

2014 - 2020 Interreg V-A  
Italy - Croatia CBC Programme  
Call for proposal 2017 Standard+

## **iDEAL - DEcision support for Adaptation pLan**

**Priority Axis: Safety and resilience**

**Specific objective: 2.1 - Improve the climate change monitoring and planning of adaptation measures tackling specific effects, in the cooperation area**

**WP4 SETTING UP OF A DECISION SUPPORT SYSTEM AS  
SUPPORT TO CLIMATE CHANGE ADAPTATION PLANNING  
Activity 3 TRAINING ON DSS**

### **4.3.1 Cross border training programme 4.3.2 Local training sessions**

**FINAL Version  
September 2019**

**Coordinator:**

PP2 - IUAV UNIVERSITY OF VENICE

**Partners involved:**

LP - IRENA – Istrian Regional Energy Agency

PP1 - MUNICIPALITY OF PESARO

PP3 - MUNICIPALITY OF MISANO ADRIATICO

PP4 - CITY OF DUBROVNIK DEVELOPMENT AGENCY DURA

PP5 - REGIONAL NATURAL PARK “COASTAL DUNES FROM TORRE  
CANNE TO TORRE SAN LEONARDO”

*DISCLAIMER: A report reflects the project iDEAL views; the IT-HR Programme authorities are not liable for any use that may be made of the information contained therein.*

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## 1. Introduction

Specific training programs and sessions on how to use and update the newly created decision support system were provided by the Iuav University of Venice to the staff of the institutions and partners involved and to other key decision makers and / or interested parties. The opportunity provided by these events has also allowed to transmit basic notions about the running of the monitoring system created for each context in the studio. Within the same concept and cross-border program, training was provided locally, in Italian and Croatian countries (through reciprocal translation) in order to facilitate learning and limit any misunderstanding as much as possible.

## 2. Training steps

The training was aimed at explaining in the simplest way possible, how to set specific support systems to the decision as well as monitoring. This was done by exposing brief intuitively points using a power point presentation structured as follows:

### 2.1 Decision Support System

Layout: Each partner has its DSS, which is presented as an Excel sheet.

What's in it? Each action has a single sheet; The results are summarized in Statistics and graphs; the Join sheet will be used to connect the DSS to the datasheets

How does it work? In this system, the main objectives are reported, concerning the indicators chosen by each PP. In the "WEIGHT" column an action is required: the PP must give priority to each objective. The sum of the weights must be equal to 1.

OBJECTIVES		
<i>name</i>	<i>weight (b)</i>	<i>result</i>
A. Environmental aspect	0,2	good
B. Social Aspect	0,2	good
C. Economic Aspect	0,2	good
D. Legal, institutional and perceptual aspects	0,2	good
E. Adaptation, Mitigation and Resilience	0,2	good

Fig. 1 Aspects weight

Weights - defined by each partner: The weights measure the intensity of the preferences, ie how important an aspect and an indicator are about other adjectives and indicators, to achieve the main objective.



Fig. 2 Sub- indicators & Thresholds

**Thresholds - defined by each partner:** Evaluation is the time when alternatives are evaluated using objectives and weighted indicators. In the Dss, it is necessary to identify two thresholds for each sub-criterion. These must be able to discriminate for each indicator an acceptable, positive and unacceptable result. The thresholds must be identified taking into account the specific economic, social and environmental context as well as future expectations. The thresholds must be realistic, achievable and goal-oriented.

**Results statistics and graphs:** The summary sheets of the Decision Support System in an Excel environment present a statistical summary, which provides an idea of how this goodness of the action was achieved.

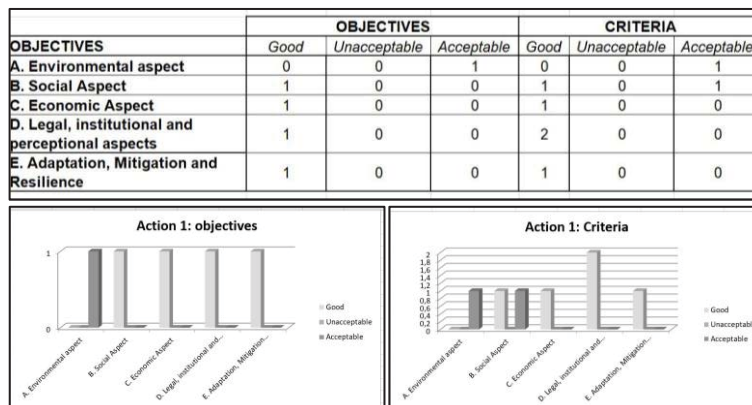
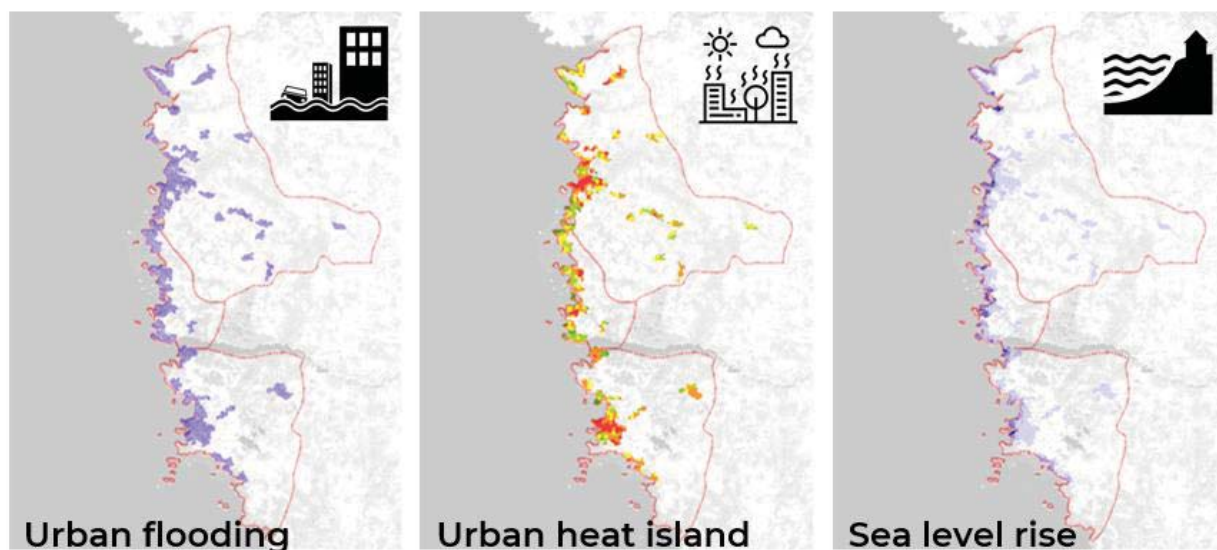


Fig. 3 Results & Graphics

**Join a dss's results in gis environment:** This phase appears to be an effective method for the graphing of the results obtained from the outcome of the DSS. The three possible outcomes: Good Acceptable, unacceptable, are related here to the degree of consistent impact.


## 2.2 Monitoring System

**Starting point:** This phase begins by reiterating the set of impacts investigated for each partner, paying attention to the mapping of the current state of vulnerability. Then attention is paid to the procedure that allowed these elaborations, briefly explaining how they were calculated.



**Selected actions:** brief explanation of the variables that will be considered for the purposes of monitoring, of each action.

**Related impact that the action mitigates:** Each action must be evaluated based on the variables that the function considers. An examples series show a method of retrieving the data, which will be inserted into the monitoring system. Later, attention is given to the compilation aspect of the System.

ACTION n° 2 TITLE: WAVES TO ENERGY						
RELATED IMPACT THAT THE ACTION MITIGATES				URBAN HEAT ISLAND 		
ID Hexagon	LST_mean	Veg_mq	Buid_mq		Index UHI- starting point	Index UHI- monitoring point
					#N/D	#N/D

A. B. C. D.

Fig. 4 Monitoring system

### 3. Local training on Decision Support System & Monitoring System

To ensure the use of the tools described above, a training cycle was organized. These were mostly kept on site, except for the case of the municipality of Misano made via Skype call.

The events here presented had technical participation. This is due to the nature of the training, that was designed for a technical audience, which will have to deal with the innovative tools proposed here.

Partner	Training address	Training date
IRENA – Istrian region	<i>Rudarska ul. 1, 52220, Labin, Croatia</i>	27-05-2019
DURA - Dubrovnik	<i>Dubrovnik 15, 20000, Dubrovnik, Croatia</i>	05-06-2019
Parco dune Costiere	<i>ss16, km 870, 72017 Ostuni, Italy</i>	30-07-2019
Municipality of Misano Adriatico	<i>Skypecall</i>	31-07-2019
Municipality of Pesaro	<i>Piazza del Popolo, 1, 61122 Pesaro, Italy</i>	18-07-2019

Table 1 - List of training date

#### 3.1 IRENA – Istrian region

ACTIO N 1	Water heat pumps - The Orthopedic and Rehabilitation Hospital “Prim.dr.Martin Horvat”			Locali zation :	59				Re sul t:	goo d	Fun ctio n	1	
OBJECTIVES					CRITERIA								
name	we ig ht (b)	re su lt	f u n z	name	unit of measu re	fun cti on	thre shol d Min	threshold Max	we ig ht (a)	data	res ult	f u n z	
A. Enviro nmen tal aspec t	0, 2	g o o d	1	A. 4 Flooding area	m2	to mi n / to ma x	1	10	1	10	goo d	1	

<b>B. Social Aspect</b>	0, 2	good	1	B. 1 People who will benefit from the actions n. Of people)	n. Of people	to min / to max	1	10	0, 5	10	good	1
				B. 5 New infrastructure	km	to min / to max	1	10	0, 5	10	good	1
<b>C. Economic Aspect</b>	0, 2	good	1	C. 1 Implementation cost	€	to min / to max	1	10	1	10	good	1
<b>D. Legal, institutional and perceptual aspects</b>	0, 2	good	1	D. 5 People acceptability	low-medium-high	to min / to max	1	10	0, 5	10	good	1
				D. 6 Political acceptability	low-medium-high	to min / to max	1	10	0, 5	10	good	1
<b>E. Adaptation, Mitigation and Resilience</b>	0, 2	good	1	E. 1 The target of the Action is an area exposed to a Climate Change Impacts	Vulnerable/ Not Vulnerable	yes /no	Not Vulnerable	Vulnerable	1	Vulnerable	good	1



				and its aim is to reduce the phenomenon.								
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### 3.2 DURA – Dubrovnik

ACTIO N 1	Parking Lots Alteration			Locali zatio n:	329		<div></div>		Resu lt:	go od
OBJECTIVES				CRITERIA						
<i>name</i>	<i>we igh t (b)</i>	<i>resul t</i>	<i>name</i>	<i>unit of measur e</i>	<i>functi on</i>	<i>thres hold Min</i>	<i>thres hold Max</i>	<i>weight (a)</i>	<i>data</i>	<i>re su lt</i>
A. Enviro nment al aspect	0,2 5	acce ptabl e	A. 4 Floodi ng area	m2	to max	1	10	0,3	10	go od
			A. 9 Uhi reduct ion	c°	to min	30	35	0,2	30	go od
			A. 10 Energ y use reduct ion	%	to min	5	10	0,5	5	go od
B. Social Aspect	0,2 5	good	B. 1 Peopl e who will benefi t from the action s n. Of	n. Of people	to max	1	10	1	10	go od

			people)							
D. Legal, institutional and perceptual aspects	0,25	good	D. 5 People acceptability	low-medium-high [1/2/3]	to max	1	3	0,5	3	good
			D. 6 Political acceptability	low-medium-high [1/2/3]	to max	1	3	0,5	3	good
E. Adaptation, Mitigation and Resilience	0,25	good	E. 1 The target of the Action is an area exposed to a Climate Change Impacts and its aim is to reduce the phenomenon.	Vulnerable/Not Vulnerable	yes	Not Vulnerable	Vulnerable	1	Vulnerable	good
Instructions										
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### 3.3 Parco Dune Costiere

ACTIO N 1:	Dry Agriculture		Localiza tion:	31,34,35,37,105,106,11 3,114,118,124,127,128, 129; 138-141; 152-155; 164-166; 174,175,183,184					Re sul t:	GOOD
OBJECTIVES			CRITERIA							
name	we igh t (b)	result	name	unit of measur e	function	threshold Min	threshol d Max	we igh t (a)	data	result
A. Enviro nment al aspect	0, 3	good	A. 1 Soil coastal erosion	m2	to min	1	10	0, 4	0	good
			A. 2 Soil drought	m2	to min	1	10	0, 4	0	good
			A. 8 Habitat mainten ance	m2	to max	1	10	0, 2	0	unacc eptab le
B. Social Aspec t	0, 2	unacc eptab le	B. 3 New job created by the actions	n. of Job	to max	2	10	0, 5	1	unacc eptab le
			B.5 New Infrastru cture	km	to max	2	10	0, 5	6	accep table
C. Econo mic	0, 4	accep table	C. 1 Imple mentation cost	€	to min	1	10	0, 5	10	unacc eptab le

Aspect			C. 5 Enterprise supported	n.of Enterprise	to max	1	2	0, 5	3	good
D. Legal, institutional and perceptual aspects	0, 1	acceptable	D. 3 Procedural time	days	to min	30	90	0, 5	28	good
			D.5 People Acceptability	Low/medium/high [1/2/3]	to max	2	3	0, 5	1	unacceptable
E. Adaptation, Mitigation and Resilience	0, 2	good	E. 1 The target of the Action is an area exposed to a Climate Change Impacts and its aim is to reduce the phenomenon.	Vulnerable/Not Vulnerable	yes/no	Not Vulnerable	Vulnerable	1	vulnerable	good
Instructions										
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### 3.4 Municipality of Misano adriatico

ACTION 1:			Reduction of cooling demand in tourist accommodations			Localiz ation:		99005000 0008		<div></div>	Re sul t:		UNACCEPTA BLE	
OBJECTIVES					CRITERIA									
name		w e i g h t (b)	res ult	name		unit of measu re		fu nc tio n	thres hold Min	thres hold Max	we igh t (a)	data	resul t	
A. Environmental aspect		0, 3	una cce pta ble	A. 3 Impermeability ratio		m2		to mi n	1	10	0,4	12	unac cept able	
				A. 5 Collected rain water		m3/ye ar		to m ax	1	10	0,2	0	unac cept able	
				A. 7 Water consumption		m3/ye ar		to mi n	1	10	0,2	12	unac cept able	
				A. 9 UHI reduction		C°		to m ax	1	3	0,2	4	good	
B. Social Aspect		0, 3	una cce pta ble	B. 1 People who will benefit from the actions		n. of people		to m ax	2	10	0,5	1	unac cept able	
				B. 5 Upgraded Infrastructure		km		to m ax	2	10	0,5	6	acce ptabl e	
C. Economic Aspect		0, 2	una cce pta ble	C. 1 Implementation cost		€		to mi n	1	10	1	10	unac cept able	
D. Legal, institutional and perceptual aspects		0, 1	una cce pta ble	D. 1 Legal feasibility		Low/m edium /high [1/2/3 ]		to m ax	2	3	0,5	1	unac cept able	

			D. 3 Procedural time	Days	to min	10	60	0,5	40	acceptable
E. Adaptation, Mitigation and Resilience	0,1	acceptable	E. 1 The target of the Action is an area exposed to a Climate Change Impacts and its aim is to reduce the phenomenon.	Vulnerable/Not Vulnerable	yes/no	Not Vulnerable	Vulnerable	1	not vulnerable	acceptable
Instructions										
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### 3.5 Municipality of Pesaro

ACTION 1:	Greening brownfield area / Nature-based Solutions				Local izati on:	269	<div></div>	R es ul t:	ACCEPTA BLE				
OBJECTIVES			CRITERIA										
name	w ei g h t ( b )	re sul t	name	unit of mea sure	fu n ct i o n	thr es h old Min	thre shol d Max	w ei g h t (a )	dat a	resu lt	f u n z C	f u n z O	F u n ct i o n
A. Environme ntal aspect	0, 2	un ac ce pt ab le	A. 1 Soil coastal erosion	m2	to m in	1	10	0, 2	0	goo d	1	0	0, 5
			A. 6 Reused water	m3/ year	to m a x	1	10	0, 2	0	una cce pta ble	0		

			A. 7 Water consumption	m3/year	to max	1	10	0,2	0	unacceptable	0		
			A. 8 Habitat maintenance	m2	to max	1	10	0,2	0	unacceptable	0		
			A. 9 Uhi reduction	% tree canopy density	to max	1	10	0,1	0	unacceptable	0		
			A. 10 Energy use (reduction)	Mwh/year	to min	1	10	0,1	0	unacceptable	0		
B. Social Aspect	0,2	unacceptable	B. 1 People who will benefit from the actions	low-medium-high [1/2/3]	to max	2	3	1	1	unacceptable	0	0	
C. Economic Aspect	0,2	acceptable	C. 1 Implementation cost	€	to min	1	10	0,5	10	good	1	0,5	
			C. 2 Management cost	low-medium-high [1/2/3]	to min	1	2	0,5	3	unacceptable	0		
D. Legal, institutional and perceptual aspects	0,2	good	D. 3 Procedural time	days	to min	30	90	1	28	good	1	1	
E. Adaptation, Mitigation	0,2	good	E. 1 The target of the Action is an area exposed to a Climate Change Impacts and its	Vulnerable/Not	yes/	Not Vulnerable	Vulnerable	1	vulnerable	good	1	1	

and Resilience			aim is to reduce the phenomenon.	Vulnerable	no	able							
Instructions													
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## DSS Join in GIS environment

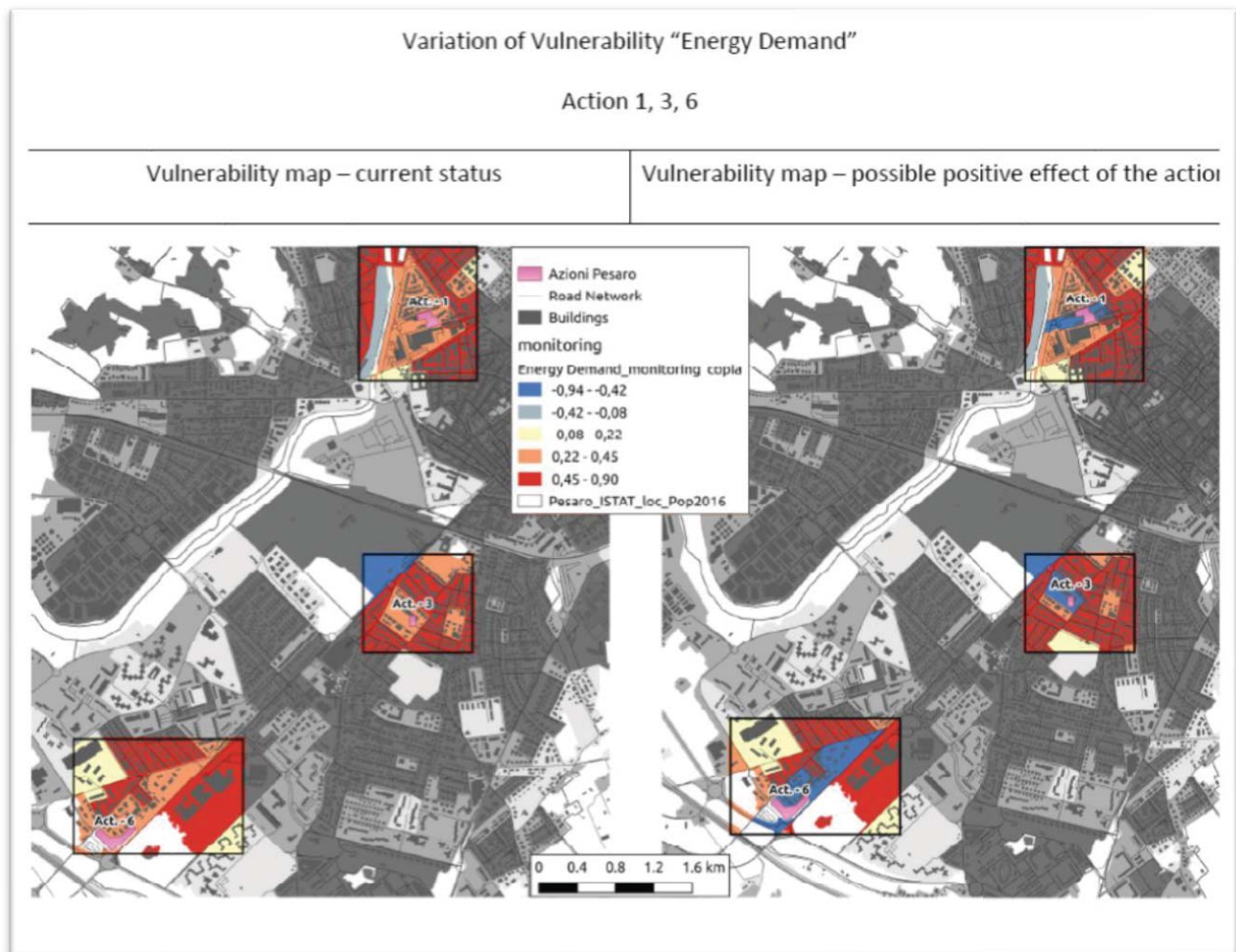


Fig. Graphic DSS results in Pesaro

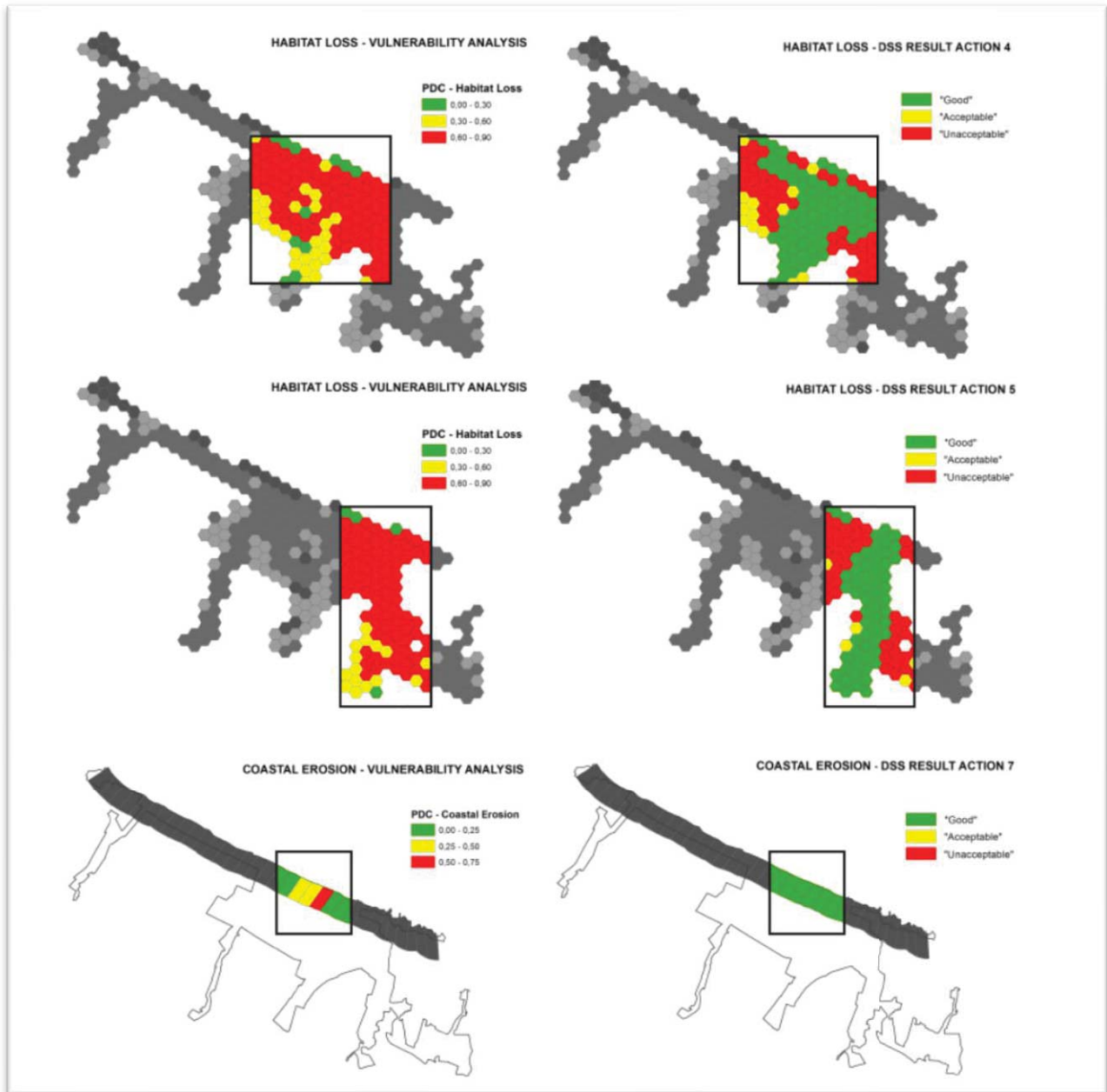


Fig. Graphic DSS results in Dune Costiere Park

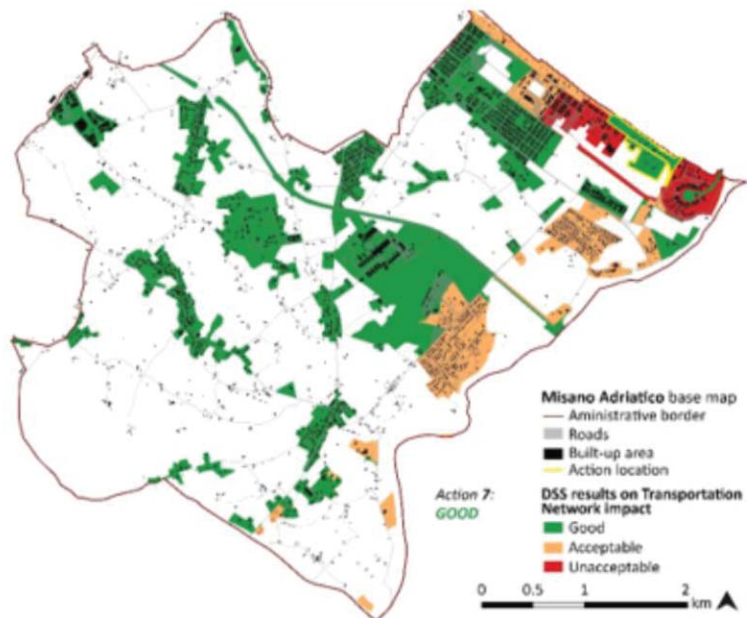


Fig XX. DSS results on Transportation Network Impact for the Action 7 – ‘Good’

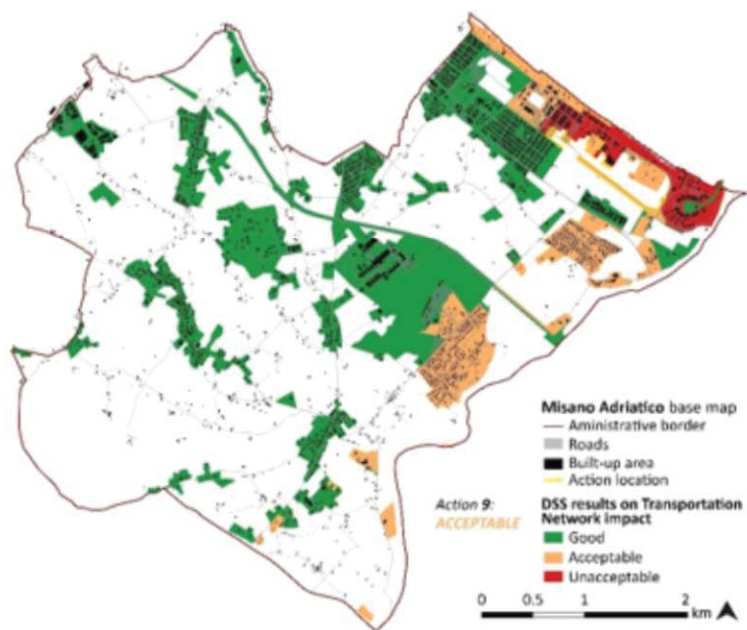


Fig XX. DSS results on Transportation Network Impact for the Action 9 – ‘Acceptable’

Fig. Graphic DSS results in Misano Adriatico



## Local trainings photos

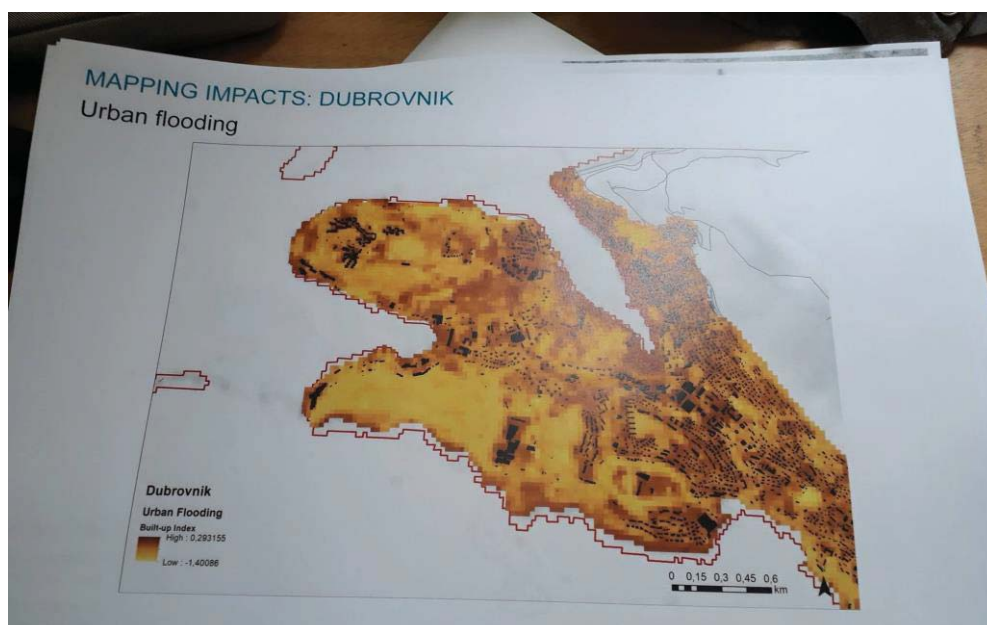


Fig. 5 Local training in Dubrovnik, 05-06-2019



Fig. 6 Local training in Ostuni, 15-09-2019



Fig. 7 Local training in Pesaro, 18-07-2019

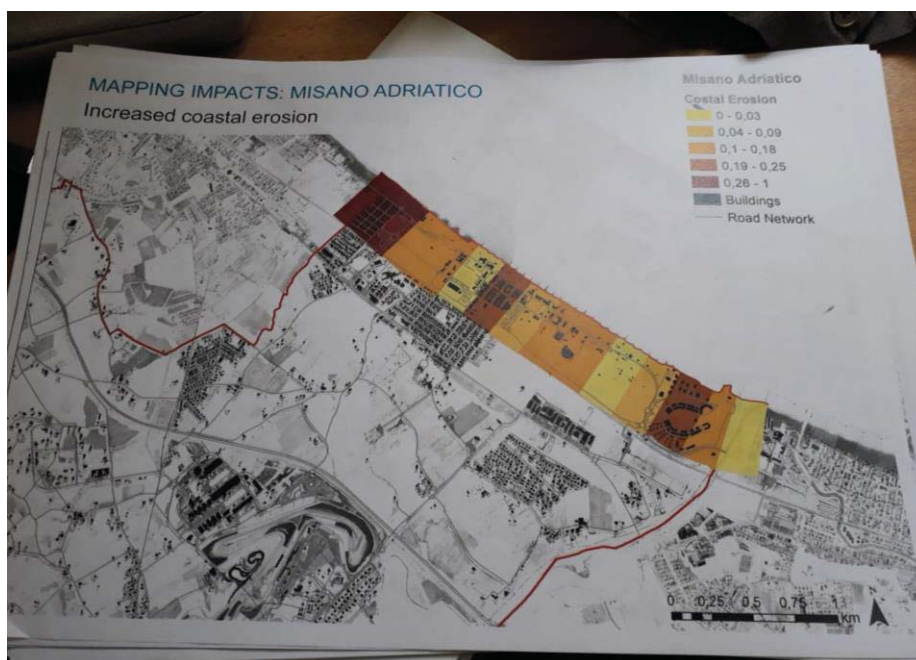


Fig. 8 Mapping the impact for Pesaro local training, 18-07-2019



Fig. 9 Local training in Dubrovnik, 05-06-2019





Fig. 10 Local training in Vrsar (IRENA), 03-07-2019



Fig. 11 Local training in Vrsar (IRENA), 24-09-2019

## **Annexes:**

DSS training and monitoring materials and tables - LP  
DSS training and monitoring materials and tables - PP1  
DSS training and monitoring materials and tables - PP3  
DSS training and monitoring materials and tables - PP4  
DSS training and monitoring materials and tables - PP5

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*Annexes were used for training of DSS on local level.*