



UK Research and Innovation

Global Challenges Research Fund



Cities and Sustainable Infrastructure Dr. Jaideep Gupte – Challenge Leader

GCRF | Global Challenges Research Fund

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Interconnected SDGs

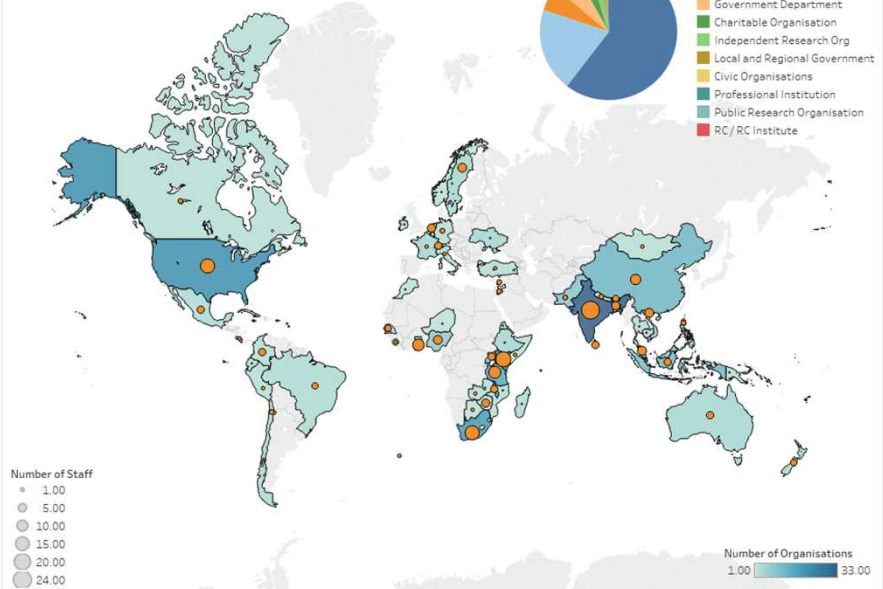
Complex urban challenges

- 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



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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

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New Global Research Hubs to tackle complex development challenges

Urban Disaster Risk Hub	Water Security and Sustainable Development Hub	Accountability for Informal Urban Equity Hub
<p>■ Rapid urbanisation presents a time-limited global opportunity to embed disaster risk management in urban development especially when you consider 40 per cent of the area expected to be urban by 2030 is yet to be built. This Hub will work with international agencies to bring disaster risk management to the centre of global urban policy and practice, strengthening the resilience and capacity of the urban poor. The Hub will work across Quito, Nairobi, Kathmandu and Istanbul. Bringing together leading researchers with inspiring community and government leaders, the Hub will work at an unprecedented scale to deliver real impact through interdisciplinary research.</p> <p>KEY FACTS £17.8M 12 partner countries 54 partner organisations Lead organisation: University of Edinburgh Principal Investigator: Professor John McCloskey</p> <p>18 disaster risk 19 climate change 20 water security</p> <p>Geographical focus: South America, East Africa, Middle East and South Central Asia Contact details: Professor John McCloskey john.mccloskey@ed.ac.uk</p>	<p>■ Eighty per cent of the world's population live in areas threatened by water security yet efforts to resolve this are necessarily thwarted by pressures such as pollution, extreme weather, urbanisation, over-abstraction of groundwater and land degradation. This Hub takes a broad view of water systems to explore the challenges and barriers to water security from the impact of different technical, social, cultural and environmental values of water through to the consequences of fragmented water governance. It will tackle these barriers by providing a forum, open to all stakeholders, to jointly question, discuss, and construct new ideas to resolve water security issues.</p> <p>KEY FACTS £17.7M 12 partner countries 65 partner organisations Lead organisation: Newcastle University Principal Investigator: Professor Richard Dawson</p> <p>18 disaster risk 19 climate change 20 water security</p> <p>Geographical focus: South America, East Africa and South Central Asia and South East Asia Contact details: Professor Richard Dawson richard.dawson@newcastle.ac.uk</p>	<p>■ Over half of the world's population live in cities and one in three of these live in informal settlements in low and middle income countries. But inadequate access to services and limited opportunities to shape their environment lead to a wide range of physical and mental health risks. This Hub will support marginalised people to claim their health rights and helps build government accountability and capacity through evidence-based research to inform policy change at all levels.</p> <p>KEY FACTS £12.1M 4 partner countries 11 partner organisations Lead organisation: Liverpool School of Tropical Medicine Principal Investigator: Professor Sally Theobald</p> <p>18 disaster risk 19 climate change 20 water security</p> <p>Geographical focus: East Africa, West Africa and South Central Asia Contact details: Dr Rachel Salazar rachel.salazar@liverpool.ac.uk</p>

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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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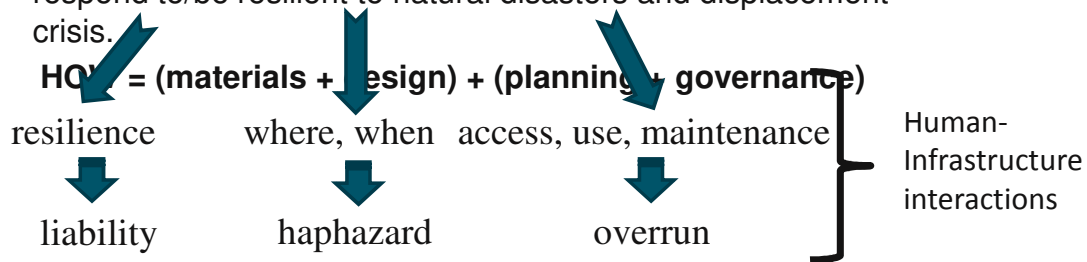


Coherence within and between portfolios

- “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 build 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.



Global Challenges Research Fund
> UKRI GCRF regional engagement event
GCRF Collective Programme
> Global Engagement Networks
> GCRF Global Impact Accelerator Accounts
> Interdisciplinary Research Hubs
> Strategic Advisory Group
> Challenge Leaders
> GCRF Agile Response to Emergencies
> UKRI International Development Peer Review College
> Funded projects
> Criteria of funding
Themes and programmes
International
Infrastructure
Industrial Strategy Challenge Fund

UKRI GCRF Collective Programme

The UKRI GCRF Collective Programme is a series of calls designed to enhance the overall impact across the six strategic GCRF Challenge portfolios:

- Cities and Sustainable Infrastructure
- Education
- Food Systems
- Global Health
- Resilience to Environmental Shocks and Change
- Security Protracted Conflict, Refugee Crises and Forced Displacement

The programme is an interdisciplinary programme delivered by UK Research and Innovation and steered by the GCRF Challenge Leaders.

Applicants from all relevant disciplines are encouraged to apply for each call and proposals should be challenge-led and interdisciplinary in nature notwithstanding which council is leading. Links to each call under the UKRI GCRF Collective Programme can be found below:

Cities and Sustainable Infrastructure

- GCRF (Re)thinking the off-grid city
- GCRF Sustainable energy and international development: beyond technology

Education

- GCRF Education as a driver of sustainable development Network Plus
- GCRF Education in conflict and crisis research
- GCRF Education Interventions for Early Childhood Development

Food Systems

- GCRF Cultures and histories of agriculture, food, and nutrition
- GCRF A combined Food Systems approach to developing interventions to address the Double Burden of Malnutrition

Global Health

- GCRF Health and Context

Resilience to Environmental Shocks and Change

- GCRF Equitable Resilience: ensuring resilience enhances the Sustainable Development Goals
- GCRF Multiple and systemic Risks

Security Protracted Conflict, Refugee Crises and Forced Displacement

- GCRF Development-based approaches to Protracted Displacement
- GCRF Preventing Conflict, Building Sustainable and Inclusive Peace
- GCRF Protection in Contexts of Conflict and Displacement

Calls that cut across the portfolios

- GCRF Coherence Grants
- GCRF Gender and Intersectionality Network Plus
- GCRF Global Engagement Networks

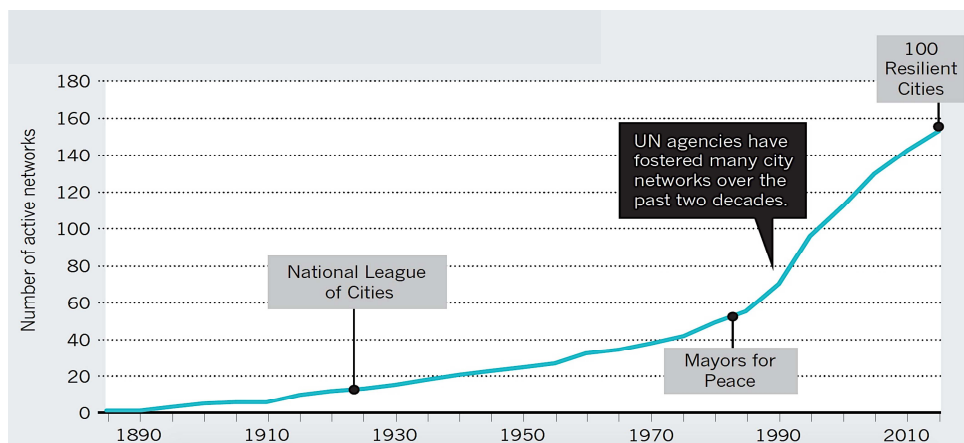


GCRF: Key Criteria

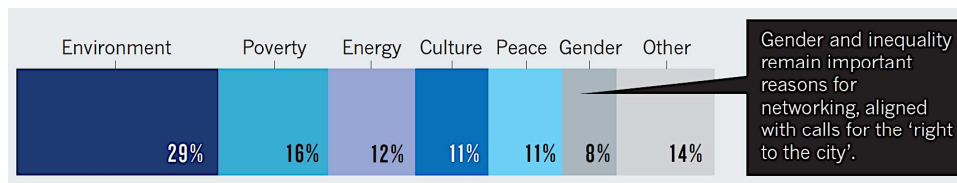
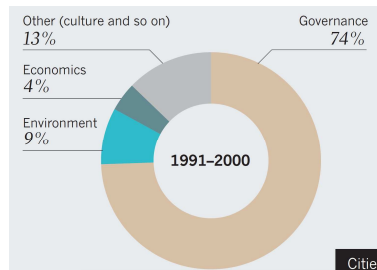
- ✓ Research Excellence
new approaches not constrained by traditional methodologies or disciplinary silos
- ✓ Official Development Assistance (ODA) compliance
OECD guidelines
- ✓ Equitable Partnerships and Building Capacity
strong and enduring partnerships between UK and developing-country researchers 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



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



Gender and inequality remain important reasons for networking, aligned with calls for the 'right to the city'.

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?