GCRF
Global Challenges Research Fund

UK Research and Innovation

Global Challenges Research Fund

Cities and Sustainable Infrastructure

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“Non-cities”

Cities and Sustainable Infrastructure

Interconnected SDGs

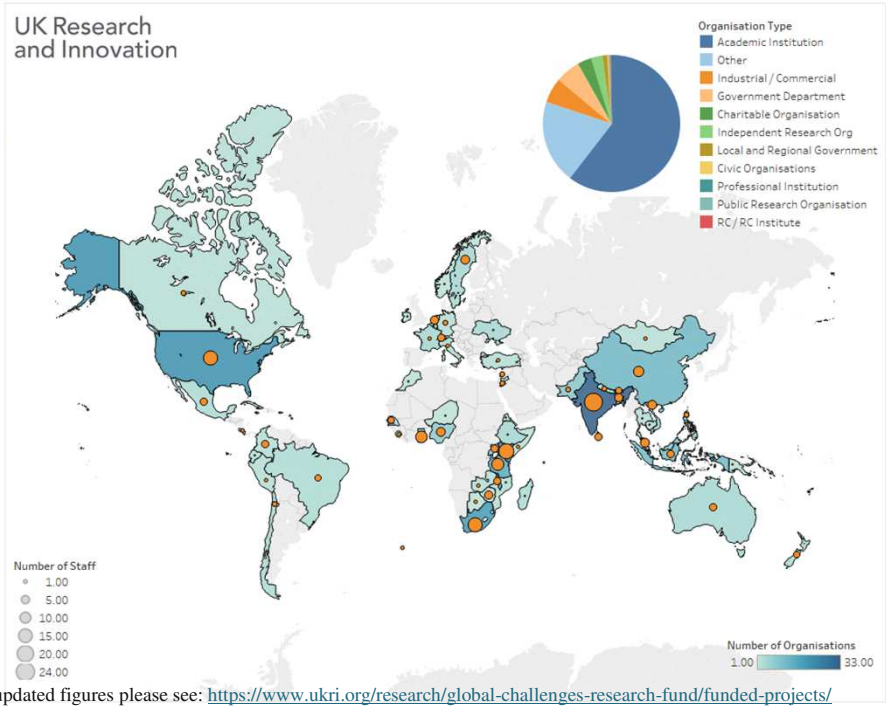
Complex urban challenges

Cities and Sustainable Infrastructure

- 465 GCRF projects across all Research Councils and Academies with relevance to “urban issues”.
  - 262 – “Urban Economy”
  - 415 – “Urban Environment”
  - 221 – “Urban Governance”
  - 216 – “Urban Society”
  - 184 – “Urban Innovation”
  - 314 – “Infrastructure and essential services”
- 2607 individuals; 553 organisations; 83 countries. (Of these, 1943 people, 395 organisations and 58 countries are on active awards)
- 101 projects fall explicitly within the Cities and Sustainable Infrastructure portfolio

For updated figures please see: https://www.ukri.org/research/global-challenges-research-fund/funded-projects/

Global engagement and cross sectorial collaboration as a result of GCRF funding on Projects addressing SDG 11 – Sustainable Cities and Communities



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SDGs being addressed alongside SDG 11 on UKRI GCRF Funded Projects

GROW and Hubs foster coherence within and between portfolios

- Significant recent investment on urban complexities:
  - **GROW**: Sustainable + Healthy Neighbourhoods SHLC (Glasgow); UrbanKNOW (DPU); PEAK_Urban (Oxford)
  - **Hubs**: Water Security (Newcastle); Urban Disaster Risk (Edinburgh); Accountability for Informal Urban Equity and Health (Liverpool)
- Everyday realities are relational; but sense of priority to foreground the **most marginalised (least resourced) urban residents**
- Explicitly speak to ODA priorities; South-South and "lighthouse" linkages
- Interdisciplinarity and seek to create meaningful involvement of urban practices within research
- In ways that are legible to local change makers; local cultures; local histories

New Global Research Hubs to tackle complex development challenges

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Healthy housing for the displaced: Improving refugee shelters

EPSRC-supported researchers are leading an international project to improve the living conditions of millions of refugees by designing better shelters. The interdisciplinary project is creating low-cost housing that is easy to construct in refugee camps. The new shelters are being designed to moderate extreme temperatures and provide privacy and security, allowing residents to live in dignity.

Researchers at the University of Bath are working alongside colleagues from the Princess Sumaya University for Technology and German Jordanian University in Jordan, and Turkey's Mersin University are using new combinations of conventional and non-conventional materials including recycled plastic, bamboo, mud and straw to design shelters that can provide warmth in winter and cool conditions during the summer.

The researchers are conducting the largest-ever global study monitoring air quality, thermal and social conditions in refugee camps. The findings from this research will be used to create a new manual for use by aid agencies, such as the United Nations High Commissioner for Refugees, which will feature guidelines on shelter design and construction in camps.

In December 2017, the project won the Royal Institute of British Architects President's Award for Research in Housing, with the judging panel describing it as 'important and timely'.

GtR Link: http://gtr.ukri.org/projects?ref=EP%2FP029175%2F1

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Coherence within and between portfolios

- "The city" / 'urban' as complex systems
  - Concentrate opportunities, jobs, and services
  - Important constellations of knowledge and culture
  - Not immune to failure
  - The built environments is gendered, unequal, segregated, racialised…
  - Urban is not simply a location.
- For example:
  - ✓ Rural ↔ urban ↔ land
  - ✓ Built ↔ social ↔ natural environments
  - ✓ On-grid ↔ off-grid
  - ✓ Surface ↔ sub-surface

Coherence within and between portfolios

- Grand Challenge: Current infrastructure stock barely accommodates 3 billion people; we will need to built as much infrastructure in the next 40 years as we have in the last 1000 years. We must get this right.
- HOW this is done is an important factor defining how cities will respond to/be resilient to natural disasters and displacement crisis.

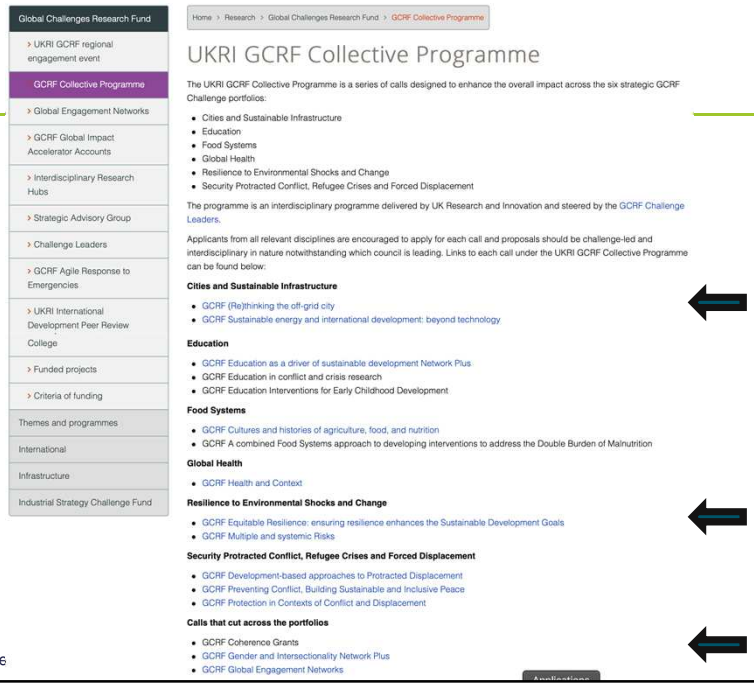
HOW = (materials + design) + (planning + governance)

resilience → liability

where, when → haphazard

access, use, maintenance → overrun

Human-Infrastructure interactions

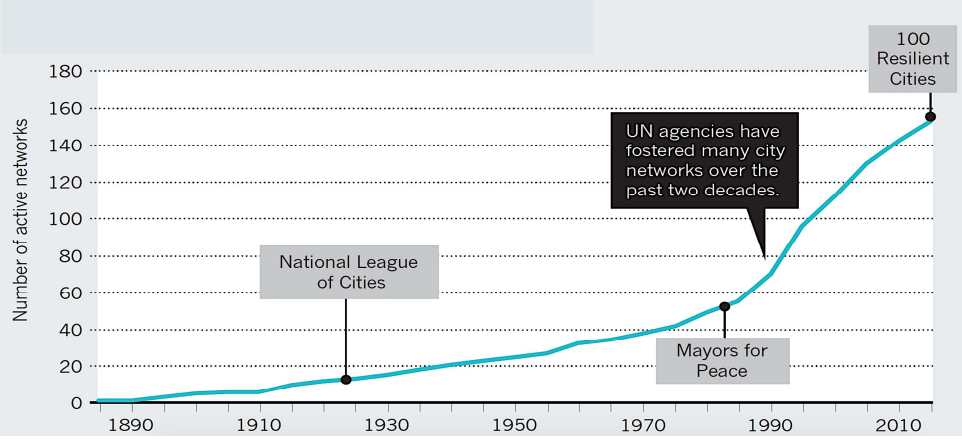


GCRF: Key Criteria

- ✓ Research Excellence
  new approaches not constrained by traditional methodologies or disciplinary silos
- ✓ Official Development Assistance (ODA) compliance
  OECD guidelines
- ✓ Equitable Partnerships and Building Capacity
  strong and enduring partnerships between UK and developing-country researchers to enhance the research and innovation capacity of both
- ✓ Impact: Problem and Solution Focused
  substantial impact on improved social welfare, economic development, and environmental sustainability

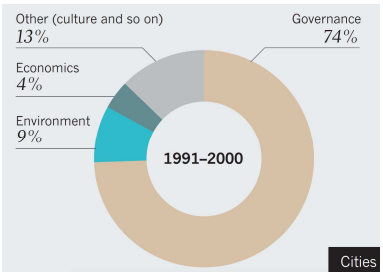
No city is alone – no need to reinvent the wheel

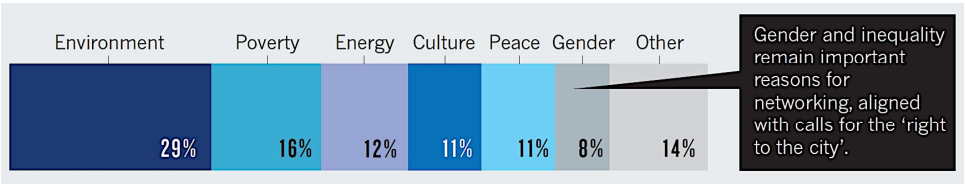
Examples: C40; WHO healthy cities; Safe Cities; federations + collectives of slum dwellers



Acuto 2016

City-networks are getting more focused (Climate, Gender, Peace, Poverty)





Acuto 2016

Carry on the conversation!

- To contact any of the challenge leaders please email challengeleaders@ukri.org
- Twitter: @GCRF ; @JaiGupte

In groups:

- What scales are relevant to our research interests (metro regions-cities-towns-neighbourhoods)?
- Who are the key research partner and stakeholder organisations we should be partnering with to deliver research in this area and enable research outputs to have impact?