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Norwegian University
of Life Sciences



Norwegian Students' and Academics'
International Assistance Fund



POLITECNICO
MILANO 1863



V.N. KARAZIN KHARKIV
NATIONAL UNIVERSITY



FORWARD

**URBAN RESILIENCE THROUGH OPEN SCIENCE, EDUCATION
& COMMUNITY ENGAGEMENT IN WAR REGIONS**

November 2025 – October 2028





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**HELPING EDUCATION AND RESEARCH
MOVE FORWARD EVEN DURING WAR**



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WHY FORWARD?

Universities in Palestine and Ukraine are facing unprecedented disruption. War has damaged campuses, displaced students and teachers, and made regular teaching almost impossible.

Disrupted Higher Education Systems

Students and faculty struggle with:

- O1 Destroyed or inaccessible classrooms and labs
- O2 Unstable internet and limited devices
- O3 Interrupted fieldwork and loss of practical learning
- O4 Reduced teaching continuity and supervision
- O5 Limited access to learning and research resources

Community Needs Intensifying

Communities face severe pressures that threaten their livelihoods and recovery:

- O1 Water scarcity
- O2 Energy instability
- O3 Housing and shelter challenges
- O4 Food insecurity
- O5 Gendered barriers in accessing essential services

Isolation and Barriers to Collaboration

War isolates students, teachers, and researchers because of:

- O1 Lack of cloud-based platforms
- O2 Inability to access or share data
- O3 Limited experience with open science practices
- O4 Fragmented communication and collaboration channels
- O5 Reduced capacity to participate in international networks





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Higher education, research, and community problem-solving
become disconnected when they are needed most.

**FORWARD IS DESIGNED TO
REBUILD THESE CONNECTIONS**



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OUR VISION

To build a connected and resilient learning and research community where students, teachers, and researchers in war areas can continue to study, investigate, create knowledge, and support their communities – even during war.

FORWARD ENVISIONS UNIVERSITIES THAT REMAIN ACTIVE CENTERS OF KNOWLEDGE, WHERE:

- O1 learning continues despite disruptions,
- O2 research remains open and collaborative,
- O3 data is shared ethically and according to FAIR principles, and
- O4 communities participate directly in generating solutions to urgent needs.



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**RESILIENCE GROWS WHEN EDUCATION
AND RESEARCH STAY OPEN,
CONNECTED, AND GROUNDED
IN REAL COMMUNITY CHALLENGES**



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URBAN RESILIENCE

Urban resilience is the capacity of cities, communities, and institutions to withstand shocks, adapt to changing conditions, and recover sustainably.

Why Urban Resilience Matters in War

- O1 Essential systems - water, energy, food, housing – come under extreme pressure
- O2 Communities must respond quickly to new risks and shifting conditions
- O3 Universities play a critical role in supporting recovery while facing their own operational challenges

How FORWARD Strengthens Urban Resilience

- O1 Builds practical fieldwork skills for students and teachers
- O2 Connects academic learning directly to real community needs
- O3 Supports problem-solving grounded in evidence, field data, and collaboration
- O4 Establishes long-term capacity for local institutions to rebuild, adapt, and thrive



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OPEN SCIENCE

Open Science makes knowledge accessible, collaborative, ethical, and usable by all. In war-affected regions, where universities are damaged and access to learning and research is disrupted, Open Science becomes a lifeline. It ensures that students, teachers, researchers, and communities can continue to learn and create knowledge together – even when physical infrastructure is gone.

Open Science helps overcome the isolation caused by war.

It enables:

- O1** Inclusive, equitable access to knowledge
- O2** Cross-border collaboration when campuses and labs are inaccessible
- O3** Transparency and trust in data and research
- O4** Community participation in generating solutions
- O5** Faster, collective problem-solving in crisis



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**BY OPENING PATHWAYS TO
PARTICIPATION, OPEN SCIENCE ALLOWS
MARGINALIZED AND LESS ADVANTAGED
COMMUNITIES TO REMAIN CONNECTED
TO GLOBAL KNOWLEDGE NETWORKS
RATHER THAN BEING LEFT BEHIND**





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FAIR, CARE, AND INCLUSIVE PRACTICES

FORWARD integrates Open Science through a framework that ensures data is both usable and ethical. The FAIR principles guide how data is organized and shared - making it (Findable, Accessible, Interoperable, and Reusable) for learning and research across borders. The CARE (Collective Benefit, Authority to control, Responsibility, Ethics) principles ensure that data collected in vulnerable or war-affected communities is handled with respect, responsibility, and protection.

OPEN SCIENCE AS A DRIVER OF RESILIENCE

Grounded in FAIR, CARE, and inclusive practices, Open Science supports informed decisions, preserves knowledge during crisis, connects communities across borders, and empowers them to co-create solutions - it becomes a foundation for continuity, collaboration, and recovery in war-affected regions.



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WHO BENEFITS?

Students

- 01 Practical fieldwork skills
- 02 FAIR data management
- 03 Experience solving real resilience challenges

Universities

- 01 Rebuilt digital capacity
- 02 Sustainable teaching continuity
- 03 Stronger international collaboration

Communities & NGOs

- 01 Data-driven local solutions
- 02 Better understanding of water, energy, food, housing, and gender challenges



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EXPECTED RESULTS & IMPACT

Expected Results

- O1 Six training modules (Open Science, Water, Energy, Housing, Food Security, Gender Equity)
- O2 All modules shared as Open Educational Resources (OERs) and MOOCs
- O3 40 practical case studies implemented with communities
- O4 Cloud-based platform with FAIR data repository and e-learning tools
- O5 VR and AI-enhanced solutions to simulate scenarios and support analysis
- O6 200+ students and staff trained

Expanded Impact

- O1 550+ stakeholders engaged
- O2 Six stakeholder workshops
- O3 Two webinars
- O4 Final conference
- O5 A sustainability network for continued collaboration



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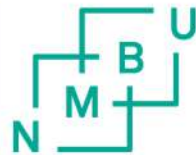
**A SCALABLE MODEL FOR STRENGTHENING
RESILIENCE IN HIGHER EDUCATION
AND URBAN SYSTEMS
ACROSS WAR-AFFECTED REGIONS**



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Urban Resilience through Open Science, Education
& Community Engagement in War Regions

