



Anno europeo del volontariato 2011



PROTEZIONE CIVILE

Presidenza del Consiglio dei Ministri
Dipartimento della Protezione Civile

Progetto Pilota Scutari



Venerabile Arciconfraternita della Misericordia
GRUPPO DI PROTEZIONE CIVILE



Università degli Studi di Firenze

Dipartimento di Scienze della Terra
**CENTRO DI COMPETENZA DEL DIPARTIMENTO DELLA
PROTEZIONE CIVILE - PRESIDENZA DEL CONSIGLIO DEI MINISTRI**



Con la collaborazione di:



I Care – Sacravita (Albania)



Prefettura di Scutari (Albania)



Comune di Dajç (Albania)



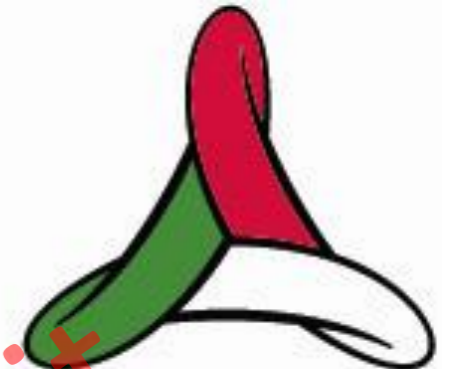
Università "Luigi Gurakuqi" di Scutari



A.L.T.A. – Regione Veneto



Anno europeo del volontariato 2011



PROTEZIONE CIVILE

Presidenza del Consiglio dei Ministri
Dipartimento della Protezione Civile

Nell'ambito delle manifestazioni nazionali indette nella settimana dall'8 al 14 luglio 2011 dal Dipartimento di Protezione Civile

www.associazionelaguardia.it

Per promuovere, presso le associazioni di volontariato, iniziative di protezione civile, nella **settimana dal 4 al 10 luglio** a Scutari – Albania, si sono svolte parte delle attività previste dal Progetto Pilota Scutari, che hanno visto la partecipazione attiva dei volontari di protezione civile **I Care – Sacravita** a supporto delle attività scientifiche



Il **Progetto "Pilota" Scutari** è svolto in collaborazione tra la Venerabile Arciconfraternita della Misericordia di Firenze ed il Dipartimento di Scienze della Terra (Università degli Studi di Firenze) e si focalizza sulla previsione e **prevenzione dei rischi geologici e sulla formazione e addestramento di volontari di Protezione Civile albanese**



Il nucleo di partenza di questo sistema di volontariato è il gruppo **I Care – Sacravita** con sedi a Scutari, Tirana e Lehze – Albania, una struttura creata dalla Venerabile Arciconfraternita della Misericordia di Firenze, Gruppo di Protezione Civile e costituita da circa **130 giovani albanesi**



Il fine è, quindi,
la creazione di un
Sistema di
Volontariato di
Protezione Civile
sul modello di
quello esistente
in Italia



Tale modello consente di mobilitare risorse umane, morali, tecniche, scientifiche e logistiche in caso di medie e grandi emergenze, concretizzando il principio di **sussidiarietà**



Attività di Volontariato



Attività di Volontariato



Tirana, 8 Luglio 2011





Venerabile Arciconfraternita della Misericordia
GRUPPO DI PROTEZIONE CIVILE



Università degli Studi di Firenze

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**CENTRO DI COMPETENZA DEL DIPARTIMENTO DELLA
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Scutari International Demonstration Project

www.associazioneloscutari.it

Activities

- Hazard and risk assessment in a test area:
 - Hydrogeological risk
 - Seismic risk
- Training and education:
 - Addressed to the Civil Protection Volunteer Teams
 - Addressed to the representatives and technicians of local Communities

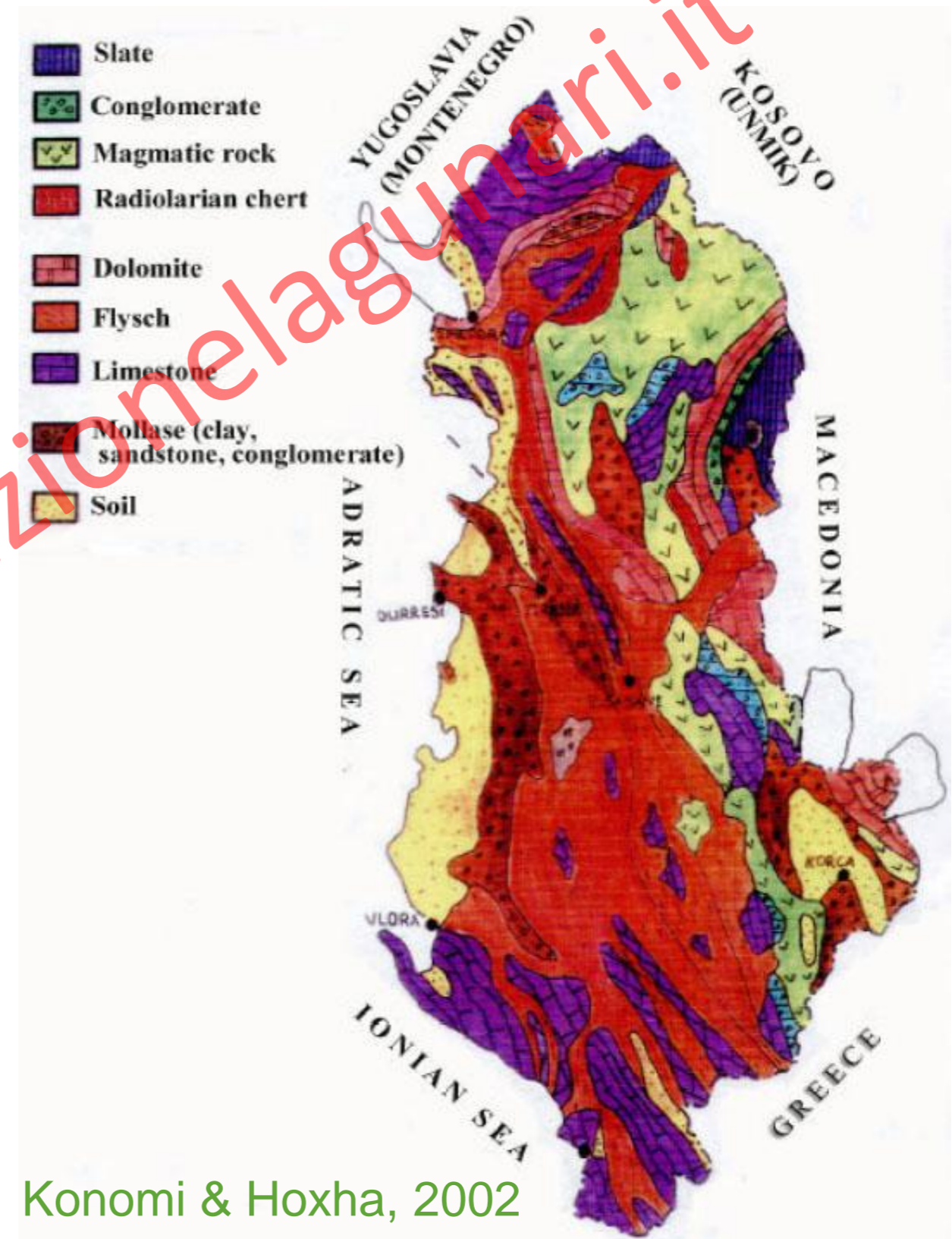
Geological settings

58,4% surface
shales and molasses

23% surface
carbonates and evaporites

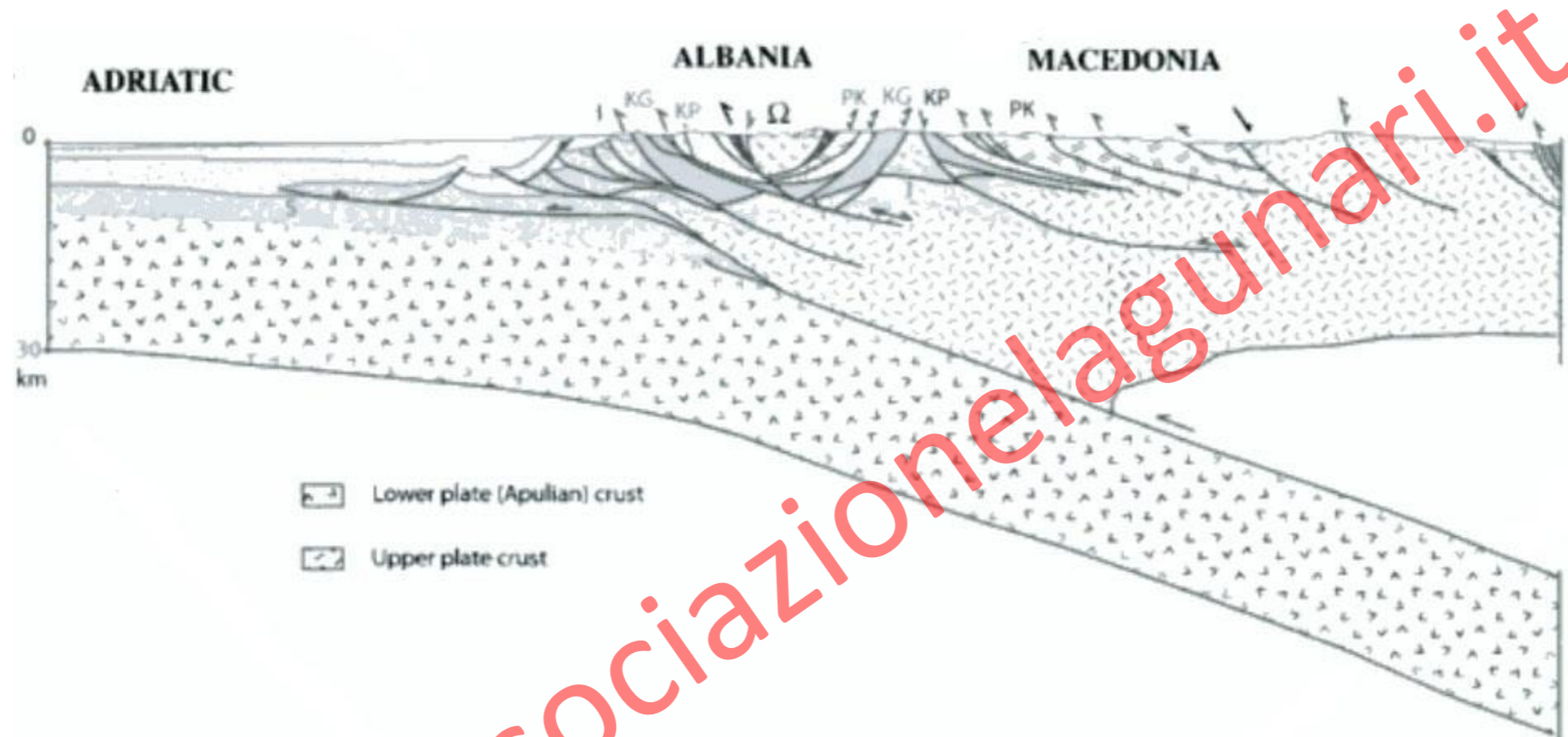
15% surface
ophiolites

(Hallaçi *et al.*, 2002; Hoti & Axhemi, 2003; Meco & Sinojmeri, 2004)



Konomi & Hoxha, 2002

Geology of Albania: tectonics



Transmed, 2004; Carazza *et al.*, 2004; Muceku *et al.*, 2006

- Adria microplate subducts under Eurasian plate
- Eastern Albania: extensional mechanisms
- Western Albania: compressional mechanisms

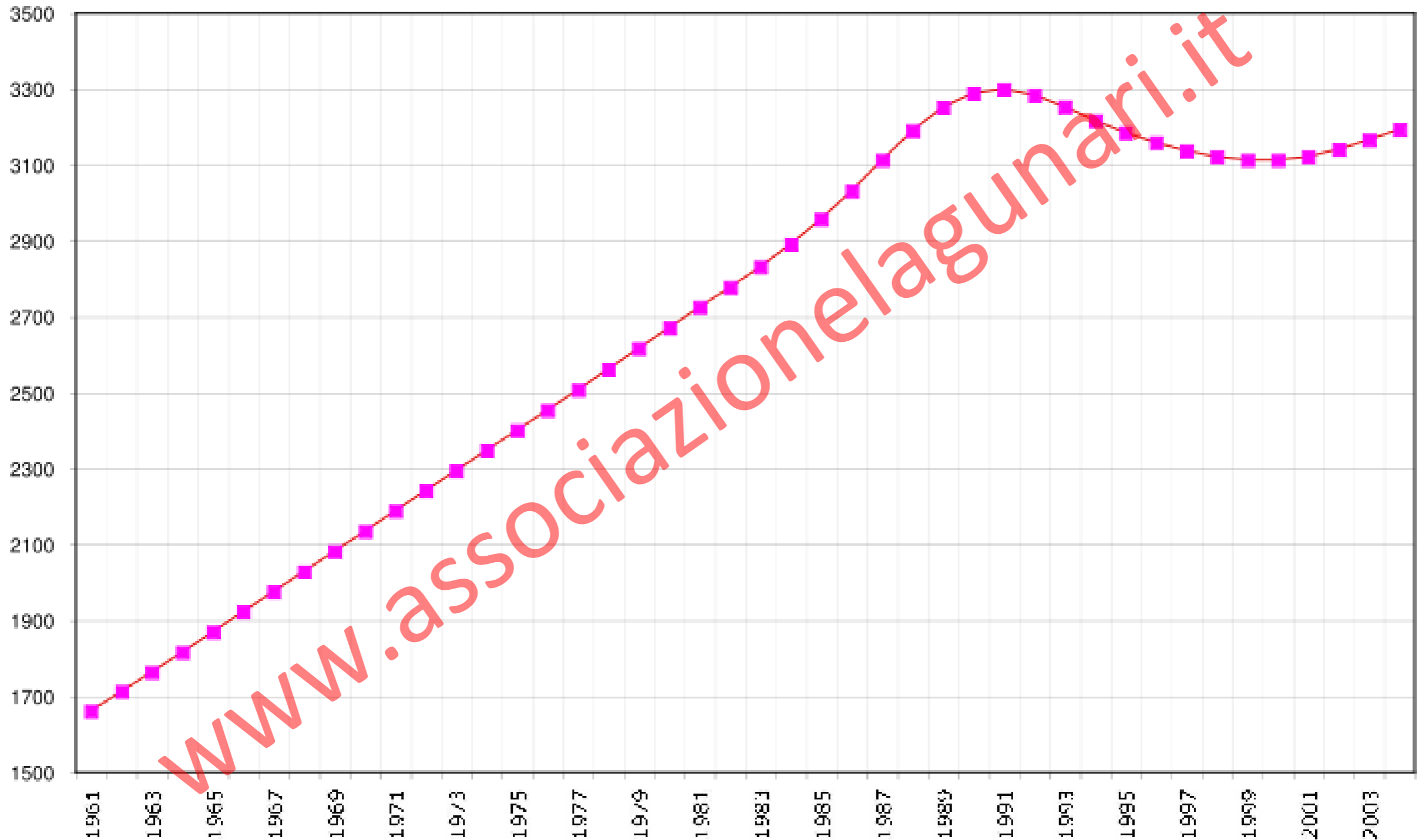
Natural hazards in Albania

1900-2011

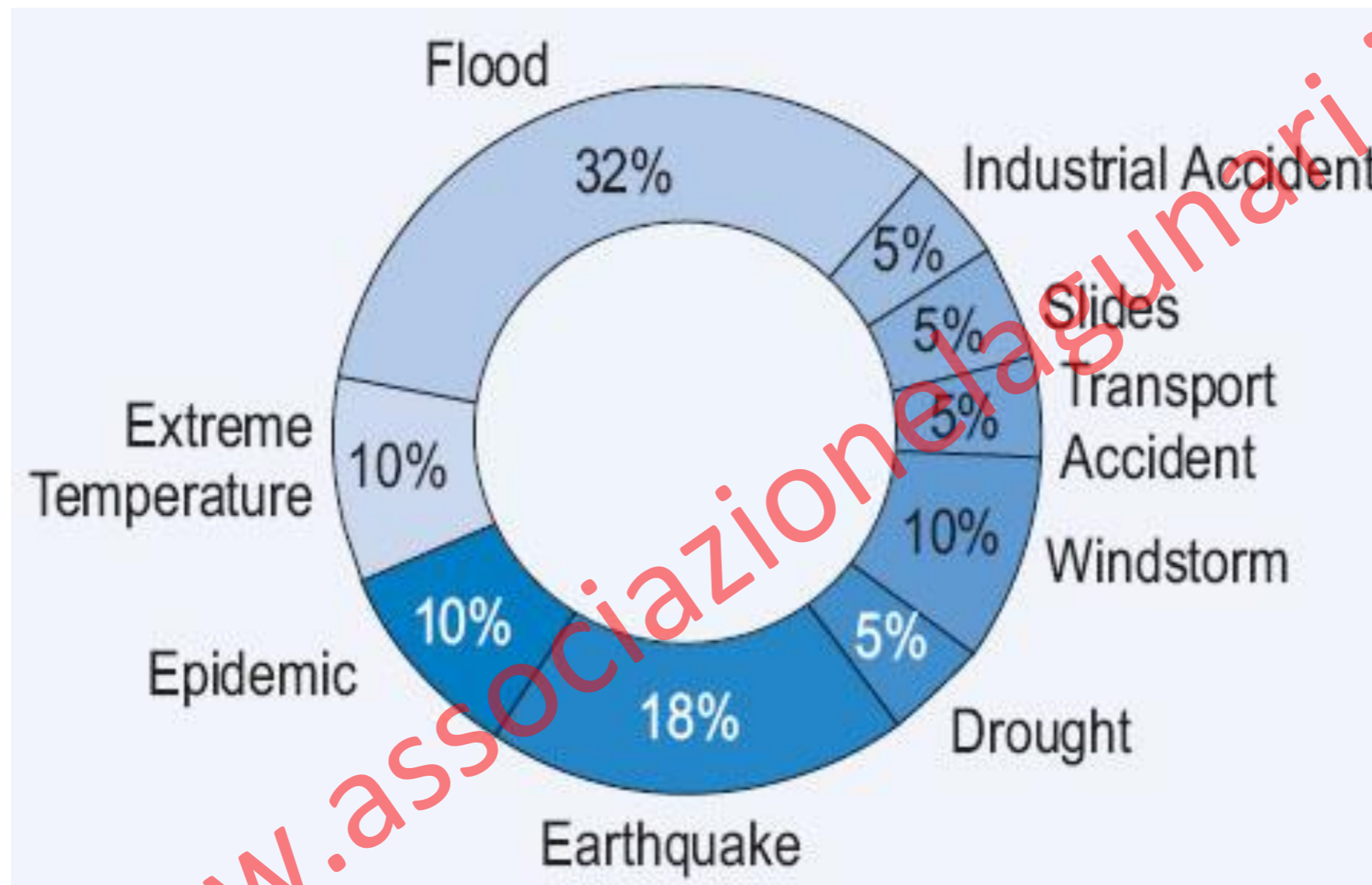
	Deaths	Total Affected
Drought	0	3200000
Earthquake (seismic activity)	47	84209
Epidemic	7	292
Extreme temperature	71	7235
Flood	19	136984
Mass movement wet	57	26
Storm	8	525000
Wildfire	0	75

Source: "EM-DAT: The OFDA/CRED International Disaster Database
www.emdat.be - Université Catholique de Louvain - Brussels - Belgium"

Demographic growth



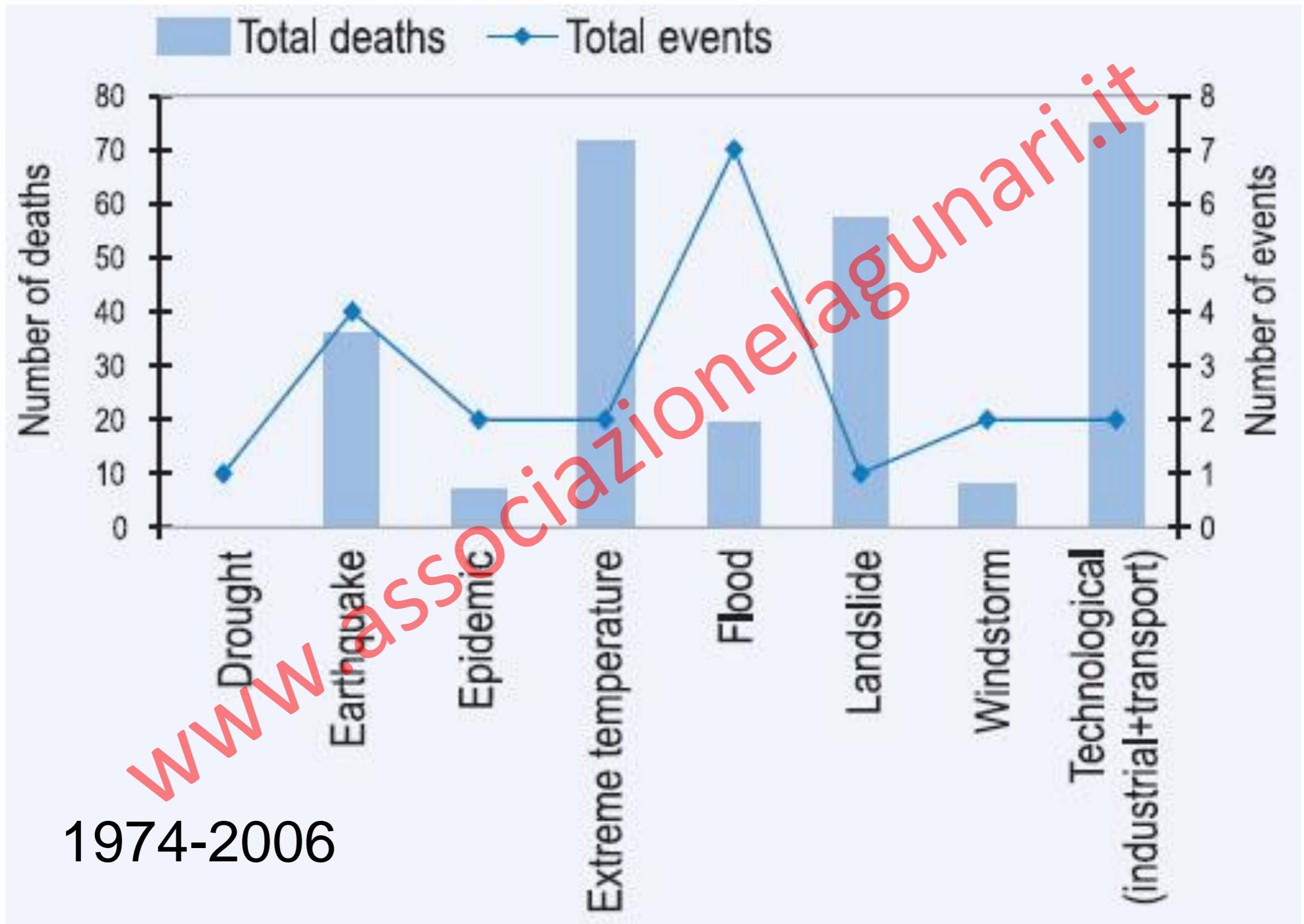
Natural Risks



International Strategy for Disaster Reduction (UN), 2008

- Research into natural risks began in the 60s
- One of the most threatened regions in Europe, especially due to hydrometeorological hazards

Natural Risks



1974-2006

Natural Risks



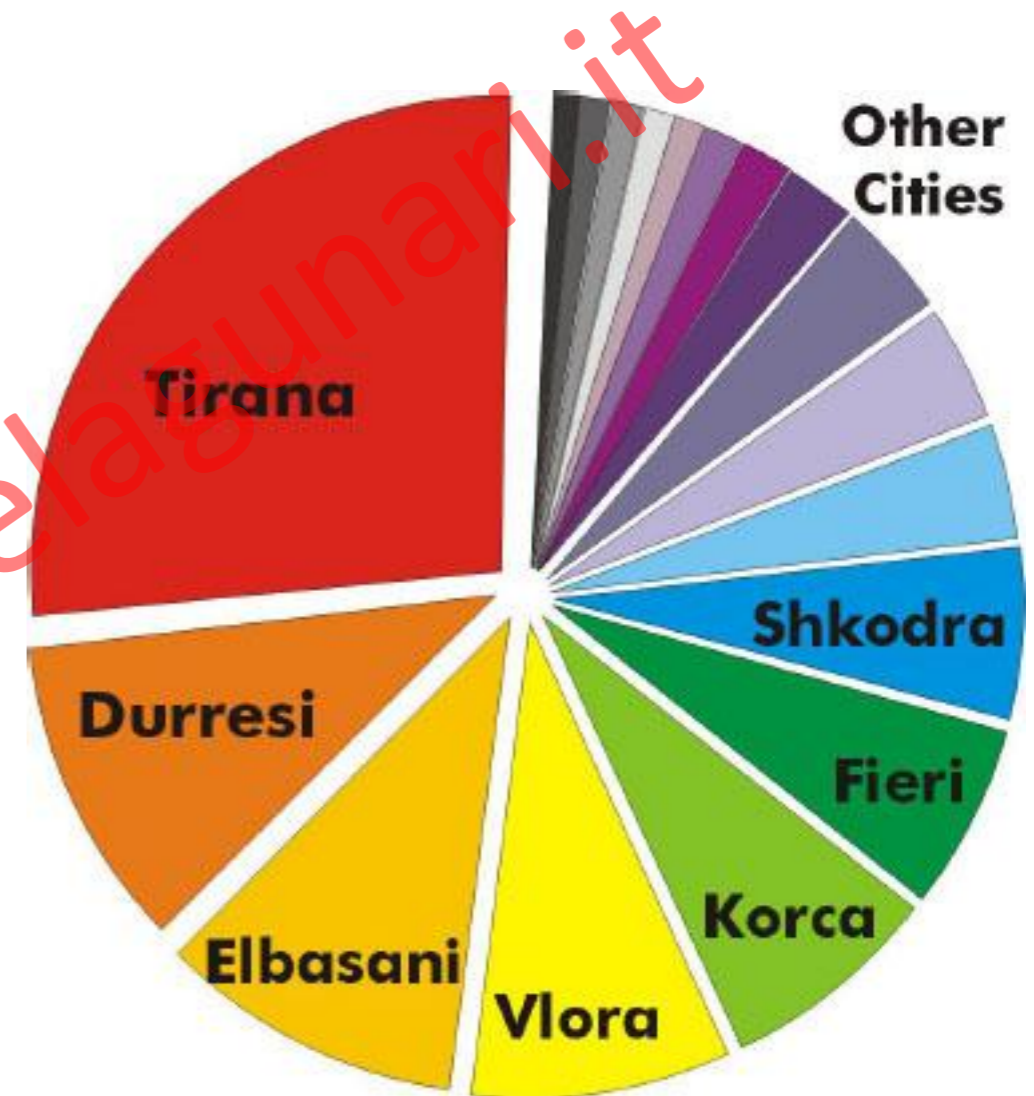
1974-2006

Seismic hazard



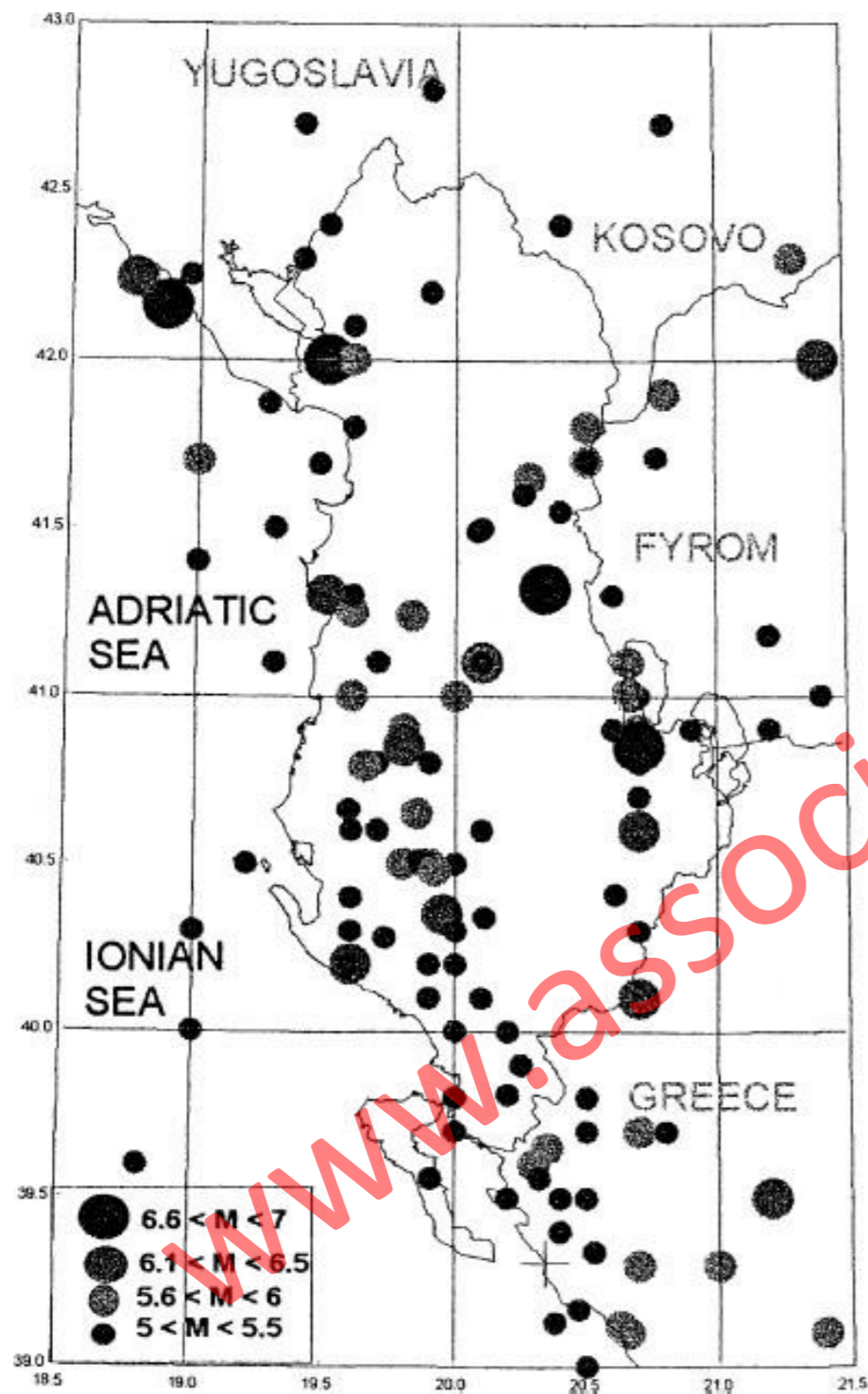
Earthquake hazard

- Seismic risk =
(probability of damaging ground motion) x (city population)
- Since 1974: 4 major earthquake killing 36 people and affecting 2790 (ISDR-UN, 2007)

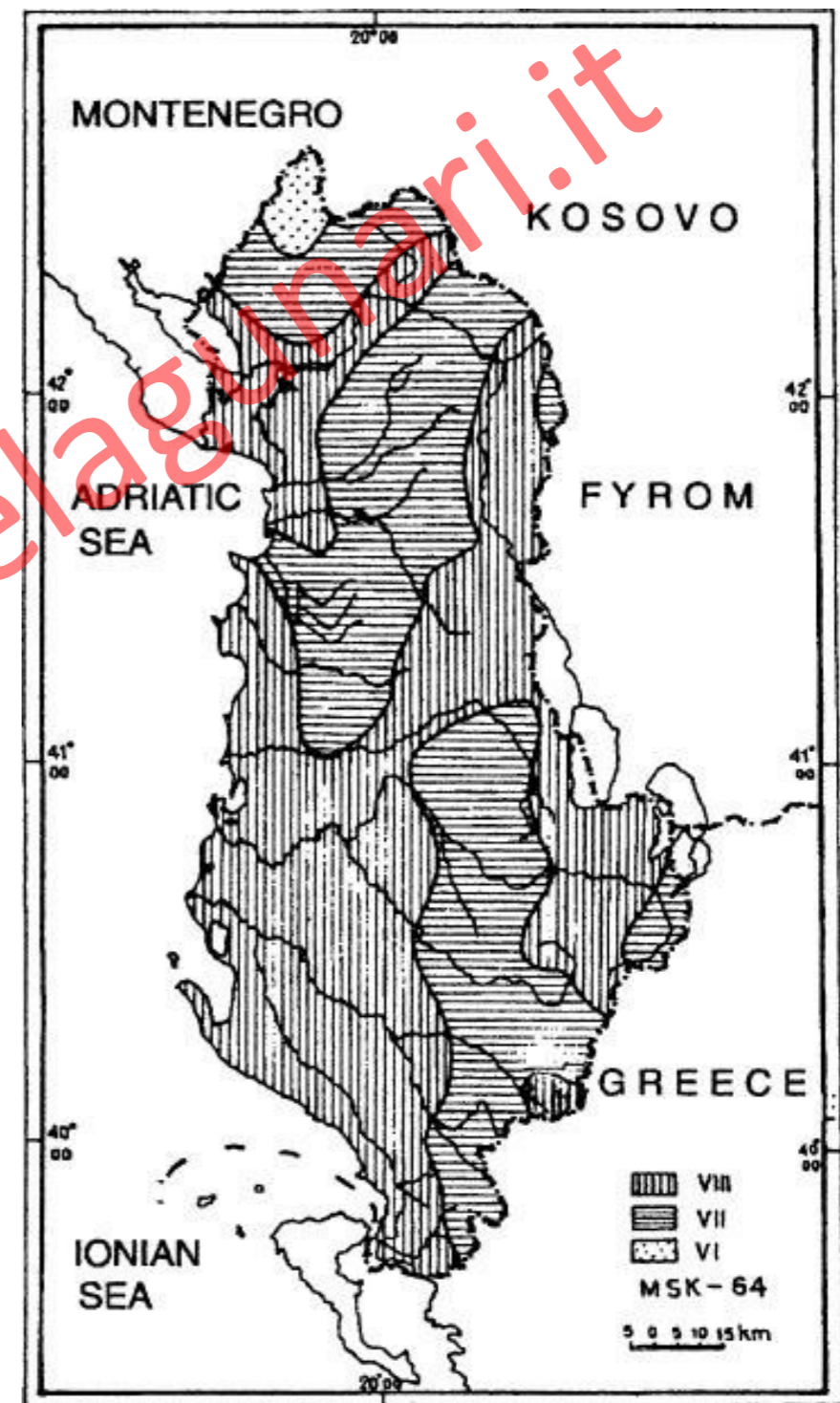


Seismic risk (Aliaj *et al.*, 2004)

Earthquakes in Albania



Earthquakes with $M \geq 5.0$ in 20th century
(Muço *et al.*, 2001)



Seismic zonation (intensity map)
(Sulstarova *et al.*, 1980)

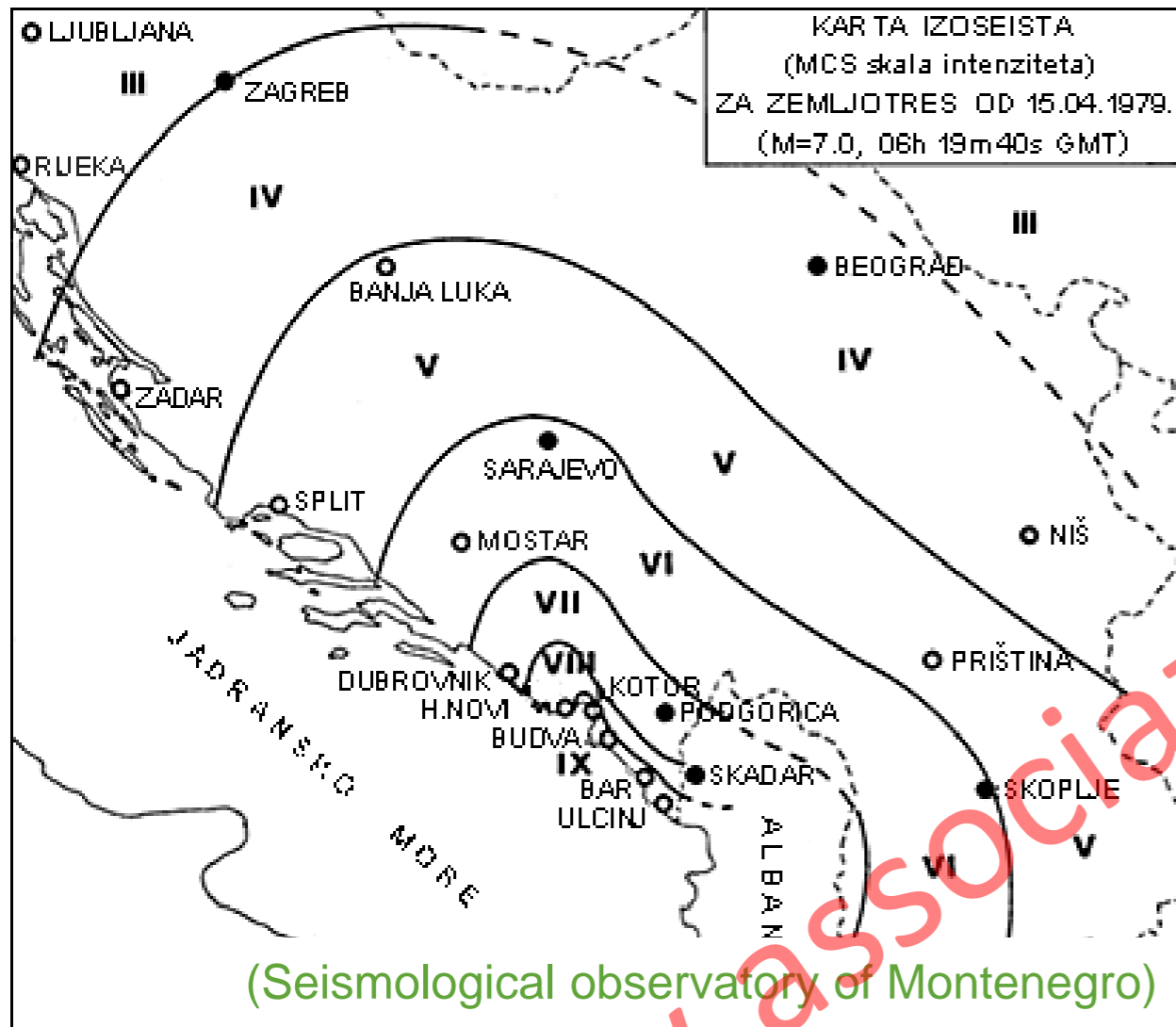
Earthquakes in Albania

Regions with
highest seismicity
(Local Magnitude)

(European Mediterranean
Seismological Centre, 2011)



Earthquakes in Albania: 1979



- 7.2 Richter, IX Mercalli
- In Albania: 35 deaths, 383 injured, 100.000 homeless



Flood hazard



www.associazioneelagunari.it

Flood hazard

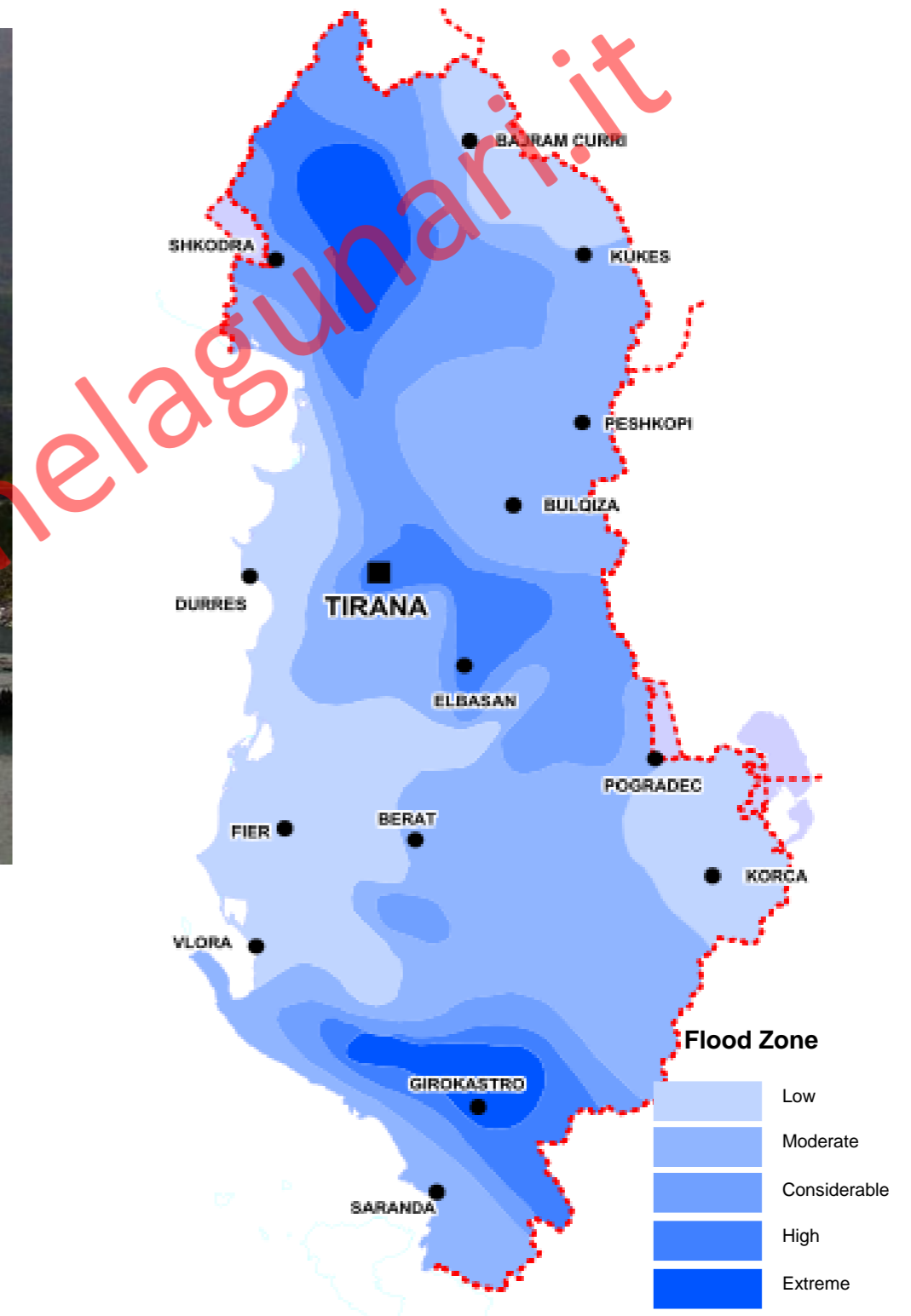
- Most affected rivers: Drin, Buna, Mat, Seman, Osum (Hoti & Axhemi, 2003)
- One event every 6 years
- Floods cause the highest economic losses among other natural hazards
- 1962-63 event: in few days 70.000 ha of agricultural land were flooded
- 2002 event: 30.000 ha of agricultural land have been inundated, 494 houses have been damaged



Floods in Albania



Causes: intense rain, non-maintenance of channels, defensive barriers, pumping stations, etc.



Flood Potential Map, 100 years return period (Selenica, 2004)

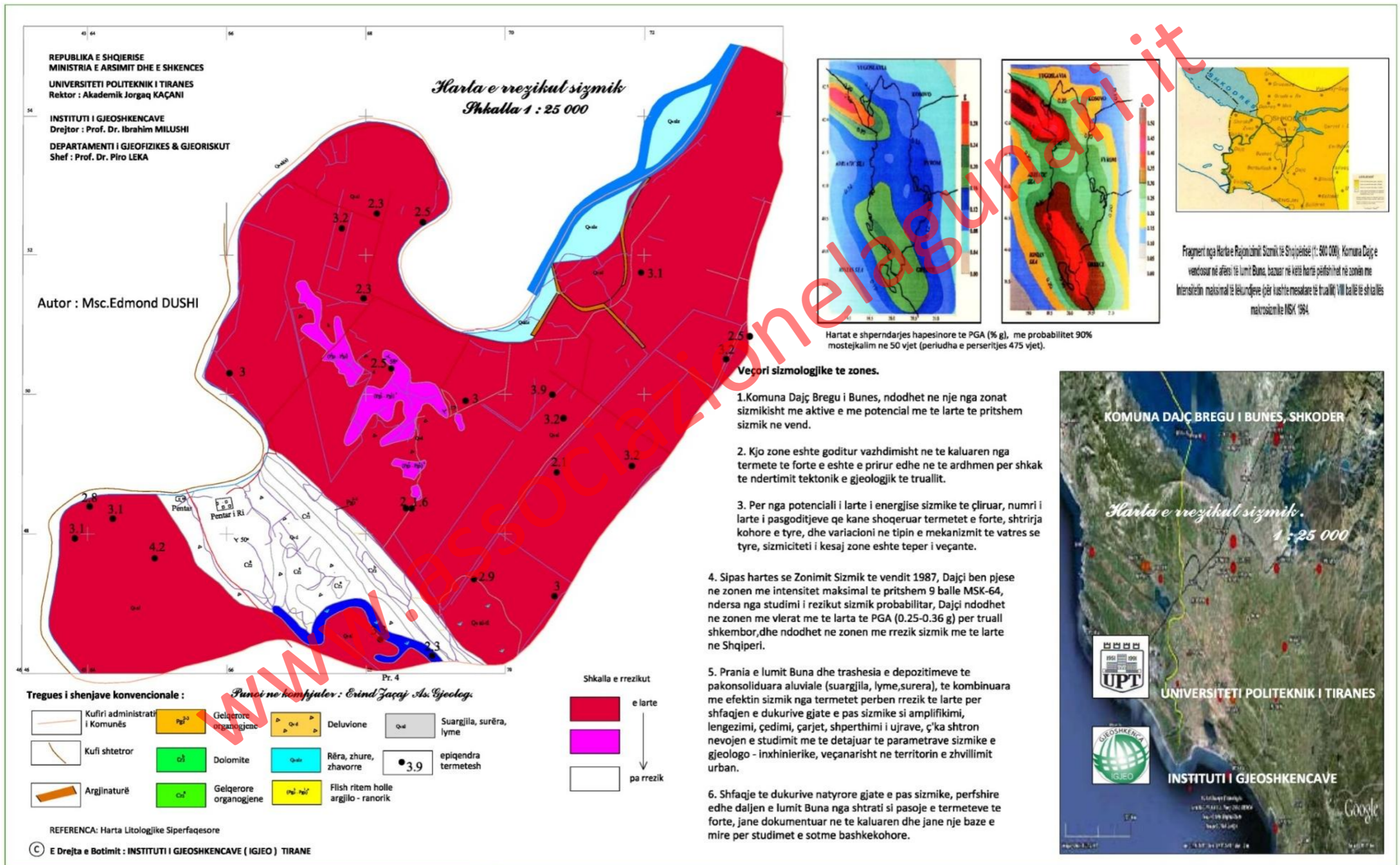
The test area

Dajç



Dajç - Dec., 8th 2010

Dajç – Seismic map



Dajç – Hydrogeological map



REPUBLIKA E SHQERISE
 MINISTRIA E ARSIMIT DHE E SHKENCES
 UNIVERSITETI POLITEKNIK I TIRANES
 Rektor : Akademik Jorgaq KAÇANI

INSTITUTI I GJEOSHKENCAVE
 Drejtor : Prof. Dr. Ibrahim MILUSHI
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 Shef: Prof. Dr. Piro LEKA

Autor : Prof. Dr. Mehmet ZAJAJ
 Msc. Emanuela KIRI

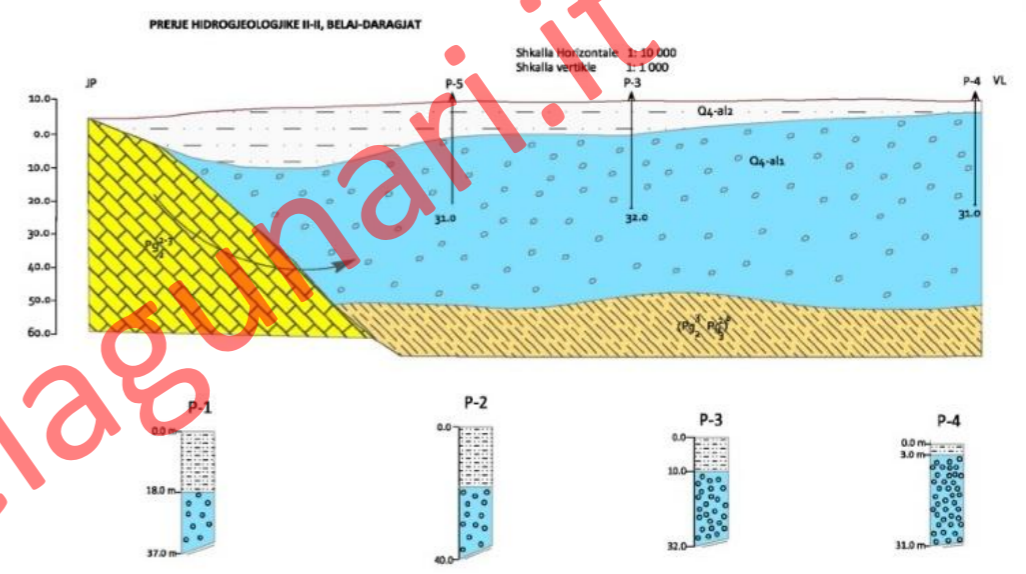
Karta e ujrave nentokësore (hidrogeologjike)
 Shkalla 1 : 25 000

Punoi në kompjuter : Eng. E. KIRI

- Tregues i shenjave konvencionale
- | | | | | |
|------------------|--------------------------------|--------------------------------------------|-------------------|-----------|
| Kufi gjeologjik | Linjë profili gjeologjik | Suargjila, surëra, lyme | Kanal Ujëmbledhes | Deluvione |
| Kufi transgresiv | Kufiri administrativ i Komunës | Përzierje rënë e trashë, zhur, zhavorr | Argjinaturë | |
| Linjë tektonike | Puse shpimi për ujë | Levizja e ujrave drejt shtresave zhavorore | Kufi shtetror | |

REFERENCA : 1. Karta litologjike sipërfaqësore. 2. Relacion Hidrogeologjik 1973

© E drejta e Botimit : INSTITUTI I GJEOSHKENCAVE (IGJEO) TIRANE



Kolonat litologjike të pus shpimeve

Pershkrimi i shkurter i shtresave ujembajtëse

- Q4-alz** Shtresa zhavorore aluviale me ujembajtje të lartë. Perbehet nga rera - zhure - zhavorë të vjetra të lumit Buna e Drin dhe ulivionet zallishore të shtrëtit të sotëm të lumit Buna. Përmban sasira të mëdha ujërash nentokësore të fresketa. Vetite filtruese të saj janë të larta 100-300 m/dite, prurjet specifike në pusët e shpuar nga 10-100 l/sek. Tërshësia e shtresës zhavorore me pus shpime 15-30 m, nga të dhenat gjeofizike arrijn deri në 60 m. Ujërat e kësaj shtrese kanë lidhje shumë të mire hidraulike me Lumit Buna dhe gelqeroret e malit Belaj, të cilët e furnizojnë në mënyrë të vazhdueshme (shih prerjen hidrogeologjike). Ujërat janë pa erë, pa ngjyrë, pa shije me temperaturë mesatare deri 14 grade, dhe janë shfrytëzuar e shfrytëzohen vazhdimisht për furnizimin me ujë të pijshëm të komunitetit. Sugjerohet që përberja e tyre të monitorohet në vazhdimsi, për të pasur nën kontroll cilësinë e tyre nga ndotjet organike, inorganike, bakterieologjike, radioaktive etj.
- Q4-alz** Shtesa e dherave pranë sipërfaqesore me ujembajtje të pakët. Fusha e Dajçit mbledh ujëra edhe në shtresën e dherave pranë sipërfaqesore që perbehet nga rera, surëra e lyme. Kjo shtese ka përkrahueshmëri të vogël deri në shumë të vogël, trashësi 1.0 - 20.0 m, dhe ujembajtje të pakët. Ujërat e kësaj shtrese nuk janë të pijshëm, burimi i ushqimit të tyre janë reshjet atmosferike që infiltrojnë në këto shtrese nga sipërfaqja. Nga shpimet e kryera rezultojnë se niveli statik i ujrave në fushën e Dajçit lëviz nga 0.3 - 0.5 - 1.5 e deri në 2 m, nga sipërfaqja e tokës.
- (Pg2-3)** Shkëmbinj me ujembajtje të pakët. Këtu është përfaqësuar shtresave të holla argjillo-ranorike, të cilat përhapen në kodrat Suka Dajç - Samrishtë I Ri, e cila përmban ujëra shtresore, të carjeve dhe poroze në shtresat ranore të holla e me përkrahueshmëri të ulët, për pasojë dhe kapaciteti ujembajtës i tyre është fare i pakët, sa që me tepër që, ujërat e reshjeve që janë burim kryesor ushqimi, infiltrojnë e drenojnë në drejtim të thellësisë nepërmjet vete shtresave ranore, por edhe nepërmjet planëve ndershtresore.

C2-3 Shkëmbinj karbonatike me ujembajtje të pakët. Këtu janë përfaqësuar shkëmbinj karbonatike që përhapen në kodrat Pentar - malin Belaj. Carjet e mjaftueshme, dhe përberja gelqerore, gelqerore - dolomitike favorizojnë zhvillimin e procesit të karstit, prandaj gelqeroret konsiderohen shkëmbinj me përkrahueshmëri ujore mesatare, por me ujembajtje të pakët për shkak të drenimit të lartë të ujrave në drejtim të thellësisë. Shtresëzimi dhe çarshmëria e gelqerorve në malin Belaj - Gjymt shërben për shkarkimin e reshjeve atmosferike në thellësi, ndërsa ujërat sipërfaqësorë drenojnë drejt fushës së Dajçit dhe ish - kenetës së Pentarit.

KOMUNA DAIÇ BREGU I BUNES, SHKODER

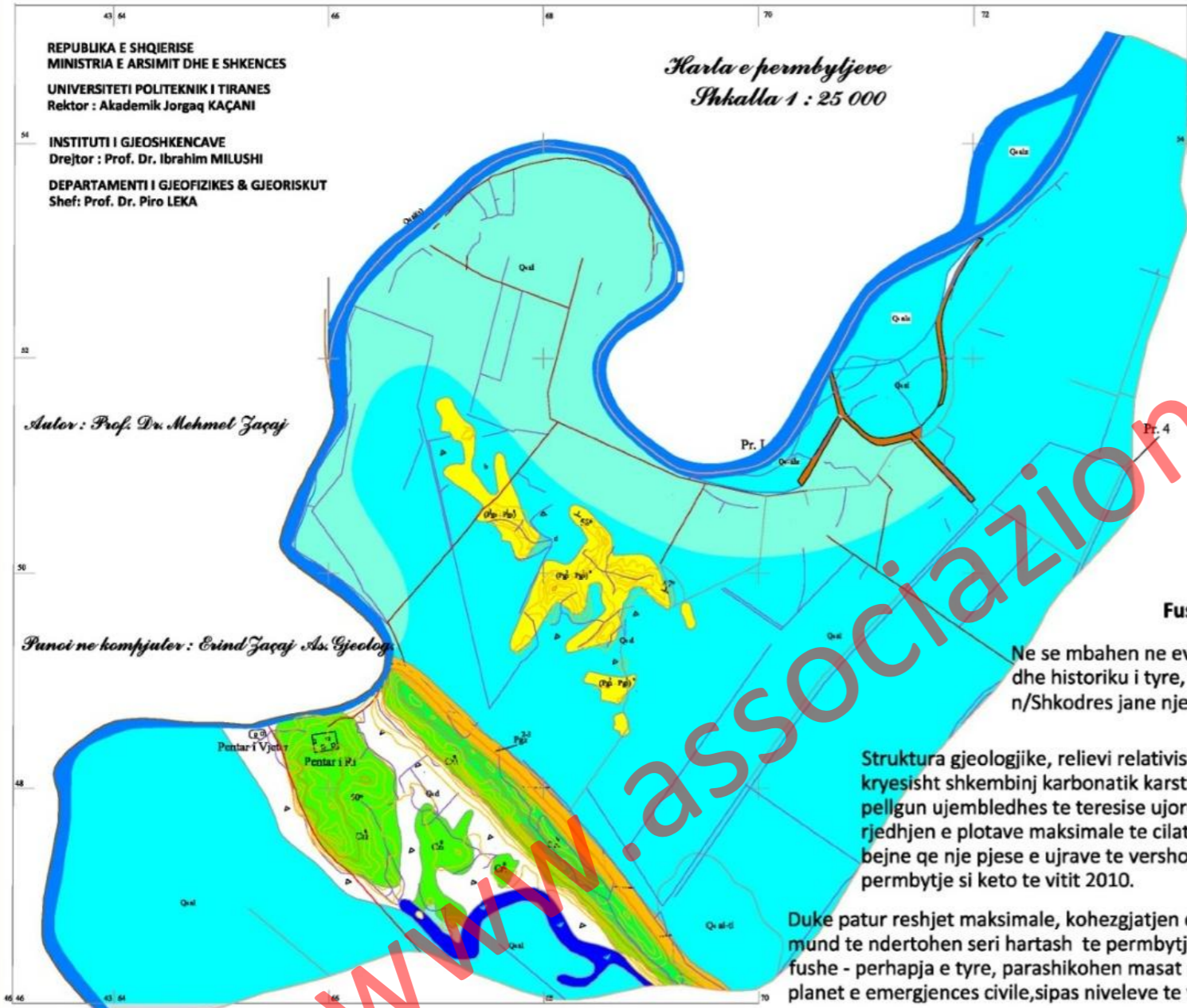
Karta e Ujrave Nentokësore
 1 : 25 000

UNIVERSITETI POLITEKNIK I TIRANES

INSTITUTI I GJEOSHKENCAVE

2010

Dajç – Flood risk map



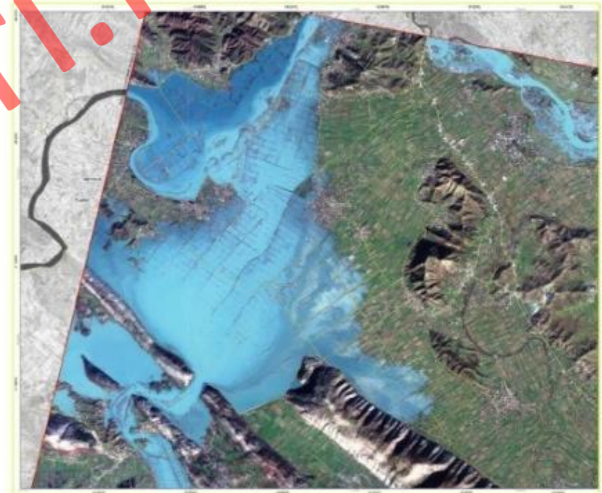
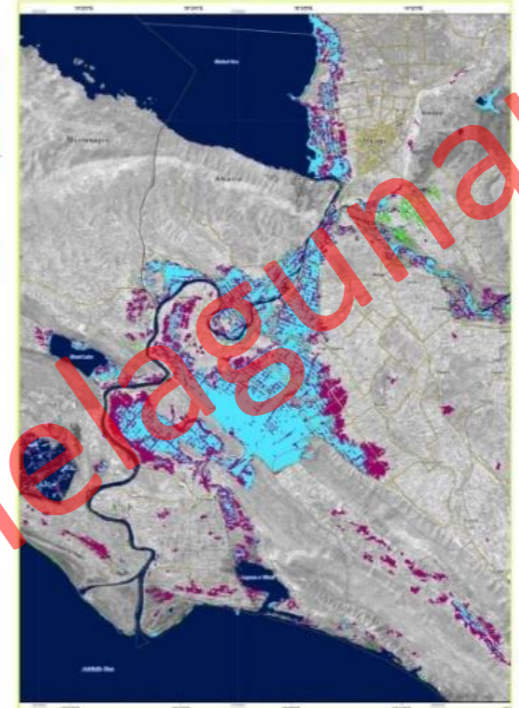
REPUBLIKA E SHQERISE
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 Shef: Prof. Dr. Piro LEKA

Harta e permbytjeve
Shkalla 1 : 25 000

Autor : Prof. Dr. Mehmet Zaçaj

Punoi ne kompjuter : Erind Zaçaj As. Gjeolog



Fushe perhapja e permbytjes 13 janar 2010

Fushe perhapja e permbytjes 9 - 12 janar 2010

Ne se mbahen ne evidence kushtet fiziko - gjeografike, hidrologjike dhe historiku i tyre, permbytjet ne zonen e Shkodres e te n/Shkodres jane nje fenomen i pritshem edhe ne te ardhmen.

Struktura gjeologjike, relievi relativisht i larte (mbi 1000 m),dhe litologjia (kryesisht shkembinj karbonatik karstik me pershkueshmeri te larte ujore) ne pellgun ujembledhes te teresise ujore te Shkodres, do te favorizojne gjithmone rjedhjen e plotave maksimale te cilat duke ngritur nivelin e teresise ujore, do bejne qe nje pjese e ujrave te vershojne jashte shtratit te tyre e te shkaktojne permbytje si keto te vitit 2010.

Duke patur reshjet maksimale, kohezgjatjen e tyre, prurjet e plotat maksimale mund te ndertohen seri hartash te permbytjeve per prurje maksimale, pervijohet fushe - perhapja e tyre, parashikohen masat mbrojtse dhe formalizohen ato ne planet e emergjences civile,sipas niveleve te vendim - marrjes.

- Tregues i shenjave konvencionale :
- Kufi shtetror
 - Linjë tektonike
 - Argjinaturë
 - Kanal Ujembledhes
 - Kufiri administrativ i Komunës DAJÇ

Shkalla e rrezikut



Ndertimi i H /C -ve ka ndihmuar ne amortizimin e plotave maksimale te Drinit dhe ka paksuar rjedhjet e ngurta pas Vaut te Dejes per ne Bune, e me tej deri ne det, ndersa derdhjet nga H/C -et ne periudhen e reshjeve intensive e te zgjatura, favorizojne krijimin e plotave te medha pas VD.

Per kushtet klimatiko - hidrologjike - gjeologjike te teresise ujore te Shkodres (te cilat mund te prodhojne permbytje te jashtezakonshme si ne 2010-en edhe ne te ardhmen), dhe dherat e pa konsoliduara qe ndertojne fushen (te cilet favorizojne erozionin intensive te lumit Buna), territori i komunes Dajç bregu i Bunes mbetet gjithnje i rrezikuar ne shkalle te larte. Prandaj edhe kerkohet nje zgjidhje afat gjate e problemit te permbytjeve ne zonen e Shkodres. Sugjerimi yne eshte te ngarkohen INEUM, IGJEO, ish - Instituti i Hidroteknikes, KESH-i etj. dhe te behet nje pergjithesim i te gjithe studimeve te kryera deri tani, e te parashtrihen rruget e zgjidhjes perfundimtare.

KOMUNA DAJÇ BREGU I BUNES, SHKODER

Harta e permbytjeve

1 : 25 000



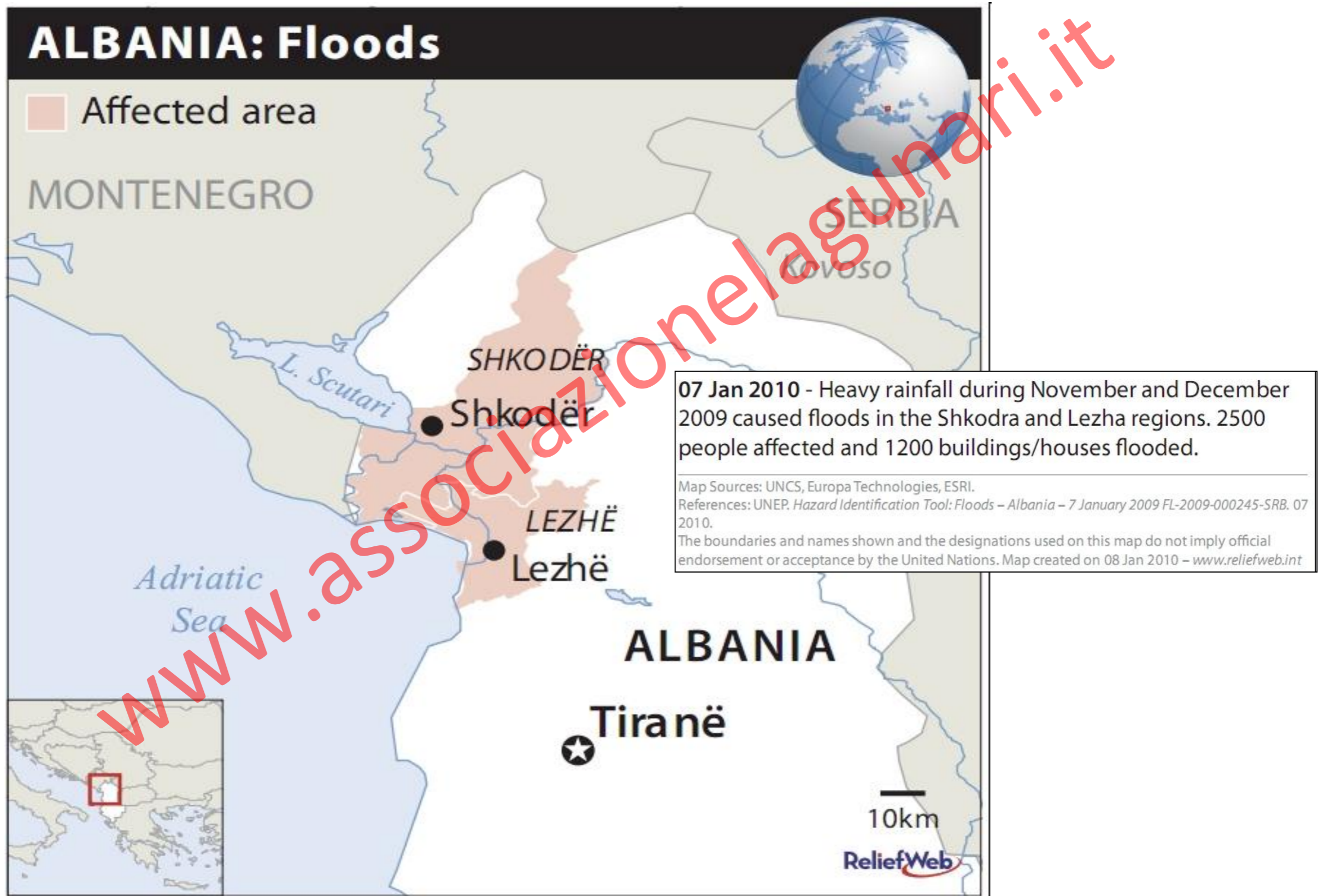
UNIVERSITETI POLITEKNIK I TIRANES



INSTITUTI I GJEOSHKENCAVE

2010

Dajç – The 2009 event



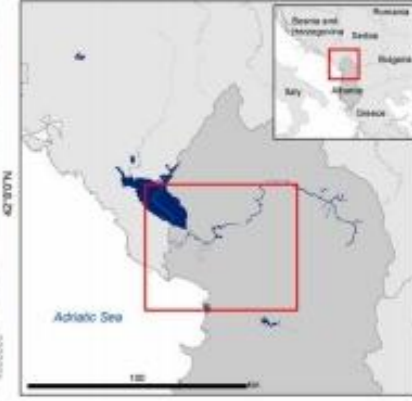
ALBANIA - Shkoder

Flood extent based on ENVISAT ASAR

Overview Map

Scale 1:100,000

Location Diagrams



Legend

Infrastructure	Hydrology	
Boundaries		

Interpretation

Heavy rainfall and unusually warm weather have caused flooding in the northwestern region of Albania since January 4, 2010. The map shows the post-event water extent as detected on January 11, 2010. The analysis was based on an ENVISAT ASAR scene.

A Landsat image acquired on June 16, 2002 was used as backdrop. The water extent derived from this Landsat image and the CORINE Landcover layer is shown as well. Streets have been digitized on the basis of Open Street Map data and represent only a fraction of the road network. Please note, that the flood extent in urban areas may not be detected properly due to radar geometry and backscatter effects.

Cartographic Information

Scale: 1:100,000 for A1 prints

Local projection: UTM Zone 34 North, Datum: WGS 84
Geographic projection: Lat/Lon (DMS), Datum: WGS 84

Data Sources

ENVISAT ASAR	© ESA 2010
LANDSAT-7 ETM	© USGS 2002
Vector data	© OpenStreetMap 2010, Wikimapia 2010
CORINE Landcover	© EEA 2006

Framework

The products elaborated for this Rapid Mapping Activity are realized to the best of our ability, within a very short time frame, during a crisis, optimising the material available.

All geographic information has limitations due to the scale, resolution, date and interpretation of the original source materials. No liability concerning the content or the use thereof is assumed by the producer.

The ZKI crisis maps are constantly updated. Please make sure to visit <http://www.zki.dlr.de> for the latest version of this product.

Map produced on January 12, 2010 by ZKI
© DLR 2010

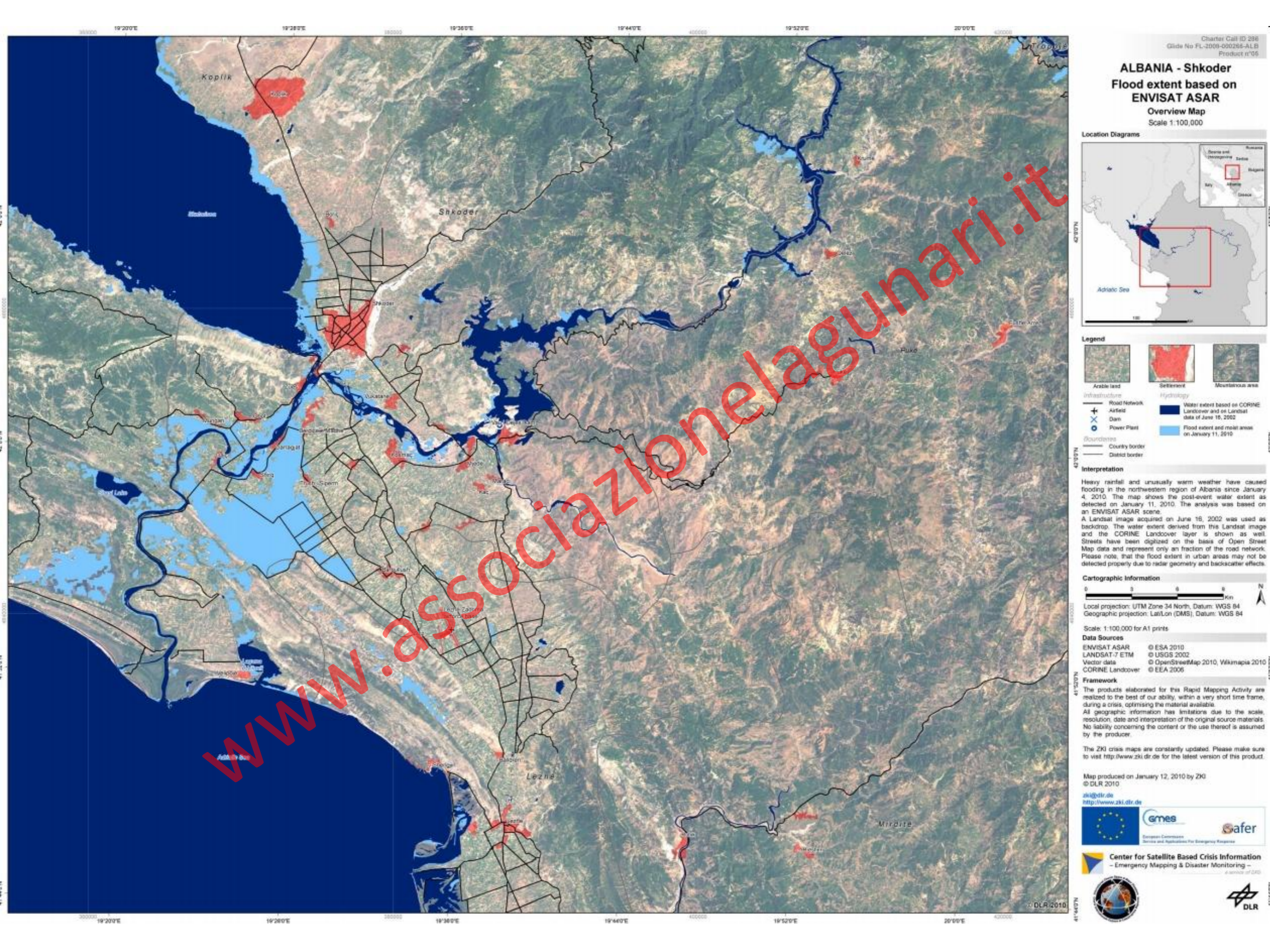
zki@dlr.de
<http://www.zki.dlr.de>



Center for Satellite Based Crisis Information
- Emergency Mapping & Disaster Monitoring -
a service of DLR



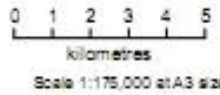
www.associazioneelagunari.it





Albania: Flooding - Affected Area and Population as at 9 Jan 2010

Map shows the number of people evacuated within the communes affected (based on Ministry of Interior Sit Rep No 5). Both the absolute number and the proportion of the total population is shown. The flood extents (based on 9th Jan 2010 Radarsat data and supplied by DLR) are also shown.



Created: 13 Jan 2010 / 12:00
Map Document: MA012-ALB-AffectedPop-20100113-A3-v2
Projection / datum: Geographic / WGS84
GUIDE Number: FL-2009-000266-ALB

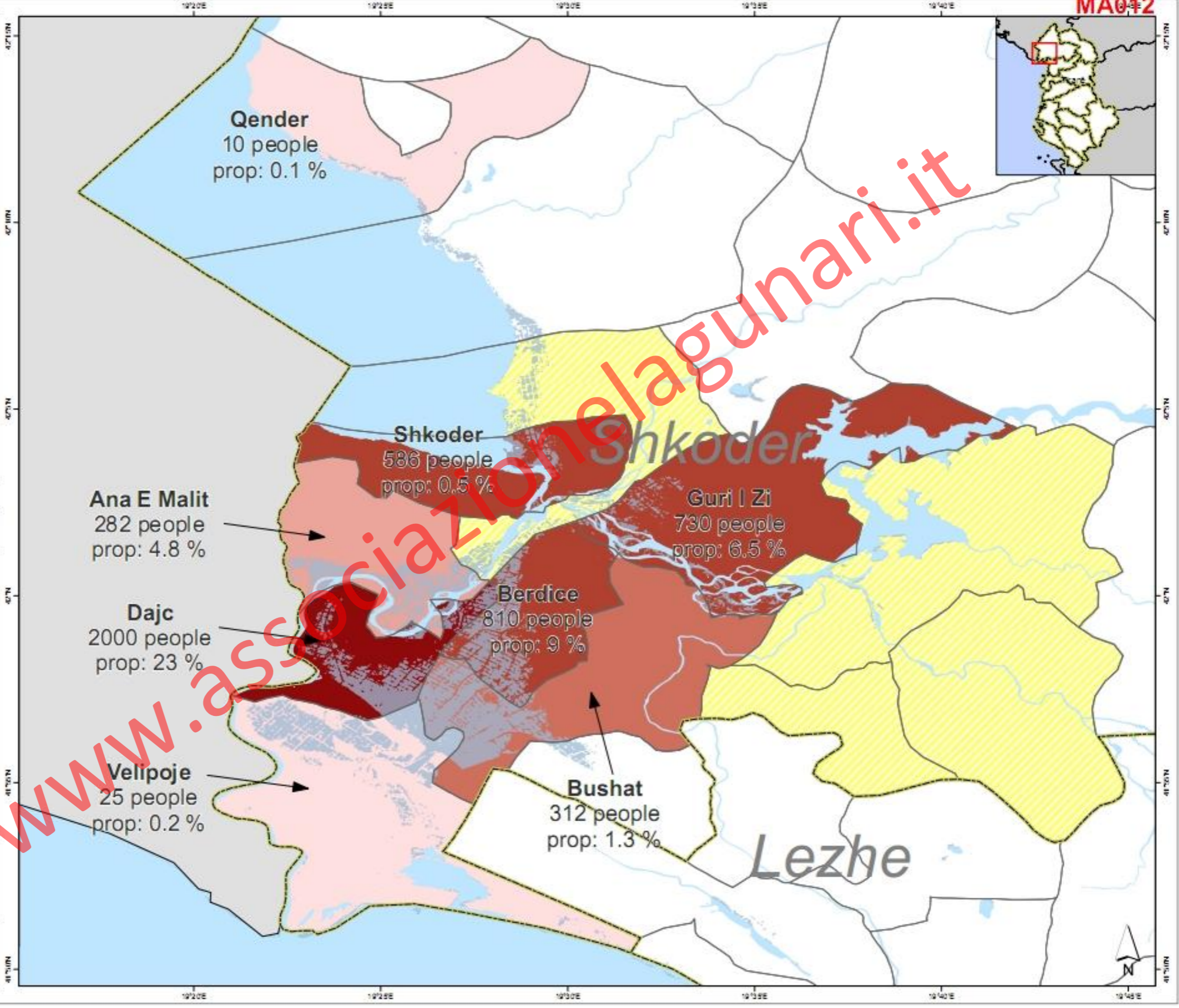
The depiction and use of boundaries, names and associated data shown here do not imply endorsement or acceptance by MapAction.

- County Boundaries
 - Surrounding Countries
 - Normal Water Bodies
 - Flood Extent - 9th Jan 210
- People Evacuated**
- 10 - 25
 - 26 - 252
 - 253 - 312
 - 313 - 810
 - 811 - 2000
 - Other Affected Communes

Data sources: Bartholomews - Lakes, Navteq - Main Rivers, Main Highways, GAUL - Admin Boundaries, GE - Location Information, Radarsat flood extent data supplied by DLR (www.dlr.de) accessed via the Charter (www.disasterscharter.org)

Produced by MapAction www.mapaction.org albania@mapaction.org

MapAction is grateful for the support of DFID



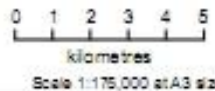
www.associazionelagunari.it



MapAction

Albania: Flooding - Affected Area and Population as at 9 Jan 2010

Map shows the communes affected
(based on Ministry of Interior Sit Rep
No 4) and the flood extents (based
on 9th Jan 2010 Radarsat data). The
population figures for each affected
commune are displayed.



Created 10 Jan 2010 / 21:00
Map document MA006-ALB-AffectedPop-20100109-A3-v1
Projection / datum Geographic / WGS84
GUIDE Number FL-2009-000286-ALB

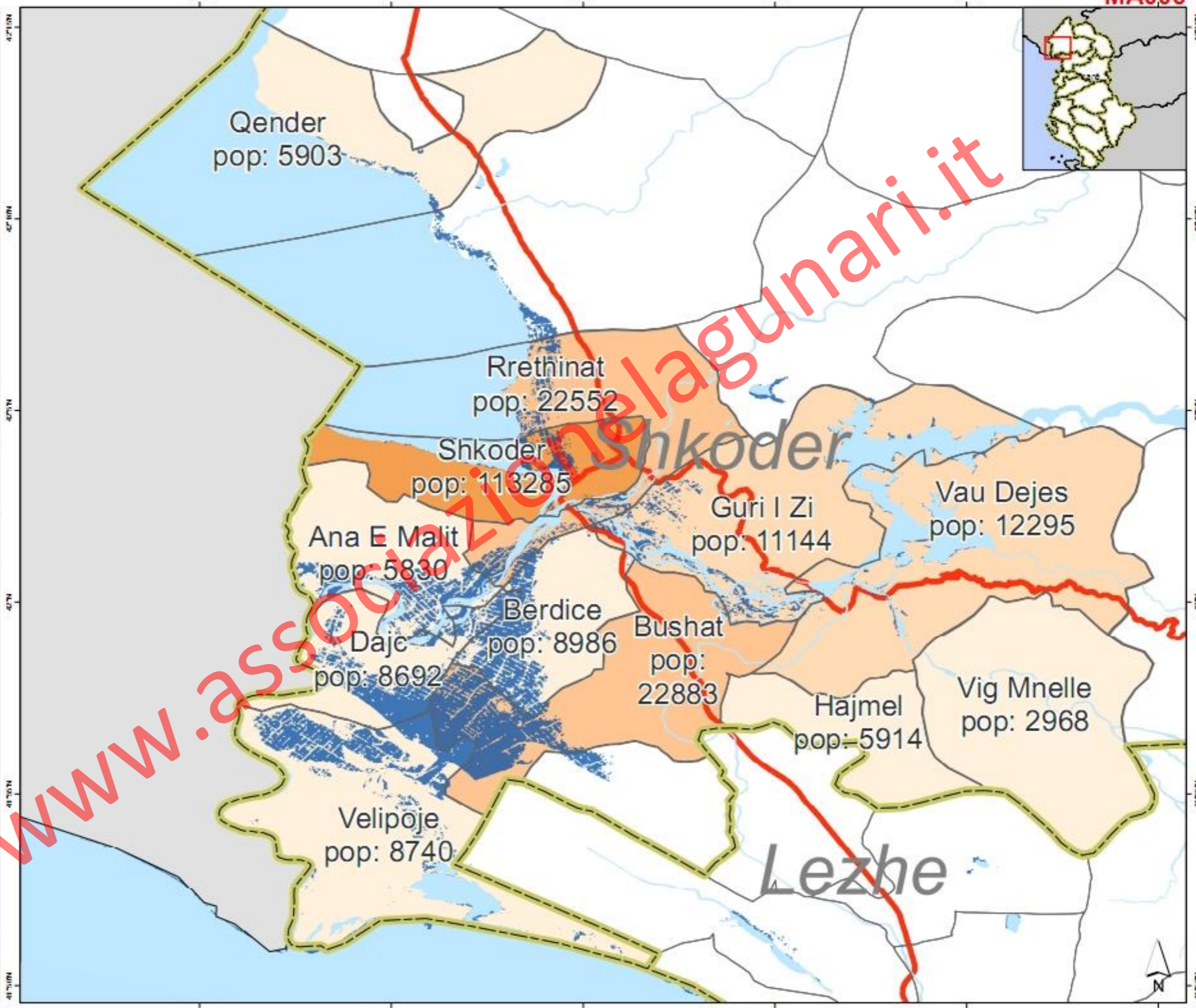
The depiction and use of boundaries, names and
associated data shown here do not imply
endorsement or acceptance by MapAction.

- County Boundaries
 - Surrounding Countries
 - Rivers Lakes
 - Flood Extent - 9th Jan 2010
 - Main Highways
- Affected Communes**
- 2,500 - 10,000
 - 10,001 - 20,000
 - 20,001 - 40,000
 - 40,001 - 80,000
 - 80,001 - 120,000

Data sources:
Bartholomews - Lakes, Navteq - Main Rivers, Main
Highways, GAUL - Admin Boundaries, GE -
Location Information, Radarsat flood extent data
supplied by DLR (www.dlr.de) accessed via the
Charter (www.disasterscharter.org)

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albania@mapaction.org

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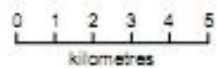


MapAction



DLR

Albania: Flooding - Flood Extents as at 12 Jan 2010



Scale 1:175,000 at A3 size

Created: 15 Jan 2010 / 19:00
Map document: MA017-Admin-Bounds-2010113-A3-v1
Projection / datum: Geographic / WGS84
GLIDE Number: FL-2009-000266-ALB

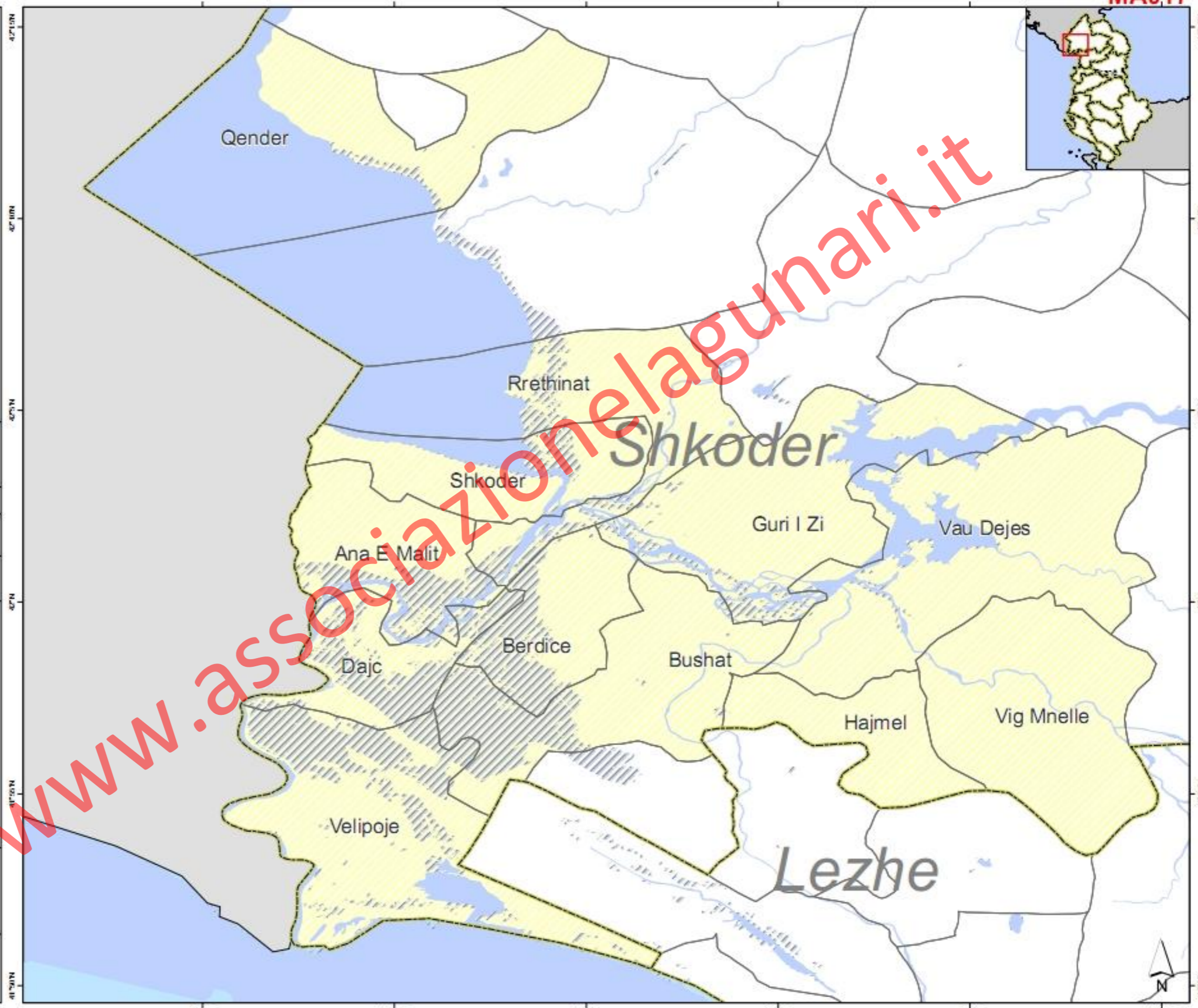
The depiction and use of boundaries, names and associated data shown here do not imply endorsement or acceptance by MapAction.

- County Boundaries
- Surrounding Countries
- Normal Water Bodies
- Flood waters 12 Jan 2010
- Affected Communes

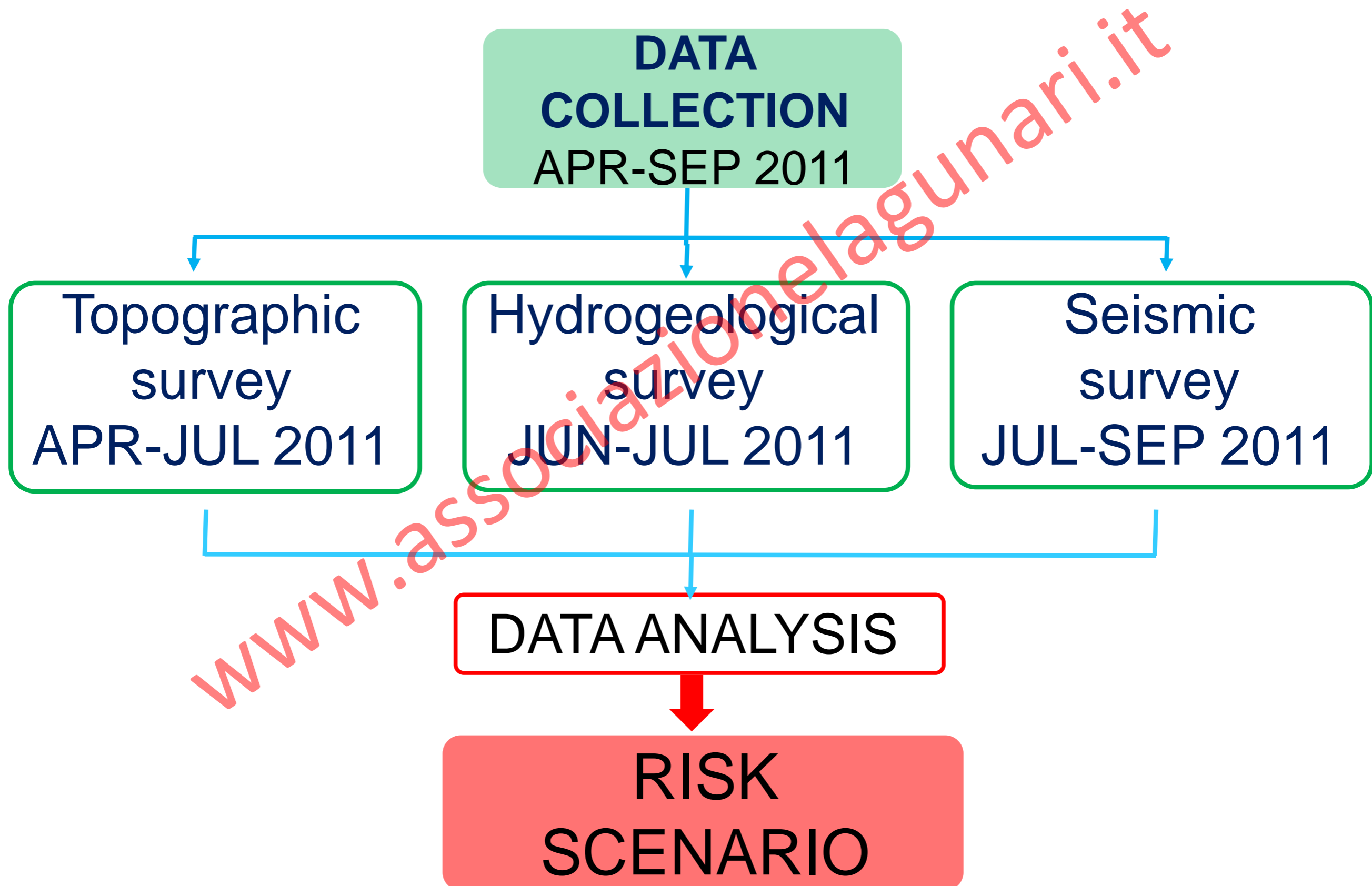
Data sources:
Bartholomews - Lakes, Navteq - Main Rivers, Main Highways, GAUL - Admin Boundaries, GE - Location Information, RadarSat flood extent data supplied by DLR (www.dlr.de) accessed via the Charter (www.disasterscharter.org)

Produced by MapAction www.mapaction.org
albania@mapaction.org

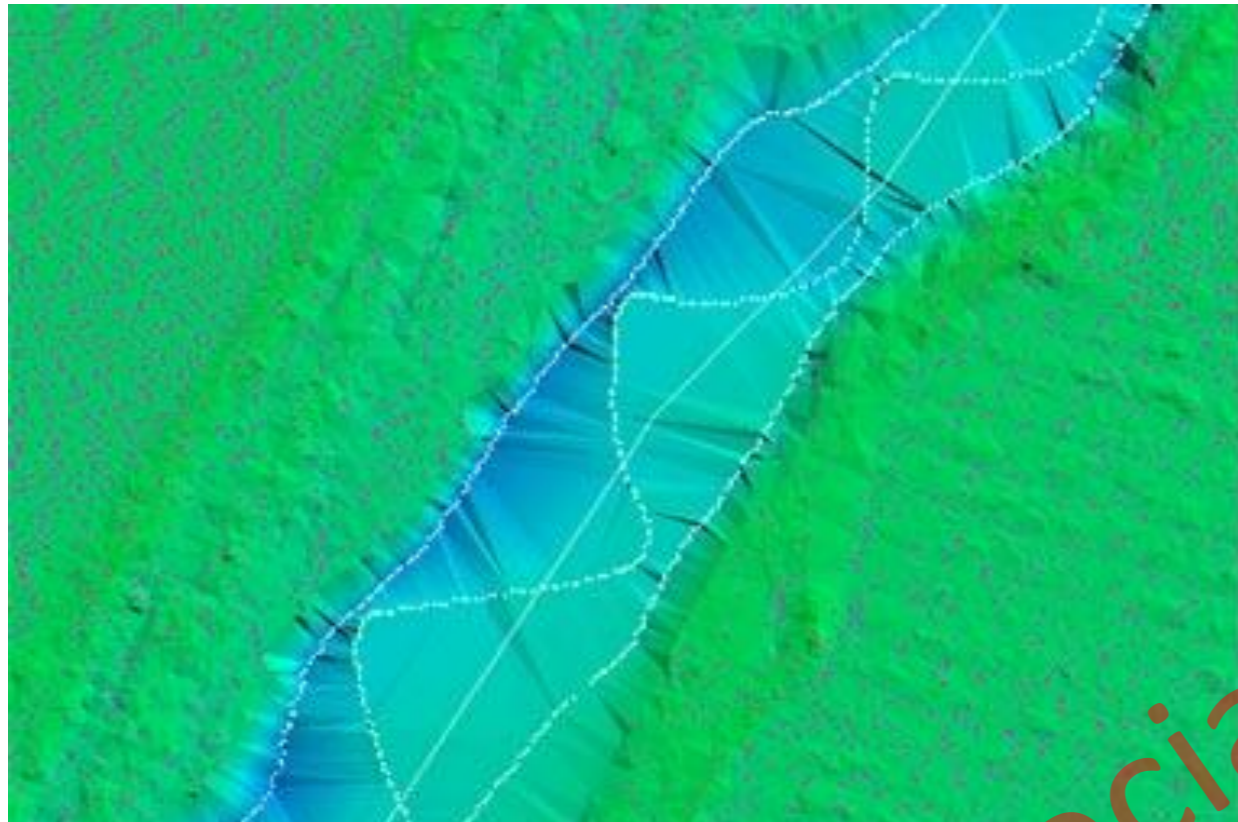
MapAction is grateful for the support of DFID



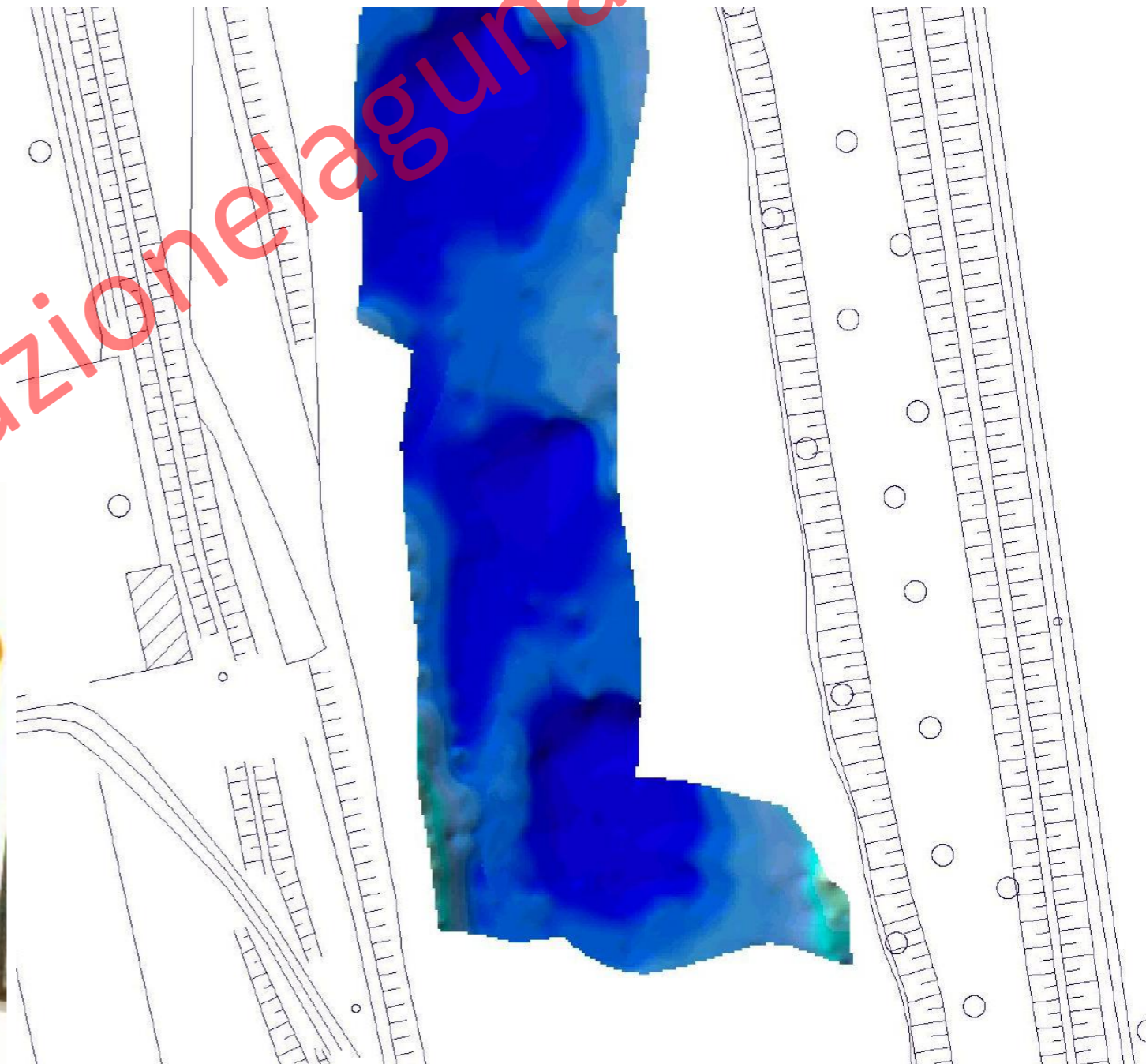
Planned field activities



Planned field activities - Methods

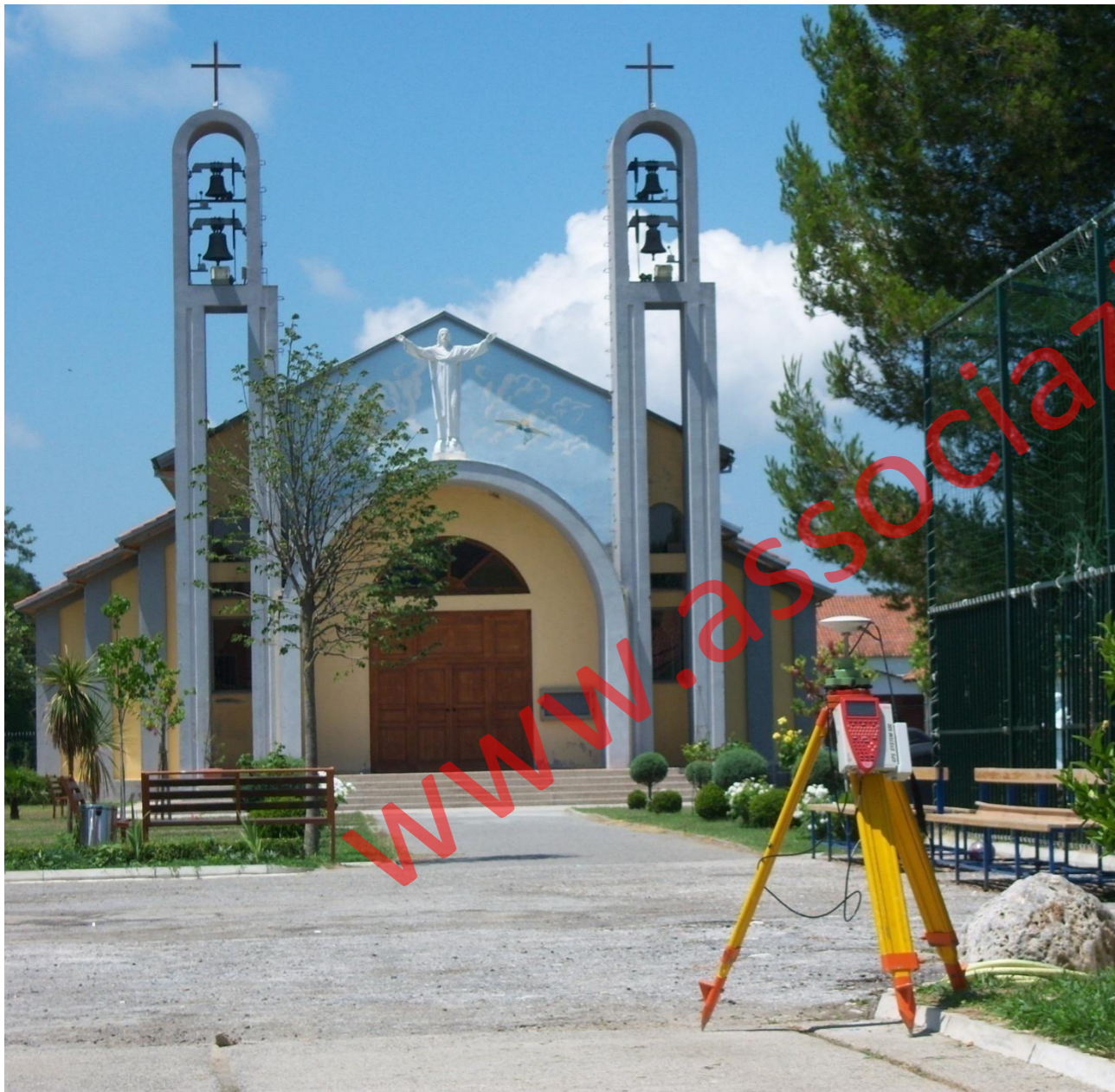


ECHO SOUNDER



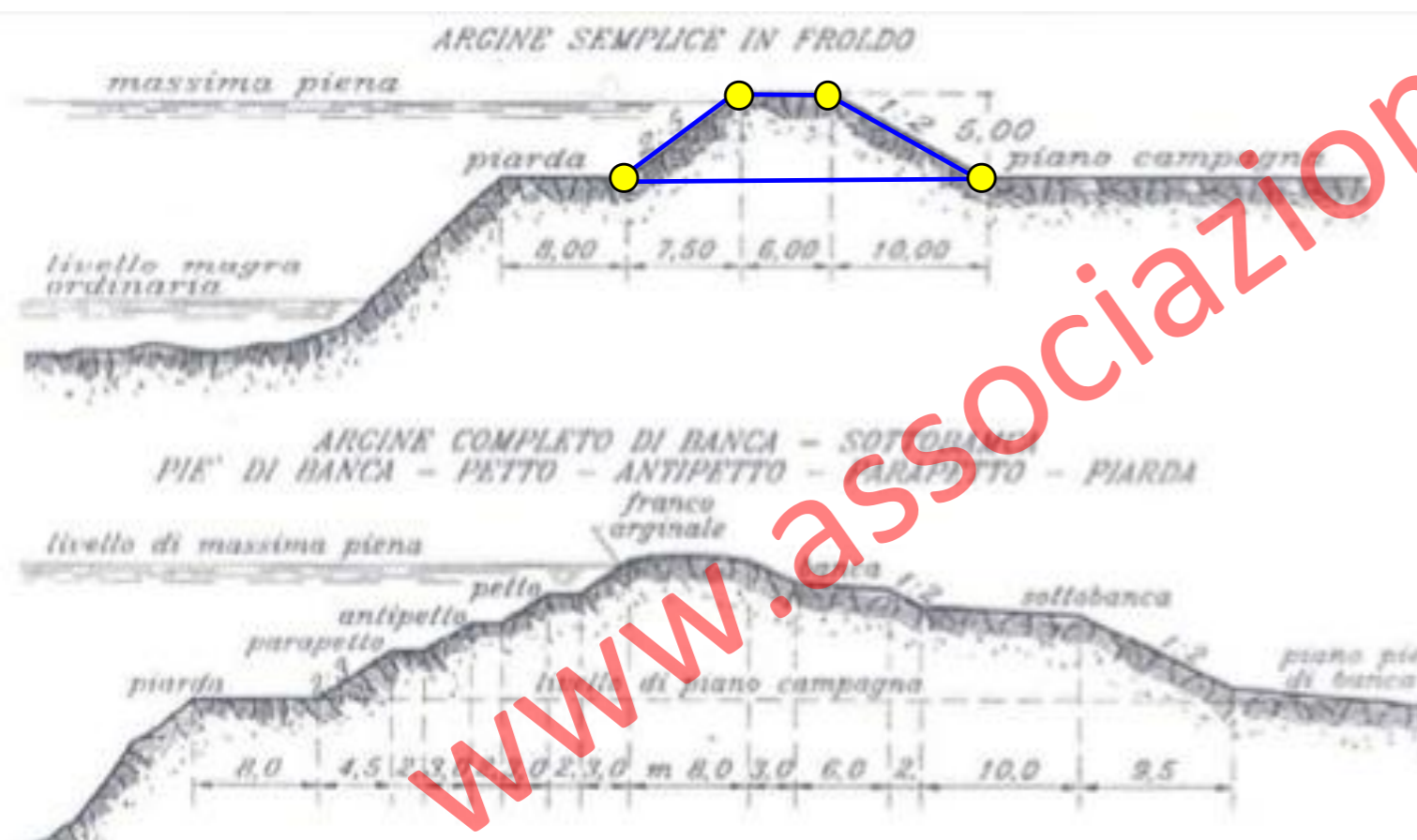
Planned field activities - Methods

GPS – Banks and levees survey



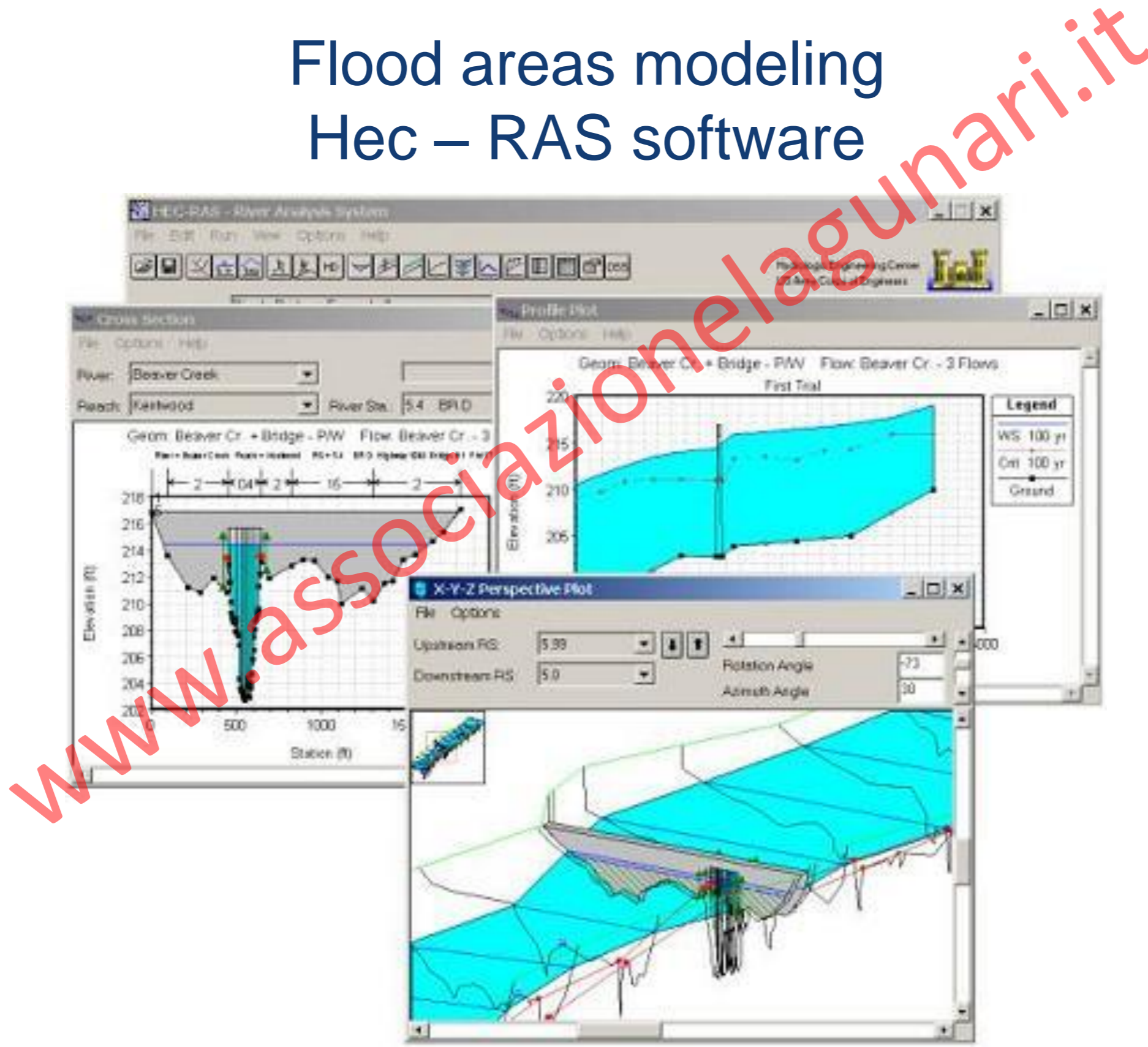
Planned field activities - Methods

GPS – Banks and levees survey



Planned field activities - Methods

Flood areas modeling
Hec – RAS software



Other hazards

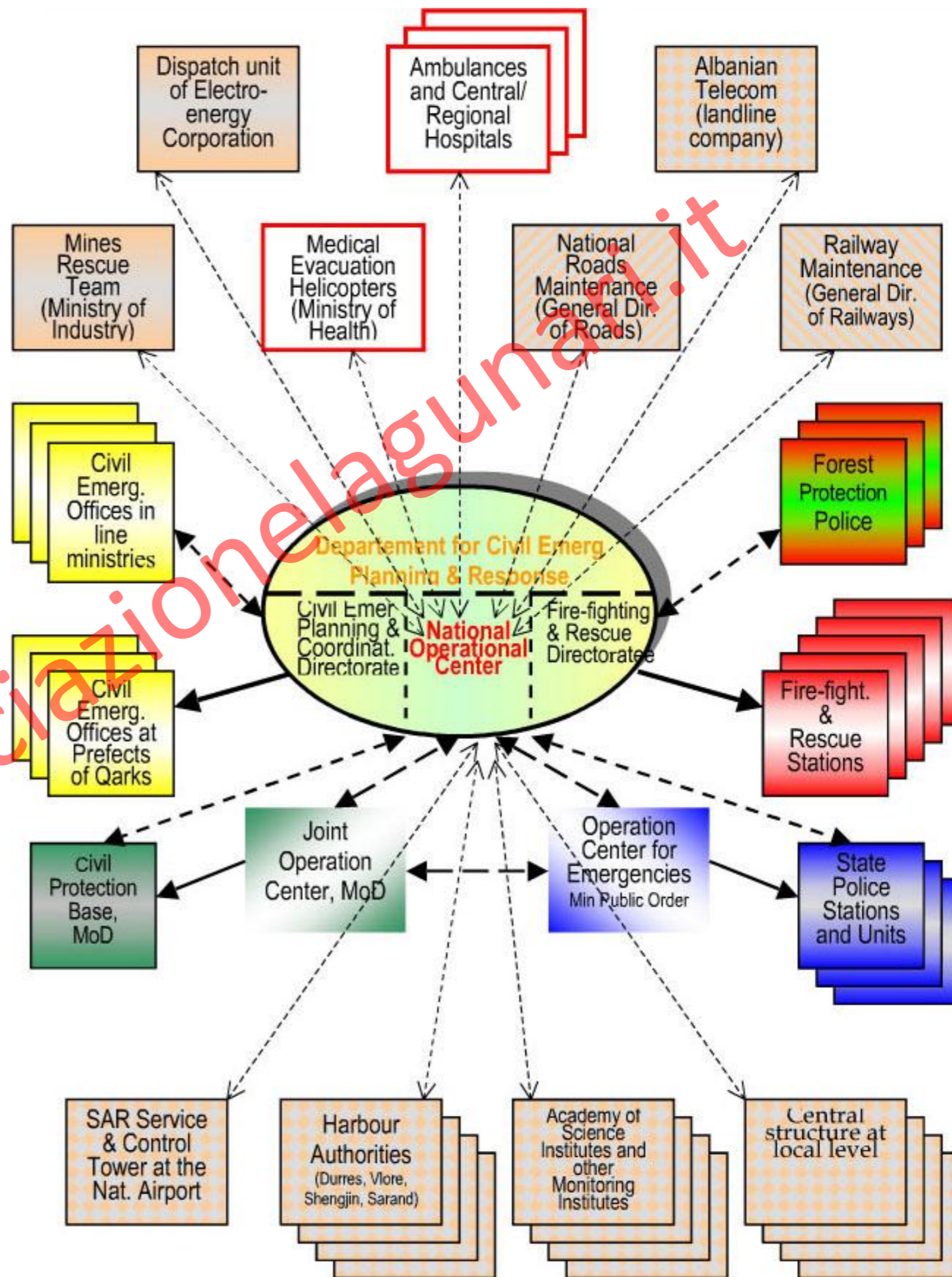
- **Soil erosion**: mainly due to uncontrolled land use; 3.6% of arable land lost every year (Hoti & Axhemi, 2003)
- **Landslides**: 45 massive landslides in the period 2003-2006 (Kapllani, 2006); 30% of the Country vulnerable to unstable slopes along roads
- **Avalanches**: favoured by morphologic and topographic conditions of Albania. A major event every 10 years (Hoti & Axhemi, 2003)

Countermeasures: what has been done

- **Earthquakes:** dynamic anti-seismic building regulations since 1963; harmonization of seismic hazard maps to meet European standards since 2007; seismic zonation maps
- **Floods:** structural measures (construction of new dams), non-structural measures (flood-mapping)
- **General countermeasures:** Creation of the Department of Civil Emergency Planning and Response since 2001 (Ministry of Local Government and Decentralization)

Department of Civil Emergency Planning and Response

Albanian Government (2004)



Countermeasures: what has to be done

- **Earthquakes:** environmental planning
- **Floods:** improve drainage system, better land use, construction and maintenance of dams and defensive systems
- **General countermeasures:** improve warning systems, land use planning, enhance human resources capacities through training programs

Training and education

1. Information and setting up of Civil Protection Volunteer Teams
2. Enhancement of risk perception for the representatives and technicians of local communities, through training courses and auto-evaluation modules
3. Dissemination to citizenship by Volunteer Teams
4. Definition of a City Emergency Plan
5. Dissemination of the City Emergency Plan
6. Civil Protection Exercise and Simulation in Dajç
7. Civil Protection Exercise and Simulation: discussion and dissemination in Skhoder

Example of auto-evaluation modules



Questionnaire

used to define the possible levels of landslide risk at a community scale (10 -100 km²)

Introduction and methodology

This questionnaire is based on a qualitative approach concerning the principal factors that compose the definition of landslide risk. It should be noted that it can not be used within any form of territorial planning or any other didactic or formative experimentation. Every question is finalized to identify one or more aspects connected with the evaluation of the parameters that contribute to the definition of total risk (hazard, vulnerability and exposure). A series of scores are associated with the various answers that, following some simple arithmetic, provides an overall total, which may then be allocated to one of the four classes of landslide risk. The answers to the questions in sections B, N and O concur to quantify a correction parameter to the overall score derived from the answers to the other sections. This is to ensure a meaningful estimate of the importance of the morphological conditions of the territory and the eventual presence of recognized landslide phenomena or possible indications of instability.

Instructions

Following the Start sheet, the questionnaire begins with Section A and finishes with Section O. Each section corresponds to a separate worksheet and contains from one to five questions. The questionnaire is a series of multiple choice questions each with three options. The choice must be indicated with an 'x' in the orange box to the left of the chosen response (it is recommended not to use any other characters or symbols). Each answer corresponds to a score in order to carry out the test: it is recommended that the questionnaire is executed in the succession given. The questions are qualitative and the answers may not be accurate to single cases: however, the recipient of the questionnaire is invited to supply an answer, opting for the closest choice to the real conditions. Each section has an image (purely iconographic) to aid the explanation of all the questions in that section. In order to consult a question further and read additional notes it is necessary to click on the red triangle. At the end of the questionnaire one can consult and print a summary sheet, which supplies all the answers and their scores with subtotals that will produce the final total and identify the associated level of landslide risk with the territory under examination.

Example of auto-evaluation modules

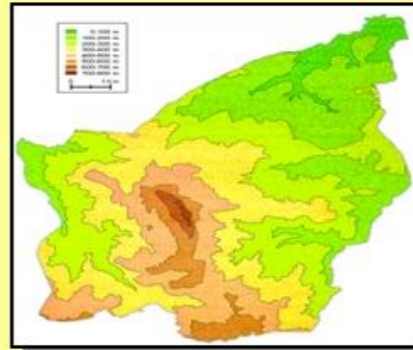
Question B.1 - The local territory is:

Mostly flat (elevation ~ 0-100 m) Go to question B.2

Mostly hilly (elevation ~ 100-600 m) Go to question B.3

Mostly mountainous (elevation ~ 600 m) Go to question B.4

Information for questions in Section B



Question B.2 - The percentage of flat terrain is approximately:

More than 80% Go to question C.1

Between 60 and 80% Go to question C.1

Between 40 and 60% Go to question C.1

Information for questions in Section B



Question B.3 - The area that is not hilly is largely:

Mountainous Go to question C.1

Flat Go to question C.1

The area is mostly hilly OR all 3 terrain types are equally present Go to question C.1

Information for questions in Section B



... is crossed by:

Go to question J.2

Go to question J.2

Go to question J.2

Information for questions in Section J



... the local territory have sections with curves or

number Go to question J.3

Go to question J.3

Go to question J.3

Information for questions in Section J



Question J.3 - The development of the secondary roads is:

Limited or modest Go to question J.4

Medium Go to question J.4

High Go to question J.4

Information for questions in Section J



www.associazioneilagunari.it

Example of auto-evaluation modules

Questionnaire used to define the possible levels of seismic risk at a community scale

Author: Università di Firenze, Dip. Scienze della Terra (www.geo.unifi.it) - Project: EU-RINATECH

INSTRUCTIONS

This questionnaire is based on a qualitative approach concerning the principal factors that compose the definition of seismic risk. It should be noted that it can not be used within any form of territorial planning or any other didactic or formative experimentation. Every question is finalized to identify one or more aspects connected with the evaluation of the parameters that contribute to the definition of total risk (hazard, vulnerability and exposure). The questionnaire is composed by ten multiple choice questions each with three or five options: the choice must be indicated typing in the orange box the corresponding letter (from a to e - typing a valid answer the score substitutes the message "Invalid answer"). At the end, the overall score defines the corresponding risk level in a scale of five.

Question 1

Do you remember any earthquakes in your area?

Answers

- A Yes, the last one less than 5 years ago
- B Yes, the last one between 5 and 20 years ago
- C Yes, the last one between 20 and 50 years ago
- D Yes, but more than 50 years ago
- E Not within living memory

Your answer B 10

Question 2

In your area, are there hilltop villages or towns built on mountain ridges?

Answers

- A Yes, the main town and/or other important towns
- B Yes, but only a few small villages
- C No

Your answer A 2

Question 3

Is your territory at the foot of a mountain chain or does it include some valley bottom areas?

Answers

- A Yes, the area is totally/partly piedmont and/or in a wide fluvial/lacustrine basin and the mountains are nearby (i.e. always visible)
- B Yes, but only a small part of the area has these characteristics and/or the mountains are distant (i.e. visible only on clear days)
- C No (for instance the area is mostly hilly or mountainous)

Your answer C 1

Question 4

When were most of the houses in your area built ?

Answers

- A Before 1960
- B 1960-1980
- C After 1980

Your answer B 1,5

Questionnaire used to define the possible levels of seismic risk at a community scale (University of Firenze – EC FP6 Project “Rinatech”)

Example of auto-evaluation modules

Questionnaire used to define the possible levels of seismic risk at a community scale		
Author: Università di Firenze, Dip. Scienze della Terra (www.geo.unifi.it) - Project: EU-RINATECH		
Score:		65
Your level	Class of risk	Description
This red bar shows your risk level (from the bottom to the top)	Very high	> 120 High seismic hazard (recent seismic activity) and/or high vulnerability determine a very high risk level
	High	40-120 The frequency of earthquakes in the area or a significant level of vulnerability determine a high level of seismic risk
	Moderate	20-40 The combination of the information on hazard, vulnerability and elements at risk determines an intermediate level of risk
	Low	10-20 Moderate levels of hazard and vulnerability and the possible presence of some mitigation measures determine a low level of risk
	Very low	< 10 The level of risk is very low: earthquakes in the area are absent, vulnerability and exposure are low

Questionnaire used to define the possible levels of seismic risk at a community scale (University of Firenze – EU FP6 Project “Rinatech”)

The project team

