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United Nations Development Programme  
Disaster Risk Management Programme  
(UNDP DRMP)



# Regional Disaster Risk Assessment for the territory of Tajikistan





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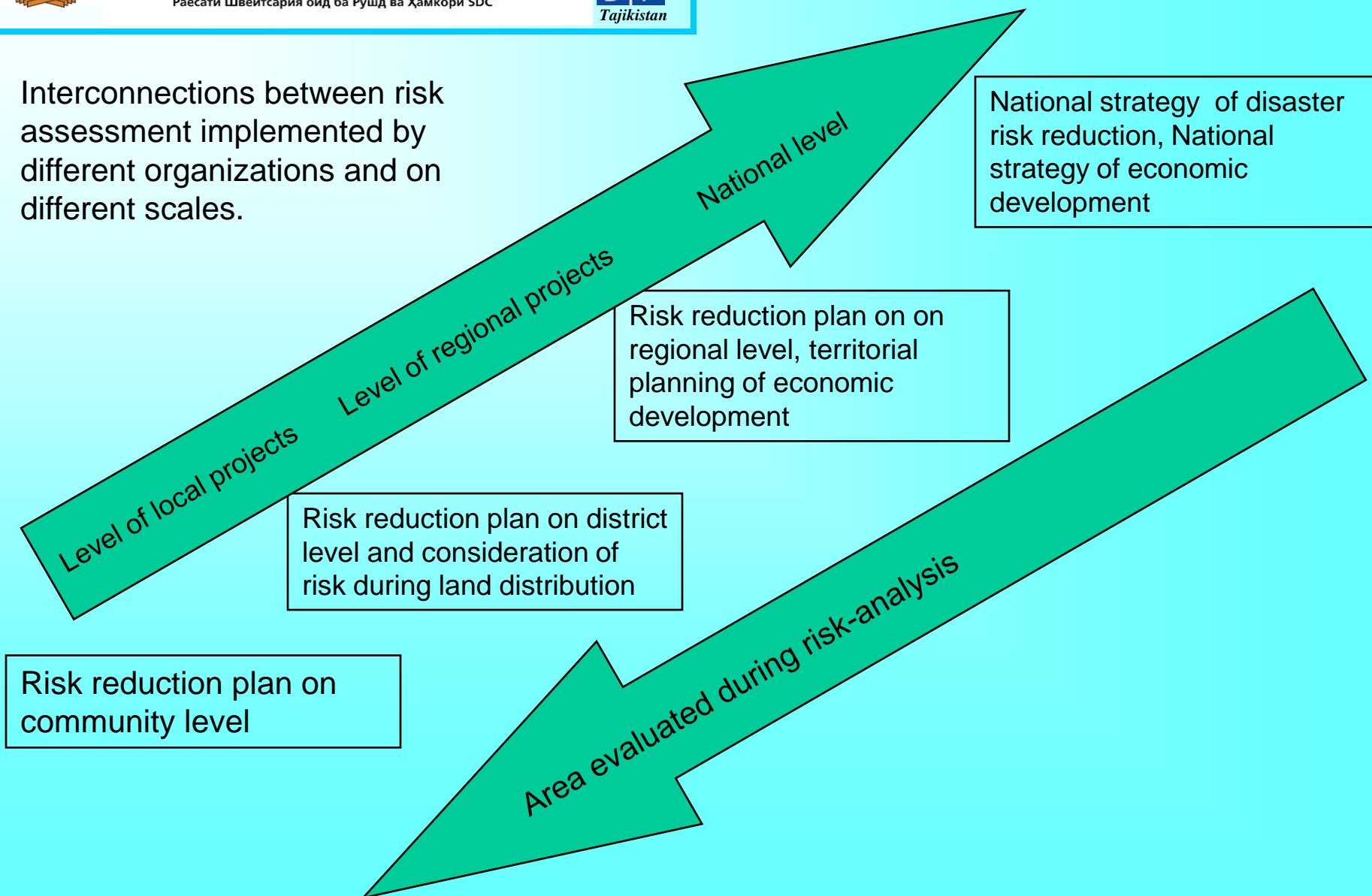
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Interconnections between risk assessment implemented by different organizations and on different scales.





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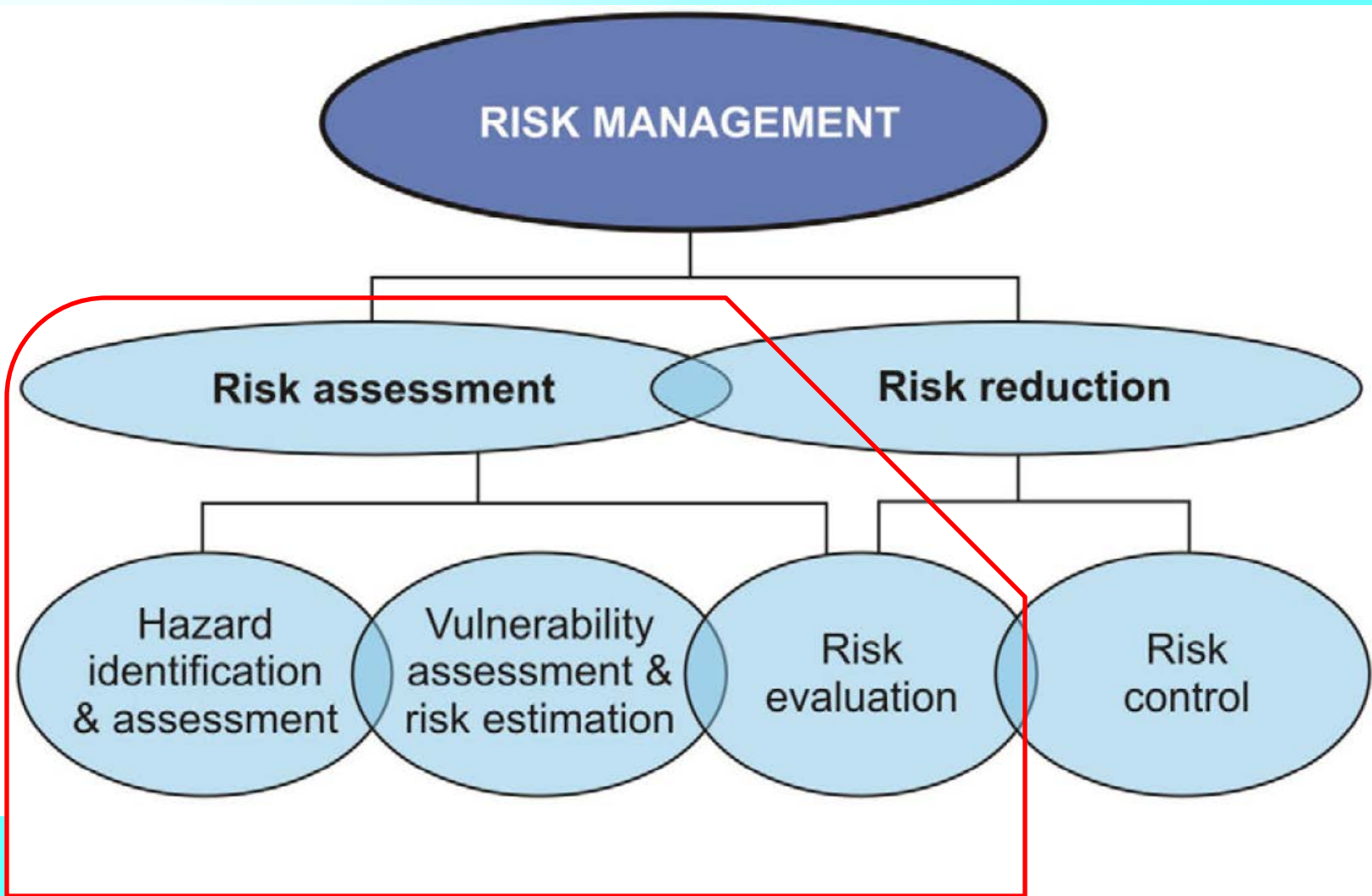
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### Risk management structure and place of work for risk assessment





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# Method of assessment of risk during emergency situations

Step by step procedures:

### Hazard identification

What are the probable hazards and their magnitude?

### Hazard assessment

How often do the hazards of a given magnitude occur?

### Elements at risk identification

What are the elements at risk?

### Vulnerability assessment

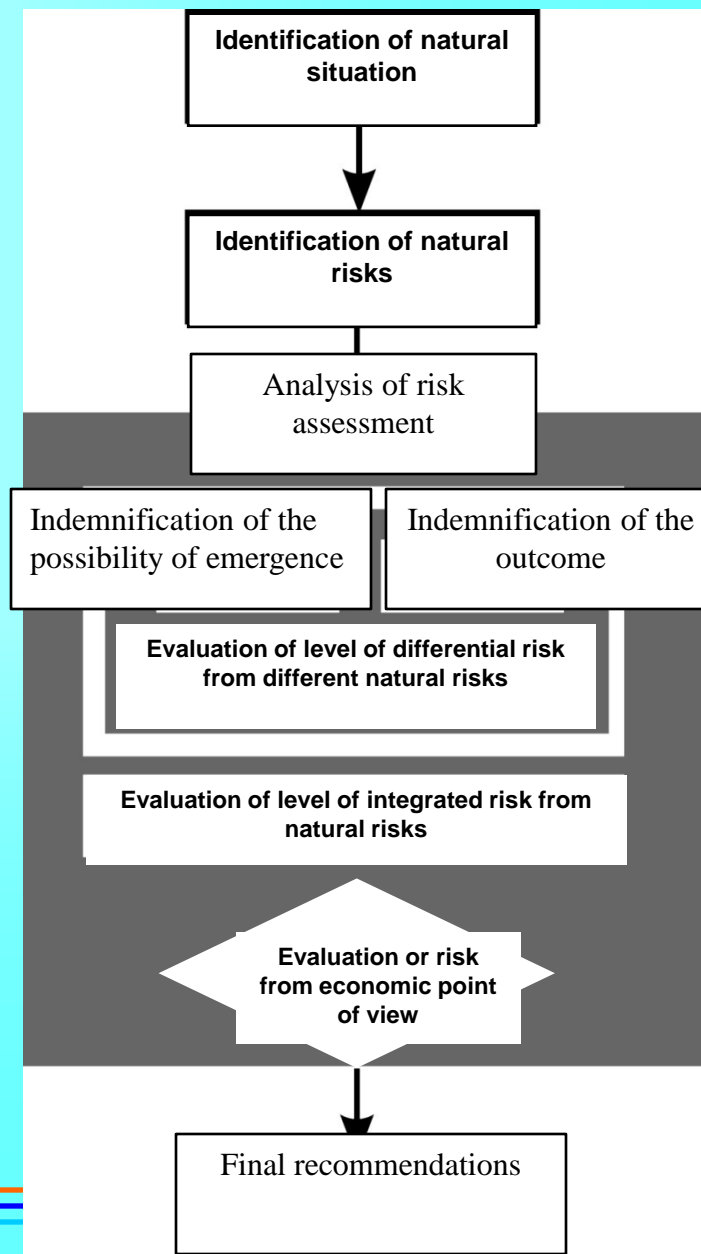
What is the possible damage to the elements at risk?

### Risk estimation

What is the probability of damage?

### Risk evaluation

What is the significance of the risk?





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## GEOLOGICAL RISK ASSESSMENT

**Geological risk** in comparison with hazardous geological processes (landslides, landslips and other rapid geological hazards formed in seconds, minutes and first days) should be assessed according to the following formula:

$$R(H) = P^*(H) \cdot P(H) \cdot V(H) \cdot D_e, \text{ where}$$

**R(H)** – risk of losses caused by a hazard **H** of certain origin and intensity;

**P\*(H)** – frequency of a hazard **H** which is numerically equal to its statistical probability (event/year);

**P(H)** – probability of hazard **H**' attack upon an assessed object in a space;

**V(H)** – vulnerability of an assessed object towards hazard **H**;

**D<sub>e</sub>** – value of an object before it became affected (in Rubles).

Geological risk has to be assessed as total and specific (applied to a unit area) value of this risk

(as per «Recommendations for geological risk assessment at the territory of Moscow», 2002)

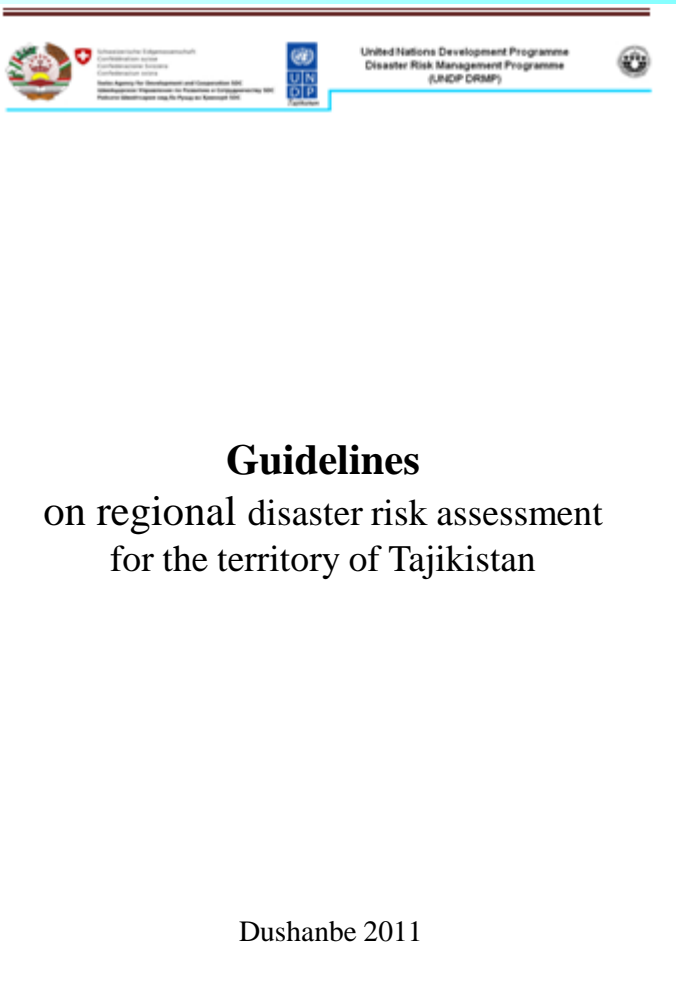


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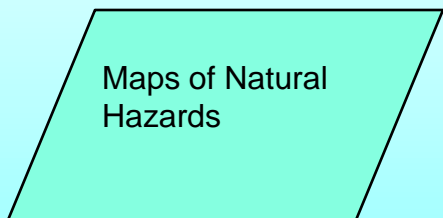


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$$R(H) = P^*(H) \cdot P(H) \cdot V(H) \cdot D_e$$

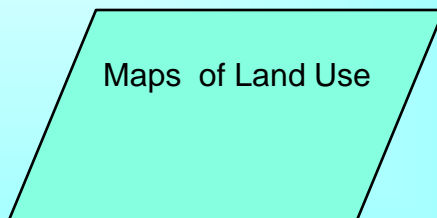
Stressors




Attributive table

$P^*(H) \cdot P(H)$

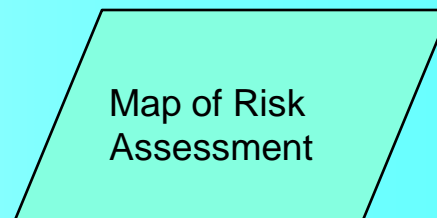
Receptors




Attributive table

$V(H) \cdot D_e$

Risk




Attributive table

$R(H)$

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# Couching of National Risk Assessment Methodology (October-December 2011)





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## **PROJECT MAIN OBJECTIVES:**

- 1. Development of training module (programmers, presentations, handouts, test) and conducting the extended course on «Disaster assessment, using National Methodology on Disaster Risk Assessment»;**
- 2. Practical training on mapping natural hazards risk on the territory of "Tajik Depression» Tajikistan (Southern Tajikistan);**
- 3. Consulting on hazards mapping with National Team of experts.**



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$$R(H) = P^*(H) \cdot P(H) \cdot V(H) \cdot D_e$$

Stressors

Maps of Natural  
Hazards


Attributive table

$P^*(H) \cdot P(H)$

Receptors

Maps of Land Use


Attributive table

$V(H) \cdot D_e$

Risk

Map of Risk  
Assessment


Attributive table

$R(H)$