Criteria of vulnerability and strategies of resilience in recov	ery plans
SUR Project >> ARTUR: Approaches towards Urban Resilience in Ukraine Digital City Science - HafenCity University Hamburg	









## Alignment of Concepts for UR - HCU + RPTU

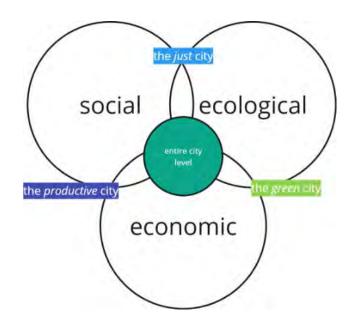
Reference Conceptual Framework

Goals alignment

**UR** - Dimensions

















#### **ARTUR** - Introduction of the project to Cities

How does ARTUR understand urban resilience?

Urban resilience is the capacity of cities to recover quickly, to manage uncertainty, and to be better prepared for the future









#### **ARTUR** - Aim of the Project

#### What does ARTUR do?

ARTUR develops a method to measure a city's urban resilience. That method is:

- for Ukrainian cities
- digital
- interactive
- replicable
- modifiable













#### **ARTUR** - Expected Impact

How does a city benefit from having its resilience analysed?

Resilience can be translated to the desired levels of precision (scale) Areas or sectors of improvement can be ranked Planning more effective measures can be supported

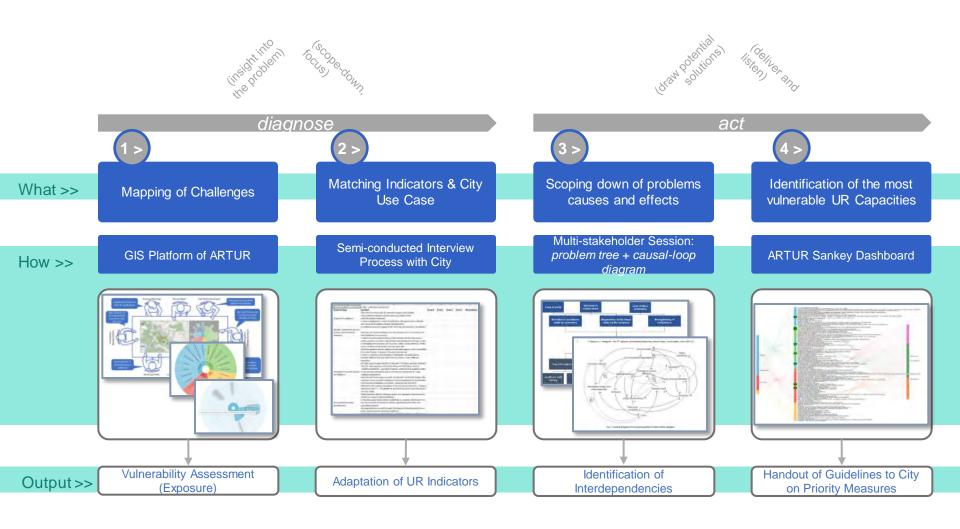








## **ARTUR** - Assembly of an operational toolbox

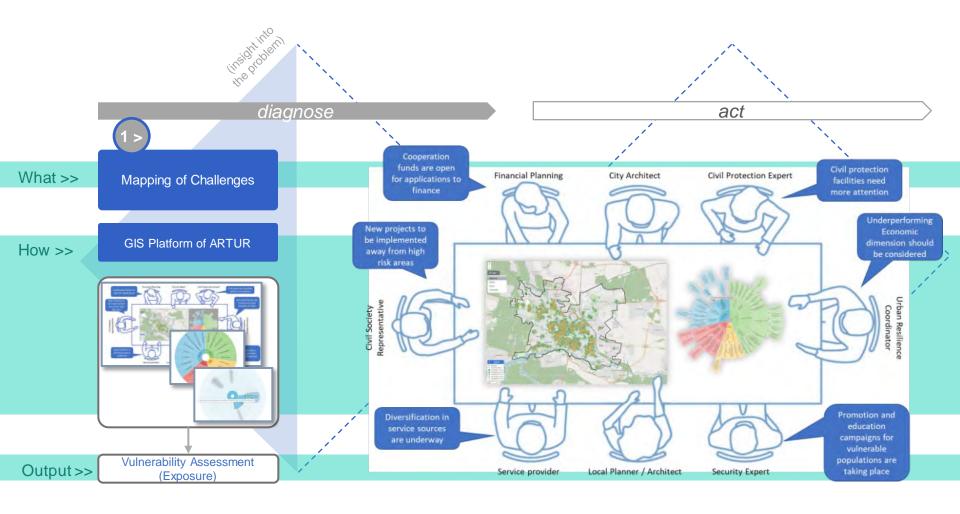






















## Our Pilot with 2 Cities - Nikopol and Kryvyi Rih











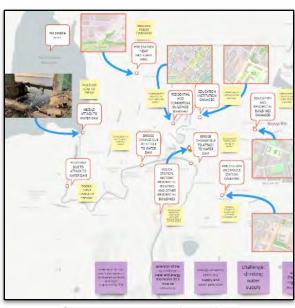


#### Our Pilot with 2 Cities - collaborative alignment

Open Data Assessment

Iterative alignment

UR - from needs to Indicators

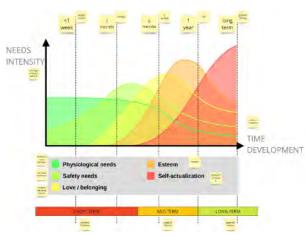


Current impact of conflict

#### Workshop HCU & city



Local knowledge on current needs and priorities guide the decision process on where to focus on the UR assessment



Integration of local needs and priorities



Selection of relevant UR indicators



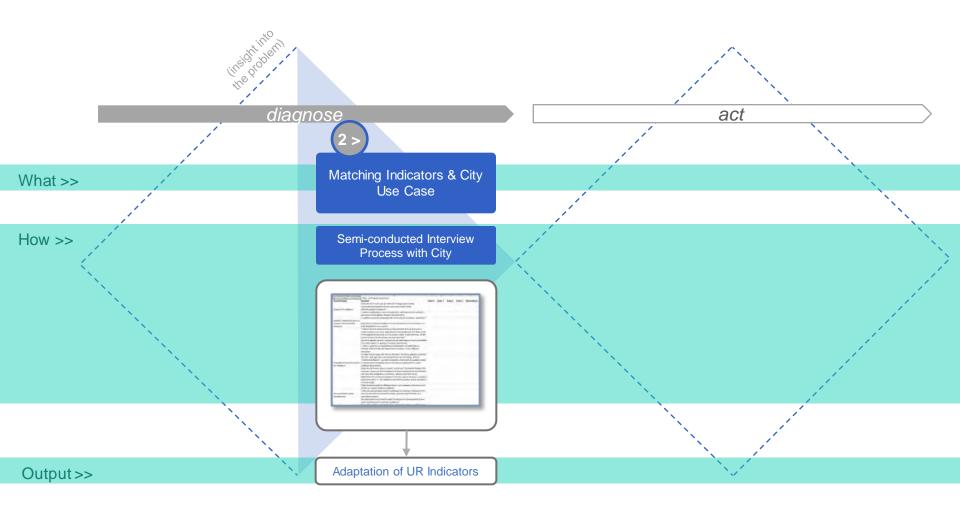




















### **ARTUR** - Step 2: from City's own assessment to first synthesis

**Local knowledge** collected from City >>

(semi structured interview / workshop)

Type of challenge

Water

Supply

**Problems** 

Characteristics of the challenge

Collapsed water pumps due to electricity failure

Safe drinking water crisis due to mineralization

Location of water pumps

Coverage of power outage areas

Supply network of drinking water to housing

#### Matched to ARTUR indicators framework

UR Dimension

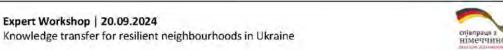
**UR** Component

SOCIAL (basic needs)

Access to safe drinking water

Are there alternative planning measures for water supply?

Is drinking water distribution safe, reliable and inclusive?













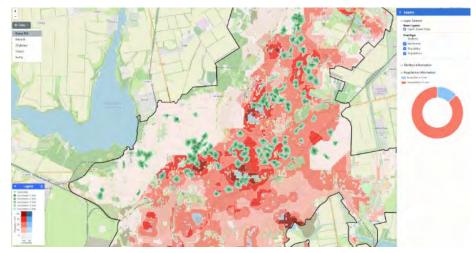


#### **ARTUR** - Step 2 (first synthesis)

Social services infrastructure, including schools, hospitals, and clinics

Social services infrastructure, including schools, hospitals, and clinics

#### The Kryvyi Rih Case



Prioritise and adjust indicator measures aligned to City challenges and needs:

- Social
- Institutional
- Infrastructural

#### The **Nikopol** Case



Prioritise and adjust indicator measures aligned to City challenges and needs:

- Infrastructure
- Planning
- Economic (access to funding)



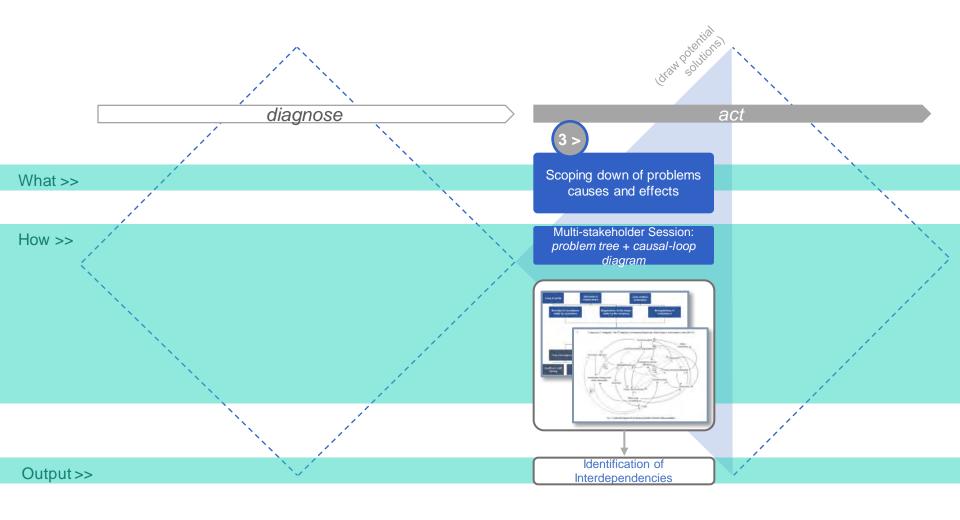












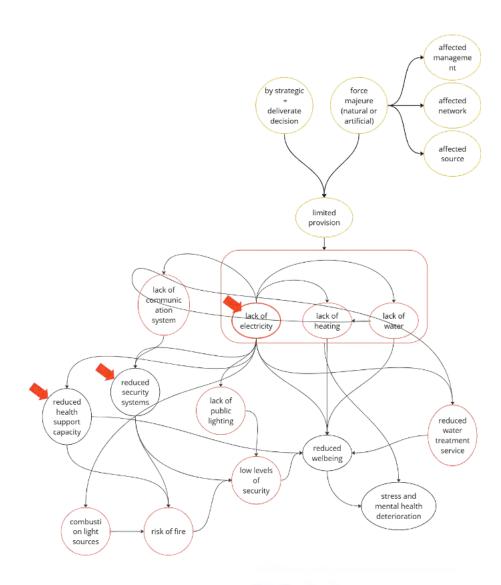








## **ARTUR** - scoping-down problem(s) / identifying interdependencies





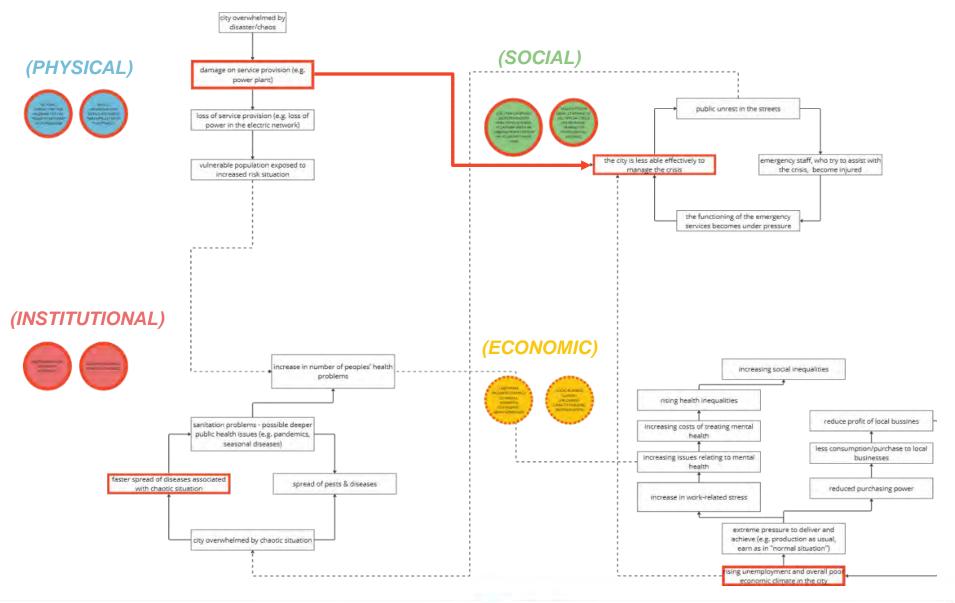








## **ARTUR** - Highlighting Interdependencies across challenges

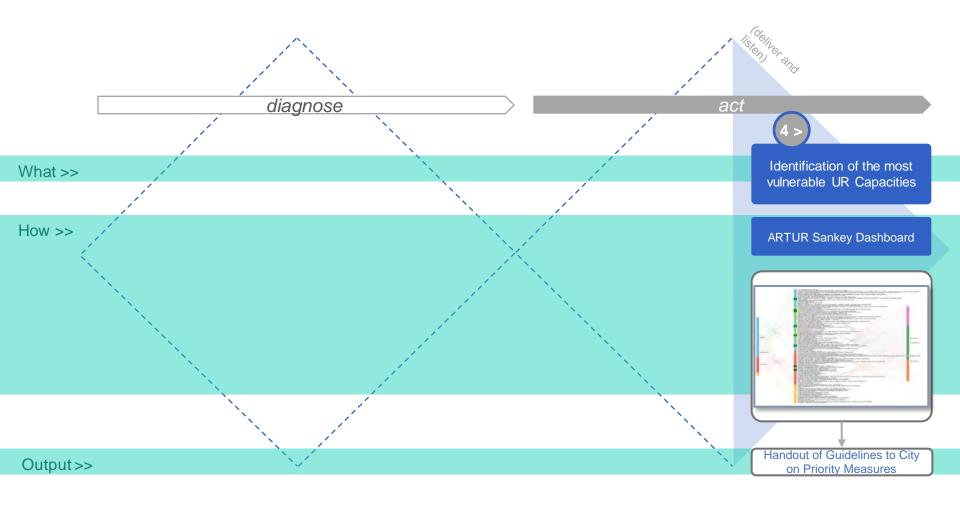












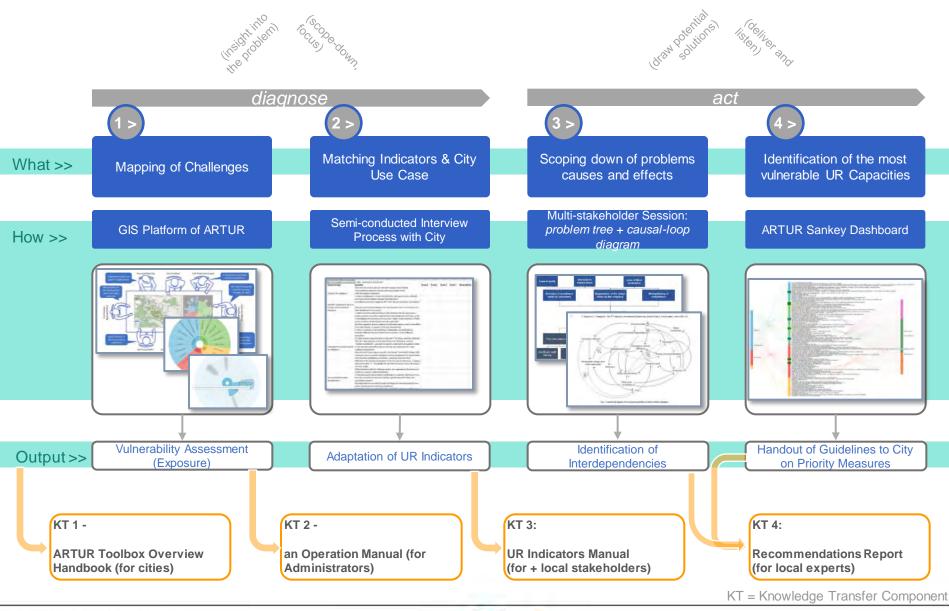








## **ARTUR Toolbox** - envisioned outcome of our cooperation with cities



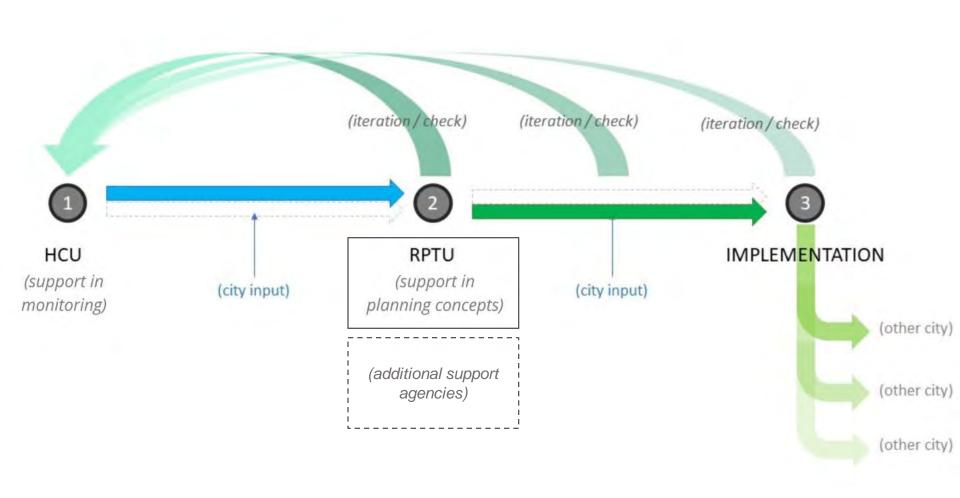








#### **Discussion on future paths** - SUR Cooperations in UA







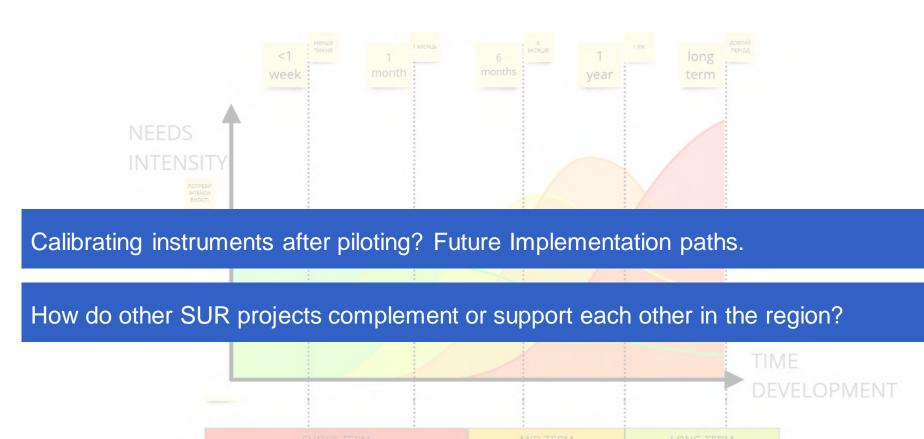






#### **Discussion on future paths** - SUR Cooperations in UA

### Open floor for discussion













## Thank you











