Four Urban Resilience workshops

Urban resilience
a conceptual reframing and action instruments
Resilienza urbana: letture teoriche e strumenti per l'azione

Resilient cities. Approaches & practices

Resilience injections in Urban Agenda

Resilience and New Urban Agenda

a cura di: Angela Colucci (DAStU/REsilienceLAB) e Valeria Fedeli (DAStU)

Angela Colucci | DAStU, REsilienceLAB

Four Urban Resilience workshops
Urban resilience
a conceptual reframing and action instruments
Resilienza urbana: letture teoriche e strumenti per l'azione

Resilient cities

Focus

Resilience

urban

Literature Approaches

Resilience in practice

Resilience injections & UA

Critical questions

Resilience and New Urban Agenda
a cura di: Angela Colucci (DAStU/REsilienceLAB) e Valeria Fedeli (DAStU)

resilience

[theoretical debate on Resilience definition]

[Resilience recovery, transition, adaptation, evolutionary ....]

Ecosystem/ecological resilience

persistence, change/unpredictability, adaptability and variability, emphasising conditions that are far from aequilibrium

**"general" definition >
To include different approaches**

planning/design

[system definition]

Urban systems/cities

Urban/territorial complex system

[? Urban/cities threshold]
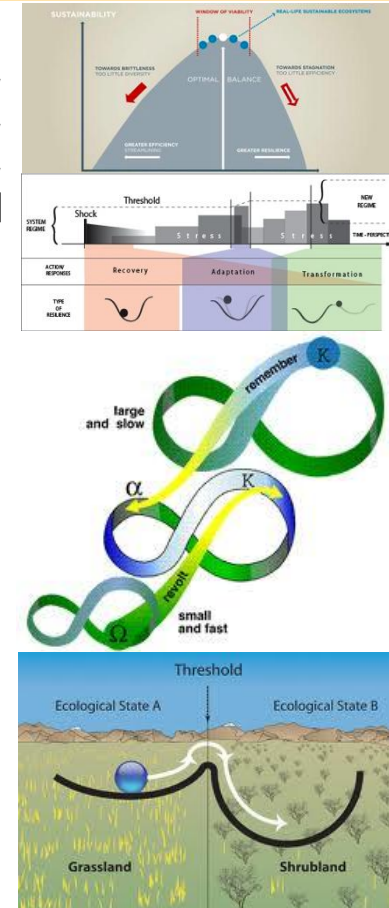
Ecosystem/ecological resilience

Resilience is the property of complex systems to react to stress phenomena by activating response and adaptation strategies in order to restore the mechanisms by which they function. Resilient systems under stress react by regenerating themselves while maintaining the functionality and recognisability of the systems

Holling and Gunderson 2002

Resilience City

"A Resilient City is one that has developed capacities to help absorb future shocks and stresses to its social, economic, and technical systems and infrastructures so as to still be able to maintain essentially the same functions, structures, systems, and identity."

ResilientCity.org
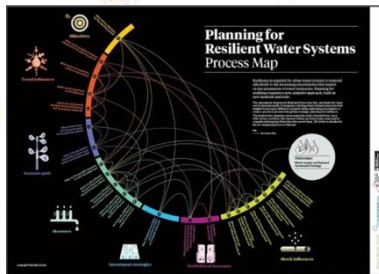
[literature comparison]

[practices comparison]

Resilience sustainability

Resilience adaptation

Resilience and risk

Resilience definition

Resilience concepts (used as principles)

Resilience strategies

City / urban system model

SHARED [resilience] principles

innovation

critical questions

Resilience Alliance

I.C.L.E.I
Resilient Cities series
CENTER FOR RESILIENT CITIES
Good Living Well Grounded

Transition Network.org

UNISDR
The United Nations Office for Disaster Risk Reduction

CC

AdD

TT

RR

Topics

[resilient for what???]

Process

+ [proposal/vision and initiatives/plan]

Scale and systems

Resilience principles

Solution/actions

RESILIENCE & SUSTAINABILITY

RESILIENCE & ADAPTATION

RESILIENCE & RISKS

Angela Colucci
Le città resilienti: approcci
e strategie

http://www.jeanmonnet-pv.it

Towards resilient cities. Comparing
approaches/strategies
Angela Colucci

http://www.tema.unina.it/index.php/tema/article/
view/921

	Resilience and sustainability	Resilience and adaptation		Resilience and risks
Disciplinary backgrounds	Natural sciences, biology, ecology, economy and social and political sciences	Planning, architecture, natural science, sociology		Engineering, Building architecture, planning, social science
Resilience definition	R. as the capacity to lead to a continued existence by Incorporating change'	**Planner approach**	**Transition cities**	R. as the capacity and ability, after a disaster, to emerge from stalemate in a condition that is not necessarily the same as the initial pre-existing condition
		No definition of R.	R. as the ability of complex system to absorb the stress using adaptation strategies	
Research and experiences Focus (scales and places)	- Theoretical / theoretical modelling - Development of local communities and regional development - Management of natural resources (linked to development of local community / regional development)	- Models / strategies applied to city / urban and metropolitan - Development of neighbourhoods and local communities		- Regional Development - Urban contexts - Projects focused on specific phenomena
Cities model (components)	- Social-ecological systems - Urban areas is the result of the interaction of four system (that have the same relevance): metabolic flows, governance networks, social dynamics, built environment.	**Planner approach**	**Transition cities**	- Cities/regional models are based on traditional risk analysis methods - City component physical, social and organizational
		Cities system composed by the build env. supported by the supporting systems (Transportation, Energy, Water, Natural environment, Food production, agriculture, Solid waste, Economic)	Community process of changing (not structured models)	
Resilience concepts used as key strategies	- Feeding diversity for reorganization and renewal - Interconnection between temporal and spatial scales varying - Recognition of the slow variables - Compact strong feedback - Adaptability, flexibility and innovation - Knowledge and communities	**Planner approach**	**Transition cities**	- Buffering - Core protection - Diffusion - Rapid responses - Redundancy circuit - Storage capacity - Waste nutrient recovery self-help
		No strong relation between resilience concepts and the strategies developed	- diversity - modularity - local based - feedback - small	
Resilience strategies (innovation for planning)	- Life is full of surprises - *Learning to live with uncertainty and change* - **Feeding diversity for reorganisation and renewal** - Combining different types and systems of knowledge and create opportunities for self-organization - Adaptability, flexibility and innovation based on feedback - **Memory**	No innovation strictly related to the resilience Newman proposes, strategies related to: Renewable Energy City, Carbon Neutral City, Distributed Dity, Photosynthetic City, Eco-Efficient City, Place-Based City, Sustainable Transport City.	- Diversity (and creative redundancy) - Modularity (organisational networks / and governance) - Local-based - Small - Balance between environmental, social and economic resources, and the type of development and their levels of consumption and use	- Redundancy & diversity - Efficiency & Strong (with the capacity to withstand events/external attacks of various kinds) - Independency & connections (ability to mutually support one other) - Adaptability - ability to learn from experience - Collaboration(multiple opportunities and incentives)

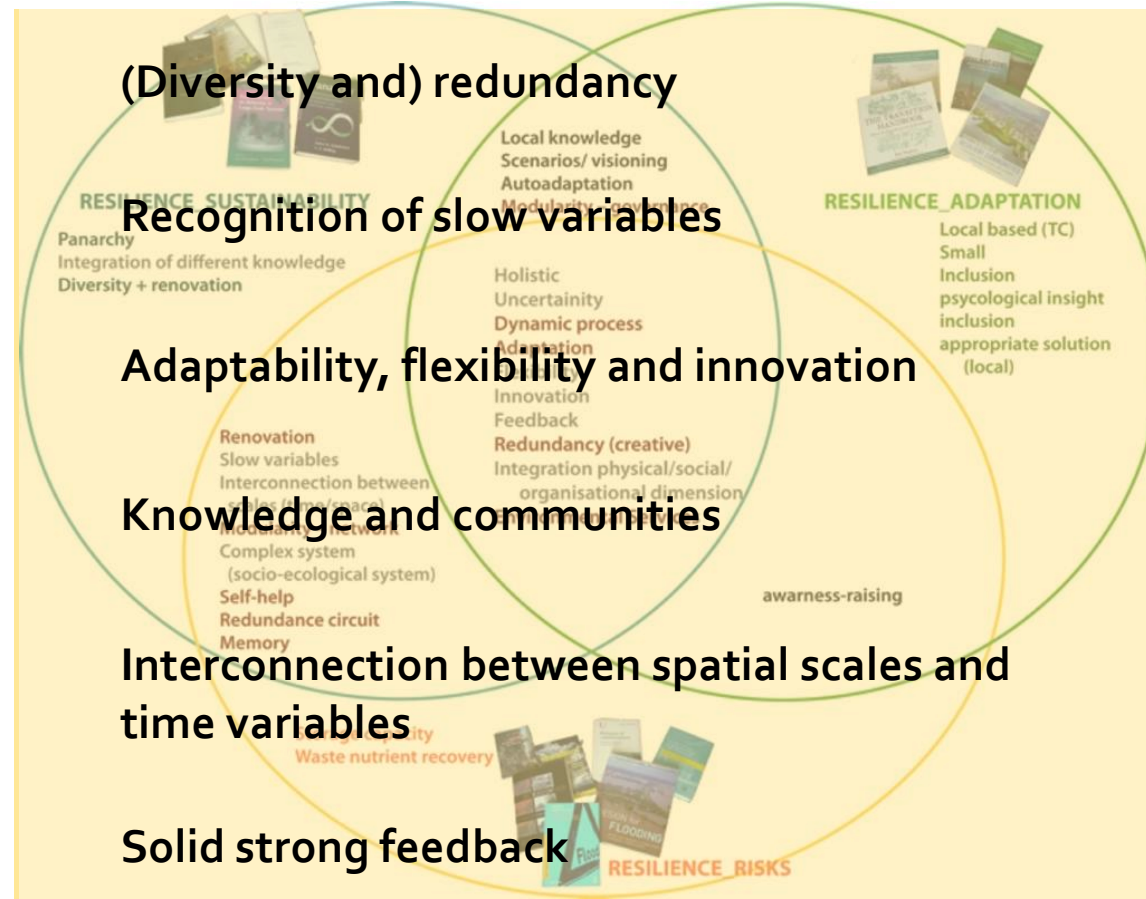*Resilience injections in Urban Age*
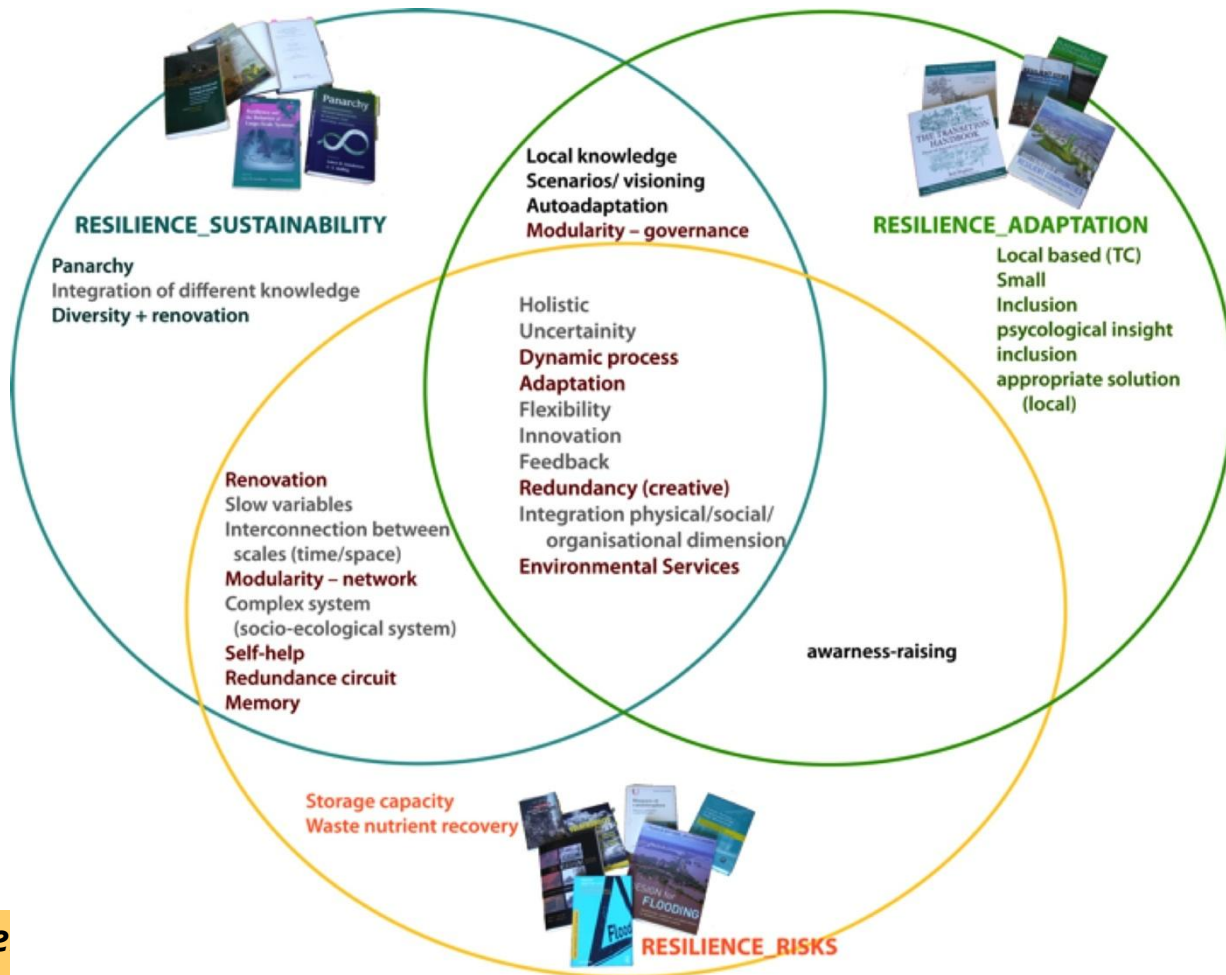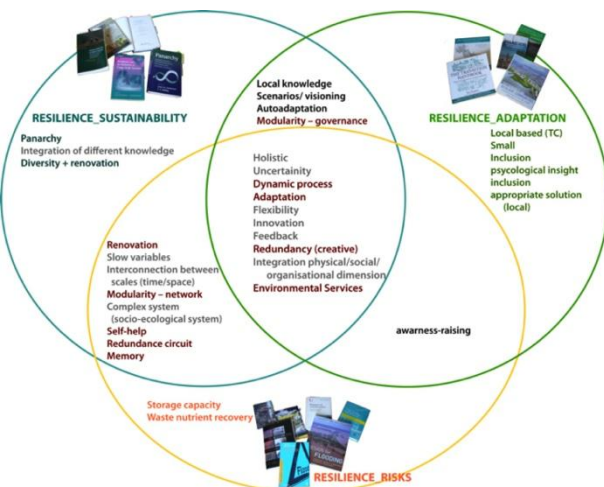
Resilience and sustainability proposes innovative principles and strategies in the field of socio-ecological systems management, but does not appear to be strongly focused on urban and planning issues. Important strategies could derive from this family and be applied to urban design.

With regard to *Resilience and adaptation* family, the Transition cities experiences are very interesting in terms of innovation in the policies process and in term of strategic contents. The other experiences and proposals of this family are more focussed on adaptation strategies.

The *resilience and risk family* developed since a long time a wide debate on resilience strategies aiming to the risk mitigation. The resilience strategies / principles related to the risk mitigation are more easily understandable by the general public: this because the population involved is usually more sensible to the themes of risk mitigation and prevention, and is thus more open to the adoption of innovative approaches, such as resilience.

innovative aspects and concepts common

- A strong link between physical, social and organisational elements;

- local community based and relevance of social aspects;

- Focus and role of ecosystem services/metabolic flows

- Strong innovation in terms of the process;

- Relevance of the concept of process dynamics (and therefore of flexibility with respect to the dynamism of processes).

(Diversity and) redundancy

Recognition of slow variables

Adaptability, flexibility and innovation

Knowledge and communities

Interconnection between spatial scales and time variables

Solid strong feedback

Venn diagram content:

RESILIENCE_SUSTAINABILITY
Panarchy
Integration of different knowledge
Diversity + renovation

RESILIENCE_ADAPTATION
Local based (TC)
Small
Inclusion
psychological insight
inclusion
appropriate solution
(local)

Local knowledge
Scenarios/ visioning
Autoadaptation
Modularity governance

Holistic
Uncertainty
Dynamic process
Adaptation
Innovation
Feedback
Redundancy (creative)
Integration physical/social/
organisational dimension

Renovation
Slow variables
Interconnection between
scales (time/space)
Modularity network
Complex system
(socio-ecological system)
Self-help
Redundance circuit
Memory

Waste nutrient recovery

awarness-raising

RESILIENCE_RISKS

Practices comparison

Left table:

| Platform | Cities | Key features of Resiliency programs/proposals | | | | | | | Resiliency plans according to | | | | | Implementation |
		Food security	Water management	Transport	City master planning- land use planning	Waste management	Energy supply	Disaster responses	geography/ Climate/Green	potential hazards	The importance of people (survival)	Socio-Economic	Buildings/ Infrastructure	
ARUP	Delhi,													
ARUP	Oaxaca													
ARUP	**Dhaka**													
ARUP	Lusaka													
ARUP	Edinburgh													
ARUP	Shanghai													
ARUP	Curitiba													
ARUP	Sao Paulo													
ARUP	Lagos													
ARUP	Istanbul													
NYC.gov	New York													
UNISDR	NIŠ, Serbia													
UNISDR	Amadora, Portugal													
UNISDR	Oak Bay,Vancouver													
UNISDR	Putrajaya, Malaysia													
UNISDR	KUALA LUMPUR													
UNISDR	Mashhad, Iran													
UNISDR	Tehran, Iran													
Think Alex	**Alexandria, USA**													
UNISDR	TALCAHUANO, Chile													
UNISDR	Santa Fe, Argentina													
ADPC	Jamalpur, Bangladesh													
UNISDR	Kobe, Japan													
edmonton.ca	Edmonton, Canada													
vancouver.ca	Vancouver, Ca													
ottawa.ca	**Ottawa, Ca**													
SPUR	San Francisco, US													

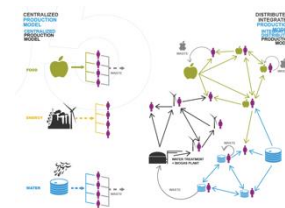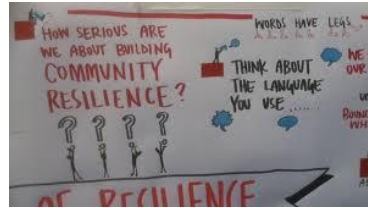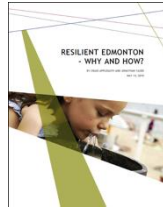Chiara Cortinovis + Nassim Azadegan, Davide Riva

Resilience injections in Urban Agenda I Angela Colucci

CC

AdD

TT

RR

Resilience Injections

Complexity & crosscutting
[ecosystem/human]

Modularity
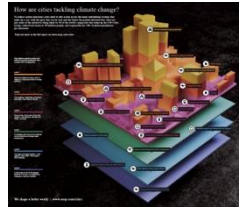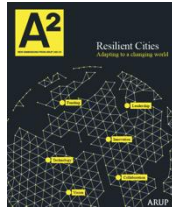[systems/subsystems]
[scale –local/global]
[time/space]

Dynamic/flexibility
[time/evolution/changes]
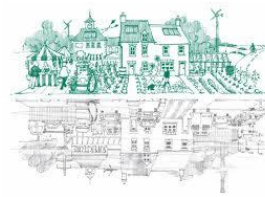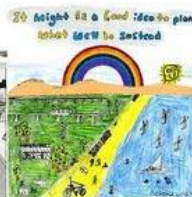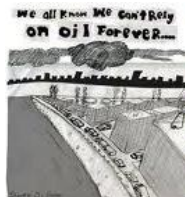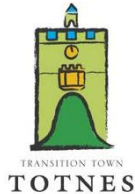[feedback]
[Recognition of slow variables]

Knowledge and communities
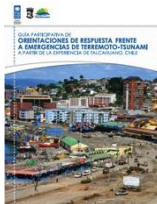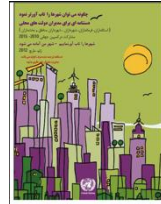
Creative diversity & redundancy

CC

AdD

TT

RR

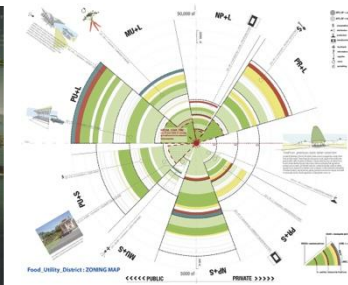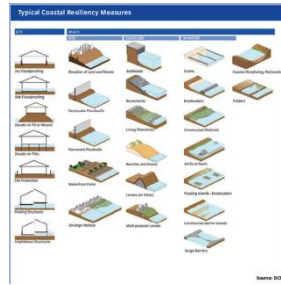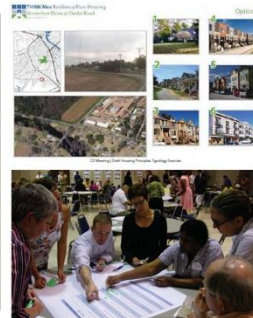*"opportunity/risks points"*

Visioning
[&diffusion]

Continuity VS innovation
[new label]

Innovation
Local / bottom up
community
[fragility]

CC	*Resilience Injections*
	Complexity & crosscutting
	[ecosystem/human]
	Modularity
AdD	[systems/subsystems]
	[scale –local/global]
	[time/space]
	Dynamic/flexibility
TT	[time/evolution/changes]
	[feedback]
	[Recognition of slow variables]
RR	**Knowledge and communities**
	Creative diversity & redundancy

CITIES
Cities of Tomorrow:
Investing in Europe
Brussels, 17-18 February 2014

European Commission

Key concepts [green city WS]
> Crosscutting
> Partnership / Multi-governance [local/com]
> Model of development
> Deep ecology approach/green infrastructure

> Environmental questions [EEA]

? Urban / not urban?

CC	*Resilience Injections*
	Complexity & crosscutting [ecosystem/human]
AdD	**Modularity** [systems/subsystems] [scale –local/global] [time/space]
TT	**Dynamic/flexibility** [time/evolution/changes] [feedback] **[Recognition of slow variables]**
RR	**Knowledge and communities** **Creative diversity & redundancy**

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European Commission

Resilience injections In Urban Agenda
[not resilience term BUT principles of]

> UA supports process [innovation in ...]
> Crosscutting
> Complexity & modularity

? Innovation/environmental topics in urban system [not only green economy]

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Resilient cities. Approaches & practices

Resilience injections in Urban Agenda

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Resilience and New Urban Agenda

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