

*Preventable Losses... Saving
Lives and Property through
Hazard Risk Management*





A Strategic Framework for the Europe and Central Asia Region

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October 2004



THE WORLD BANK

Contribution and Support

- The World Bank, Vice Presidency for Europe and Central Asia Region
 - Financial Support from DFID and Norwegian Government with assistance of WB Hazard Management Unit
 - Workshop: World Bank Institute and Turkish Marmara University
 - Virtual consultations:
 - > 300 international and national experts
 - > 20 countries
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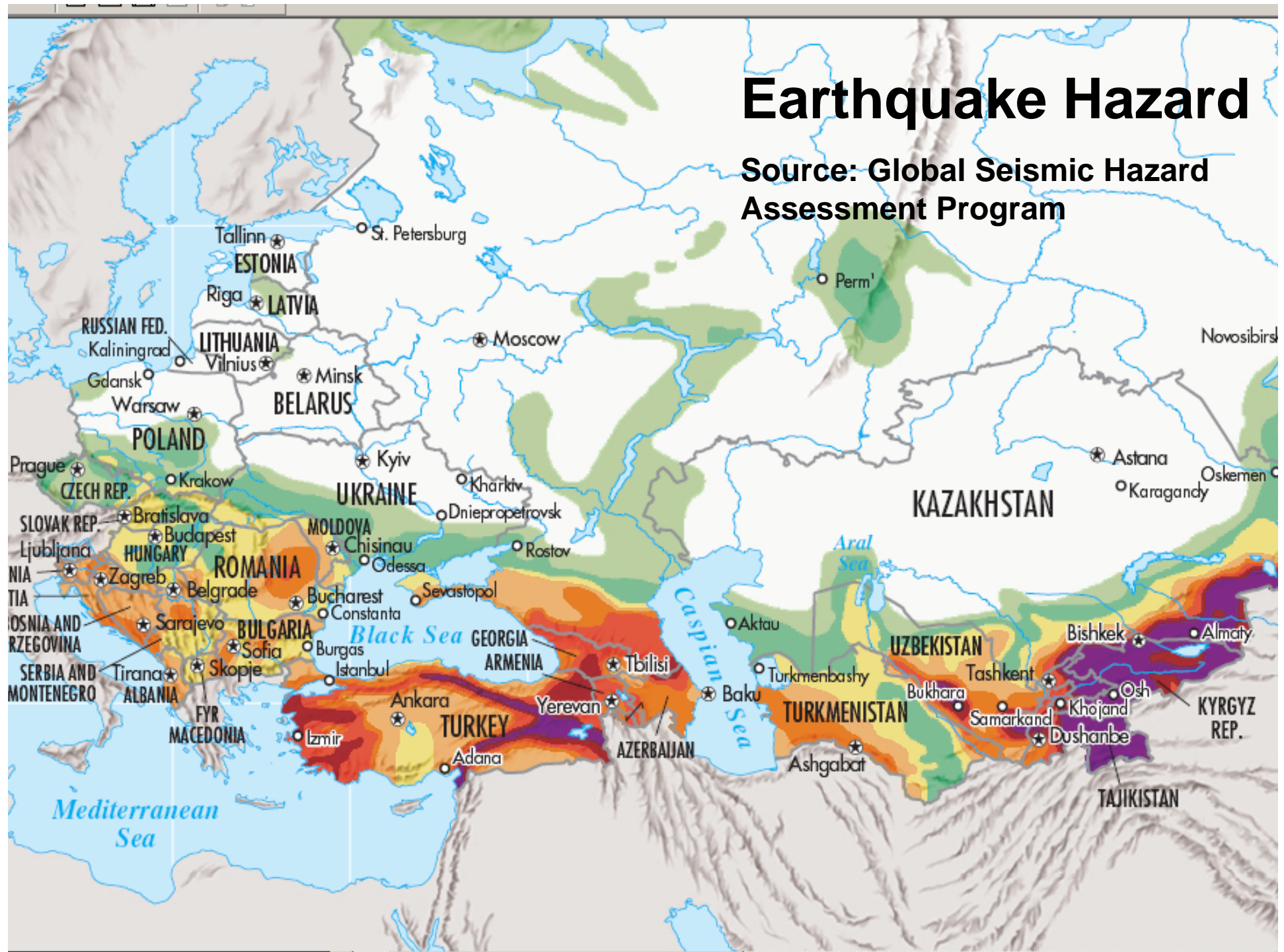
Global Trends

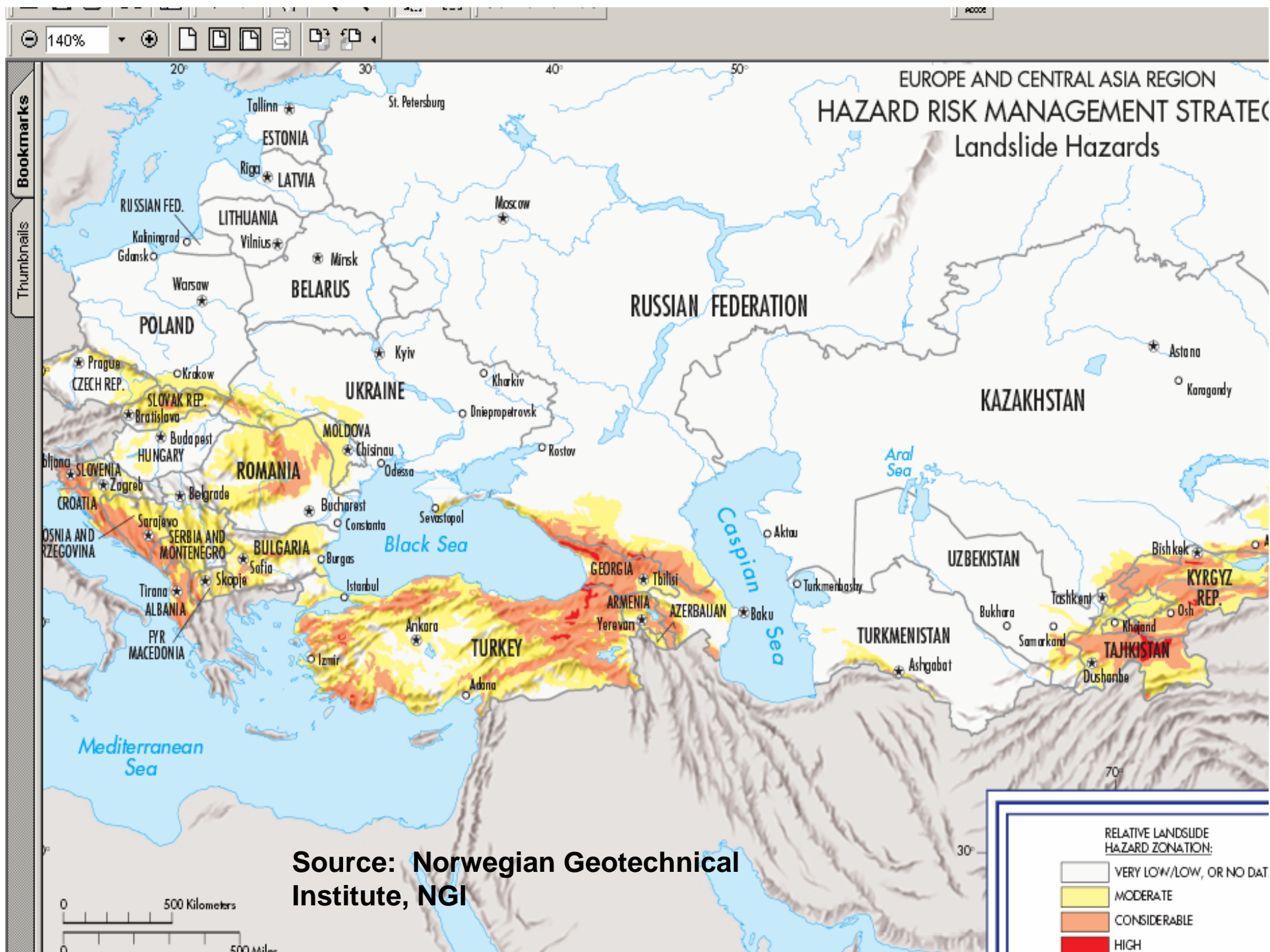
- Increased economic losses
 - \$630 bn according WDR 2003
- Several major disasters in last 10 years
 - El Nino, Hurricanes Georges, Mitch; Orissa cyclone, Gujarat and Marmara Earthquakes, Central Europe floods
- Risk mitigation is highlighted in MDGs
- Consensus on pro-active approach

Challenge: how best to manage the risk!

Earthquake Hazard

Source: Global Seismic Hazard Assessment Program





Social and Economic Impact of Natural Disasters in ECA

- 32 million are exposed to rare catastrophic events
(7 % of Region's population)
- 8 million to frequent events
- \$70 billion losses in last 30 years
- Catastrophic events (annual probability of occurrence, 0.5%)
 - >20% GDP Armenia, Azerbaijan, Georgia, Macedonia, and Tajikistan
 - >10% GDP Kyrgyz Republic, Moldova
 - >5% GDP Kazakhstan, Romania, Russia, Turkey, and Western Balkan
- \$2 bn annual losses

Hazard Risk Management Framework

Emergency Preparedness

- Emergency Response Planning
- Exercises
- Public Awareness
- Communication and Information Management Systems
- Technical Emergency Response Capacity

Institutional Capacity Building

- Decentralized Emergency Management System
- Community Participation
- Legislative Framework
- Training, Education and Knowledge Sharing
- International Cooperation



Risk Assessment

Risk Mitigation Investments

- Warning and Monitoring Systems
- Hazard Mapping and Land Use planning
- Code Refinement and Enforcement
- Hazard Specific Risk Mitigation

Catastrophe Risk Financing

- *Ex-Ante* Funding Arrangements
 - Catastrophe Insurance Pools
 - Reserve Funds
 - Contingent Capital Facility
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Principle Questions

■ Risk Identification and Assessment

- Countries risk exposure – social / economic?
- Concentration of risk?
- Loss exceedance probability?

■ Risk Mitigation

- Physical risk mitigation measures?
- Structural and non-structural measures?
- Priorities of intervention?

■ Emergency Preparedness

- Technical and organizational capacity?
 - System functions under stress?
 - Integration local/national, NGOs, bilateral, and international institutions?
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Principle Questions (cont)

■ Catastrophe Risk Financing

- Financial Capacity to absorb catastrophic events?
- Funding gap?
- Suitable financial instruments?

■ Institutional Capacity Building

- Manage emergencies at different levels?
 - Institutional set-up allows strategic planning and decision-making?
 - Integration of technical, social, financial, and economic considerations in investments decision process?
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1st Pillar: Risk Assessment

... for any hazard

$$\text{RISK} = (H \times E \times V)$$

where

H = Hazard

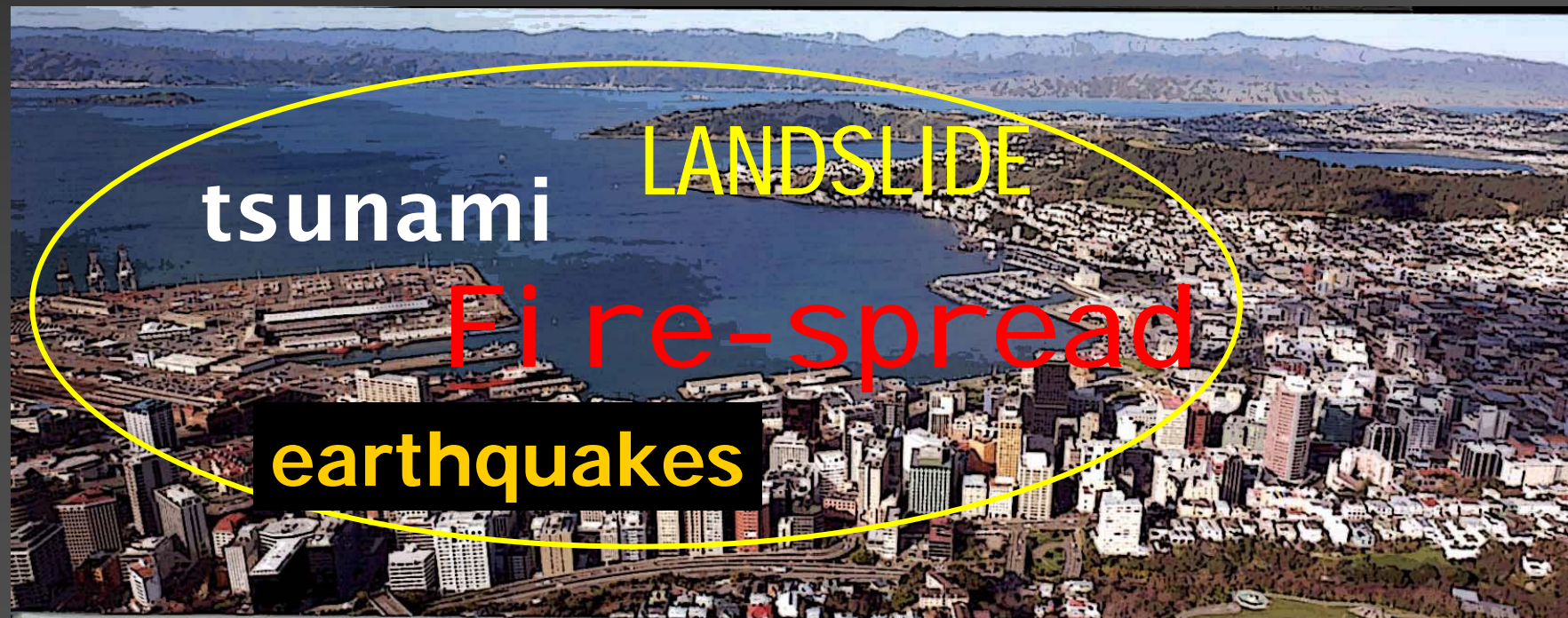
E = Elements at Risk

V = Vulnerability

The all-hazard approach

Hazards

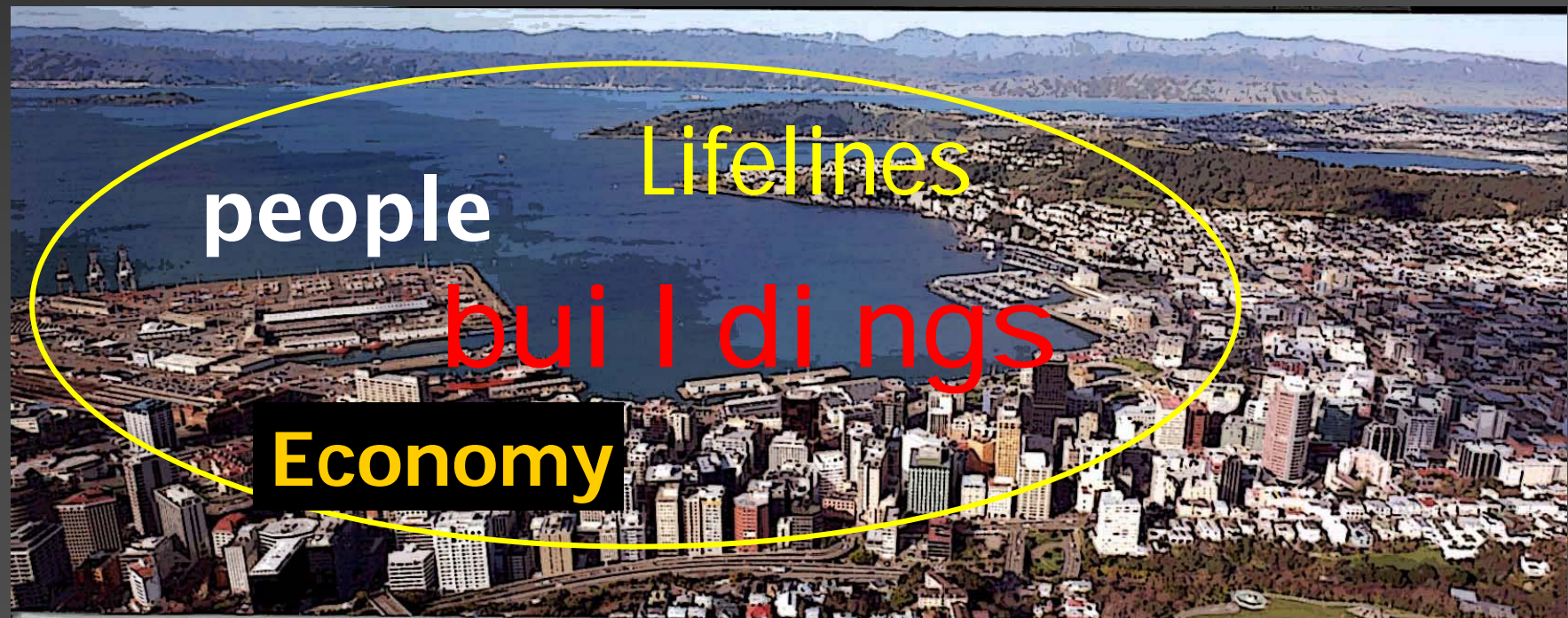
Slide provided by NZ Geological & Nuclear Science



The all-hazard approach

Elements at Risk

Slide provided by NZ Geological & Nuclear Science



The all-hazards approach

The output (risk)

Damage

casualties

Social impact

ECONOMIC IMPACT



Slide provided by NZ Geological & Nuclear Science

2nd: Emergency Preparedness

- Emergency Response Planning
 - Exercises
 - Public Awareness
 - Communication and Information Systems
 - Technical Emergency Response Capacit
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3rd: Risk Mitigation Investments

- Warning and monitoring systems
- Hazard mapping
- Land use planning
- Code refinement and enforcement
- Hazard specific risk mitigation measures



4th: Institutional Capacity Building

- Decentralized Emergency Management Systems
 - Community Participation
 - Legislative Framework
 - Training, Education, and Knowledge Sharing
 - International Cooperation
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5th: Catastrophe Risk Financing

- Ex-Ante funding arrangements
 - Catastrophe insurance pool
 - Reserve Funds
 - Re-insurance
 - Contingent Capital Facility
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Recommendations for Countries

- Review hazard risk management (HRM) practices in high-risk countries
 - Integrate HRM into the economic development process
 - Carry out detailed risk assessments in highly vulnerable countries
 - Adopt country specific, high priority risk mitigation measures
 - Develop catastrophe risk financing strategy
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Recommendations for World Bank

- Mainstream HRM in Country Assistance and Poverty Reduction Strategies
 - Promote new financial instruments as an incentive for proactive risk management
 - Expand knowledge-sharing activities between countries and practitioners
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Positive Outlook:

- New generation of risk mitigation investments are currently under preparation / implementation in Kyrgyz Republic, Poland, Romania, Russia, and Turkey
- Estimated \$1 Billion World Bank funding

=> Increased commitment by ECA countries to protect their population and economies
