kinanur	Low (Chayankara,Kat)		Banks of KaringoteRiver & KumbapallyChal	Low	

	ipayil, V ellariku ndu)					
Madakai			Banks of KizhakoteChal & KumbapallyChal		Moderate	
Pudukai			Banks of NileswaremPuzha & Broad flat bottom valleys (Paddy fields) Cherapuram, Kuttiamtol		Moderate	
Peral			Banks of KaringoteRiver & Broad flat bottom valleys (Paddy fields) Cherapuram, Nileswarem		Moderate	
Kilakode			Banks of KaringoteRiver & NapeChal		Moderate	
Timiri			Banks of KuttamatThodu		Moderate	
Cheruvathur			Banks of KaringoteRiver & KuttamatThodu		Moderate	
Nileswhar			Banks of KaringoteRiver & NileswaremPuzha		Moderate	
Kanhongad			Banks of NileswaremPuzha & Broad flat bottom valleys (Paddy fields) Thirithakara, Padnakkad, Kuvangadi		Moderate	
Hosdrug			Banks of NileswaremPuzha & Broad flat bottom valleys (Paddy fields) hosdrug, NithyanandaNagar		Moderate	
Balla			Banks of ArkankotaChal & Broad flat bottom valleys (Paddy fields) Aranjadi, Kodacheri, Balla		Moderate	
Ajnur		Low	Banks of ChittariHole & Broad flat bottom valleys (Paddy fields)Adayal, Manikot, Kizhakumkara, Ramnagar,		Moderate	
Ambalathara	Low (Baigot, Chulli, Talakkan am, Vellacheri, K arakote)		Banks of ArkankotaChal BaigoteHole & Broad flat bottom valleys (Paddy fields) Mundote, Chulli		Low	
Pullur			Banks of PullurPuzha & Broad flat bottom valleys (Paddy fields) Pullur, Udayanagar		Moderate	
Chittari			Banks of PullurPuzha, ChittariHole & Broad flat bottom valleys (Paddy fields) Ravaneswar		Moderate	
Keekan			Banks of ChittariHole & Broad flat bottom valleys (Paddy fields) Keekan, Kuchakad		Moderate	
Pallikere-I			Banks of BakelHole & Broad flat bottom valleys (Paddy fields) Pallikara		Moderate	

Pallikere-II				Banks of BakelHole & Baral Hole	Moderate	
Udima				Banks of BendiChal & Broad flat bottom valleys (Paddy fields) Kottikulam, Uduma	Low	
Bare				Banks of Baral Hole & Broad flat bottom valleys (Paddy fields) Bare, Nalamvathukal, Yerol	Low	
Panayal				Banks of ChandragiriRiver, BakelHole & Broad flat bottom valleys (Paddy fields) Alakod, Kannumbal, Pakam	Moderate	
Periya				Banks of ChandragiriRiver	Moderate	
Kodoph		Low (Padangoti, Chendala, Airata)		Banks of ChandragiriRiver	Low	
Belur		Low (Otyanchal, Chakitadukam, Atad, Lalur, Ayyangavu, Bhutagana, Modagramam)			Low	
Thayannur		High (PullibandamGudda, KodayarMala) Low (Panangat, Ural Kunnu, Anapadi, Banath)		Banks of AnapadyChal	Low	
Parappa		Low (Vellarkundu, Kandu, Kandu)			Low	

	Westeleri	High (Muttan kadavu, KottaMala) Low (Kunna kadu, Parambu, Mala, Narkalaka du, Nattakkal)		Banks of Malothi Puzha	Moderate	
Maloth		High (Panniyurmanibetta, Panathangi, Forest) Low (Vallikadavu, Maloth, Forest)			Low	

	Balal	High (Kanda dkaMal a,Kundu pali, Yel largotbe tta, Mad ataMala) Low (Chulli, Pungac hal, Kun dupalli, Palachal , Balal, V ellariku ndu)			Low	
	Kallar	High (NiliMa la, Aiyan gal) Low (Ukkula vu, Paya nkare, B ayavala p, Kudu mbur)		Banks of PanathadiPuzha	Low	

Panathady	High (Perathodi, Aripriot, Forest) Low (Panant hadi, Balanthodu, Kallapalli, Manjanadka, Kammadi)		Banks of Panathadi Puzha	Low	
Kalanad			Banks of Chandragiri River & Broad flat bottom valleys (Paddy fields) Kalanad, Chandragiri, Melparambu	Low	
Talangara		Low & High with Sea Wall	Banks of Chandragiri River & Kasargod Hole	Low	
Chengala	Low (Kallakatta)		Banks of Chandragiri River & Mogral River	Low	
Thekkil			Banks of Chandragiri River & Broad flat bottom valleys (Paddy fields) Aramaganam, Anije	Low	
Koluthur			Banks of Chandragiri River & Payaswani River	Low	
Bedadka			Banks of Chandragiri River, Payaswani River & Broad flat bottom valleys (Paddy fields) Kuvare, Kolarangod	Low	
Munnad	Low (Kudiatadka)		Banks of Chandragiri River & Payaswani River	Low	
Kuttikole	Low (Palianje, Pudiaparambala, Kolkaara)			Low	

KASAGAD

Karivedakam	Low (Alathu mkadav u,Eniya di,Anna duka)		Banks of KakkathanniThodu	Low	
Bandadka	High (Anenia jelkaya Betta) Low (Manim ula)		Banks of Bandadka Hole	Low	
Delampady	Low (Belipa di Forest)		Banks of PayaswaniRiver & Broad flat bottom valleys (Paddy fields) Miyats, Belipadi, Hosangadi	Low	
Adoor	High (Forest) Low (Tappek allu, Ballakar ,Munde bettur,T hrthakat e,Kadu mene,B alavanta dka)		Banks of PayaswaniRiver & Broad flat bottom valleys (Paddy fields) Kurnur, Bayanamula	Low	
Muliyar	Low (Tyamb adi,Kutt angol,B etipadi, Mattad mule)		Banks of PayaswaniRiver & Broad flat bottom valleys (Paddy fields) Malla,Muliyar	Low	
Pady			Banks of MogralRiver	Low	
Bela			Broad flat bottom valleys (Paddy fields) Kunjar	Low	
Madhur			Banks of MogralRiver & Broad flat bottom valleys (Paddy fields) Kuthirapadi	Low	

Kudlu		Low & High with Sea Wall	Banks of MogralRiver, Kasaragod Hole & Broad flat bottom valleys (Paddy fields) Kavugali, Kallangai,	Low	
Koipady		Low	Banks of MogralRiver, KumbalaRiver & Broad flat bottom valleys (Paddy fields) Kadiyamma, Kotekar, Koipadi, Nirol, Ichilampadi	Low	
Bombrana		Low	Banks of ShiriyarRiver & KumbalaRiver & Broad flat bottom valleys (Paddy fields) Kidiru, Pukate, Ambaledka	Low	
Edanad			Banks of ShiriyarRiver, MogralRiver & Broad flat bottom valleys (Paddy fields) Edanad, Sitanguli	Low	
Neerchal			Banks of YalkannaRiver & Broad flat bottom valleys (Paddy fields) Kunikanamota, Chimaladka	Low	
Badiyadka	Low (Guttu)		Banks of Palatadka Hole & Broad flat bottom valleys (Paddy fields) Goliadka	Low	
Kumbadaje	Low (Yetteduka, Nat ekal, Kanakod)		Broad flat bottom valleys (Paddy fields) Kumbadaje, Balinja, Natekal	Low	
Adhur	Low (Paikana, Delampadi, Yerinjeri adka)		Broad flat bottom valleys (Paddy fields) Paikana, Delampadi, Narala	Low	
Nettanige	Low (Peruvathodi, Kakkabetu, Bellachol)		Banks of MalenkiThodu	Low	
Badre	Low (Sorga, Surdel)		Broad flat bottom valleys (Paddy fields) Saletadka, Korikkar	Low	
Enmakje	Low (Bakalpa dav, Thinnkalpadavu)		Banks of ENmakjeThodu	Low	
Maire	Low (hermai)		Banks of YalkannaRiver & Broad flat bottom valleys (Paddy fields) Cheri	Low	

Badoor) Low (Nalkote)			Banks of Shiriyariver		Low	
Bayar	Low (Cheralu)			Banks of Shiriyariver		Low	
Paivalike	Low (Sarigala, Kuriyal)			Banks of Uppalariver, KalganiThodu & Broad flat bottom valleys (Paddy fields) Sarigala		Low	
Kayyar	Low (kadimbarbata)			Banks of Shiriyariver & KalganiThodu		Low	
Ichilangod				Banks of Shiriyariver, KaiyaruThodu & Uppalariver		Low	
Uppala		Low & High with SeaWall		Banks of Uppalariver, KaiyaruThodu & Broad flat bottom valleys (Paddy fields) UppalaGate, Ala, Mutta, Bandyode		Low	
Kadambar				Banks of Uppalariver, KuluyalThodu, MadankattuThodu		Low	
Meenja				Banks of Uppalariver & Broad flat bottom valleys (Paddy fields) Munnipadi, Devastanarth, Kaliyuru		Low	
Hosbettu				Banks of Uppalariver, BanaramanaHole & Broad flat bottom valleys (Paddy fields) Manjeswaram, Kadamararu		Low	
Kumjathur				Banks of KunjatturThodu & Broad flat bottom valleys (Paddy fields) Bachuvaike N. Manjeswaram		Low	
Varkady				Banks of BanaramanaHole & Broad flat bottom valleys (Paddy fields) Aringula, Varkady, Betela, Nadibali		Low	
Kodlamogaru	Low (Ariakattu)			Banks of Uppalariver & Broad flat bottom valleys (Paddy fields) Adakala, Bakarabail, Datgoli		Low	



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