

regard

rebuilding after displacement

Output 7

BE Professional Competency Audit/REGARD

Competency

Mapping Exercise

Final Report
Jan 2022



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Introduction

The REGARD (REbuildingG AfterR Displacement) project aims to develop competencies in rebuilding communities following disaster and conflict-induced mass displacements from the perspective of the built environment. Its objectives are to:

- Identify the needs of the communities following disaster and conflict-induced mass displacements in the perspective of the built environment.
- Investigate the role of the built environment in enhancing social cohesion between host and displaced communities.
- Explore the knowledge, skills and competencies required by the Built Environment (BE) professionals to address the needs of the host and displaced communities.
- Develop, test, and implement an innovative series of training courses in catering the needs of the host and displaced communities, including relevant resources.
- Introduce new uses of ICT in education by formulating technology-enhanced learning environments and materials to facilitate teaching and learning.
- Propose policy recommendations to BE professional bodies in upgrading the professional competencies to address the needs of the host and displaced communities.

In achieving these objectives, REGARD is organised into 10 Intellectual Outputs which are related to each other in accordance with the framework shown in Figure 1:

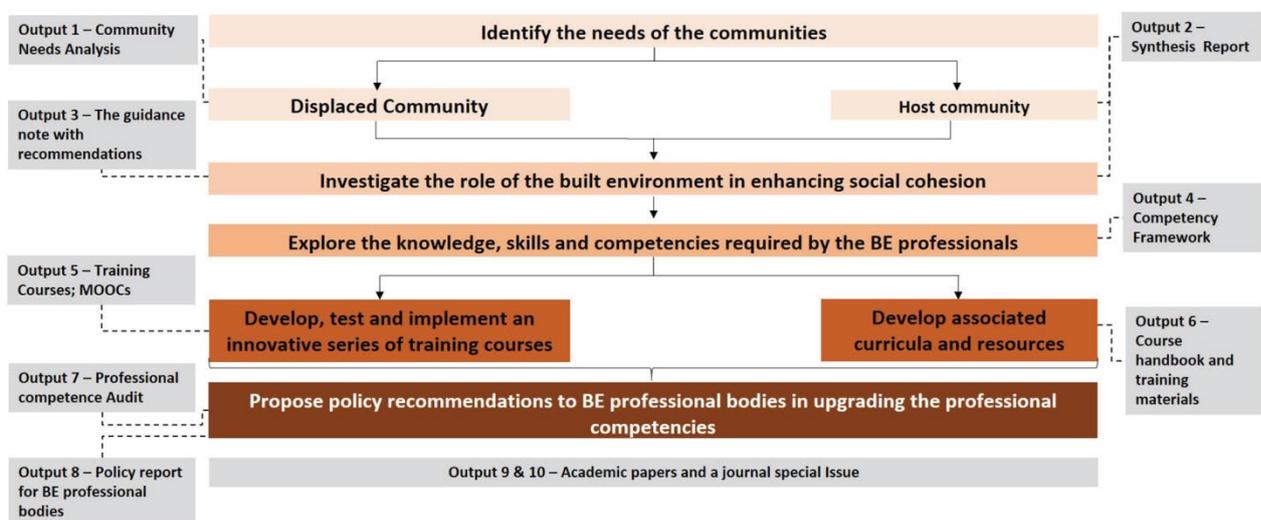


Figure 1: REGARD Framework

This report incorporates Intellectual Output 7 of the REGARD project. This requires the competency framework for Built Environment (BE) professionals to address the needs of the host and displaced communities (derived in Output 4 and shown here in Table 1) to be mapped against the competencies expected of BE professionals in their professional bodies' accreditation documents. This mapping exercise identifies the current level of documented professional competency in relation to REGARD competencies and where there may be opportunities to extend both the documented and professional competencies to better match REGARD needs. This will inform policy recommendations as provided for in Output 8 of the project.

Table 1 REGARD Competencies Identified in Output 4

TIER 1 - Foundational Competencies
1. Causes, contexts, and dynamics of mass displacement
2. Legal, policy and institutional frameworks
3. Societal impacts of mass displacement
4. Stakeholders of mass displacement and their characteristics (displaced people, host/recipient communities, local and national government, NGOs, etc.)
5. Specific challenges of mass displacement:
5.1 Language issues
5.2 Health issues (mental and physical)
5.3 Livelihoods and employment (including access to means, land, etc.)
5.4 Access to education and training
5.5 Addressing discrimination against displaced people
6. Social cohesion and integration
6.1 Cultural awareness and diversity
6.2 Enabling measures (including host community consultations, reception, orientation, information programmes; supporting community mobilization, etc.)
7. Cross-cutting issues for mass displacement-related interventions
7.1 Resilience (disaster, climate change, etc.)
7.2 Sustainable development
8. Lessons learned from (local and global) cases
TIER 2 - Built Environment Competencies
1. Mass displacement and the Built Environment
1.1 Contextual differences (causes, scales, and dynamics of displacement, industrialised versus developing countries, etc.)
1.2 Policy, legal and regulatory frameworks relevant to the Built Environment (e.g. land issues, regional and local strategies, building codes, etc.)
2. Cross-cutting issues for Built Environment interventions
2.1 Disaster Resilience (including multi-hazard mapping, Build Back Better)
2.2 Green and Sustainable Built Environment (including nature-based solutions)
2.3 Inclusive Built Environment (including supporting vulnerable and special needs groups)
3. Managing Built Environment interventions
3.1 Economics and financing of interventions (including cost-benefit analyses, whole life costing)
3.2 Stakeholders of Built Environment interventions (including typical institutional frameworks)
3.3 Ethics and professionalism
4. Housing
4.1 Types and stages of housing (emergency, temporary, transitional, permanent, resettlement, relocation, social housing, etc.)
4.2 The importance of housing (for social cohesion and integration, livelihoods, etc.)

4.3 Inclusive housing (including supporting vulnerable and special needs groups)
5. Infrastructure and associated services
5.1 Water supply, sanitation and hygiene (WASH)
5.2 Access to basic needs and services (food, livelihoods, health, education, recreation, etc.)
5.3 Transport infrastructure and services
5.4 Energy infrastructure and services
5.5 Waste management infrastructure and services (including drainage, wastewater treatment, reuse and recycling of materials, etc.)
6. Lessons learned from Built Environment intervention cases
TIER 3 - Occupational Competencies
3a: Planning and Design - (for planners, architects, design engineers and all practitioners in planning- and design-related roles)
1. How planning and design can alleviate mass displacement challenges
2. The planning and design context
2.1 Repair/rebuild/resettle decisions
2.2 Disaster resilience (safer settlement planning, vulnerability and risk assessment, multi-hazard mapping, etc.)
2.3 Disaster Management Cycle (prevention, preparedness, response, recovery)
2.4 Environmental sustainability (including sustainability assessments, green design and building approaches)
2.5 Planning and design policy, legal and regulatory framework (including building codes)
3. Planning and design considerations for infrastructure and service needs
3.1 Water supply, sanitation, and hygiene (WASH)
3.2 Transport infrastructure and services
3.3 Energy infrastructure and services
3.4 Waste management (including drainage, wastewater treatment, reuse and recycling of materials, etc.)
4. Housing planning and design
4.1 Sociology of housing
4.2 Types of housing and their specific planning and design considerations
4.3 Location decisions
4.4 Access to basic needs and services (food, livelihoods, health, education, recreation, etc.)
4.5 Repair/renovation/refurbishment of existing (damaged) housing
4.6 Resource efficiency (including materials, labour, equipment, etc.)
4.7 Cultural sensitivity in housing design
4.8 Designing for vulnerable and special needs groups
5. Planning and design of public buildings and spaces (including for inclusivity and flexibility)
6. Stakeholder engagement in planning and design
7. Planning and design considerations for the construction, in use, and end of life phases (including whole life costing, constructability, energy efficiency, recycling of building materials, flexibility in use, etc.)
8. Lessons learned from planning and design for mass displacement cases (including new trends, technologies and practices)
3b: Construction and Facilities Management - (for Quantity Surveyors, Construction Managers, Facilities Managers, etc. and all practitioners in construction and facilities management / maintenance-related roles).
1. How construction and facilities management can alleviate mass displacement challenges (including cost, time, quality implications, etc.)

2. The organisation and management of construction and maintenance in mass displacement contexts
2.1 Construction materials and resources
2.2 Financing of construction and maintenance
2.3 Procurement, contracts, and project delivery
2.4 Cost estimating, cost control and contract management
2.5 Project management considerations for mass displacement construction and maintenance contexts
2.6 Employment and livelihood opportunities in construction and maintenance
3. Housing construction and maintenance
3.1 Approaches to housing construction (owner-driven, donor-driven, contractor led, etc.)
3.2 Types of housing (e.g. emergency, temporary, permanent, etc.) and their specific construction and maintenance considerations
3.3 Construction and maintenance considerations in the repair/renovation/refurbishment of existing housing
3.4 Managing services to and maintenance of housing in use (e.g. solid waste management, maintenance, etc.)
3.5 Consideration of vulnerable and special needs groups in housing construction and maintenance
4. Infrastructure provision and management in mass displacement contexts (e.g. challenges of short time spans, etc.)
5. Construction and maintenance of public buildings and spaces in mass displacement contexts (including for inclusivity and flexibility)
6. Stakeholder engagement in construction and maintenance (including rationale and engagement techniques)
7. Lessons learned from cases of construction and facilities management for mass displacement (including new trends, technologies, and practices)

Output Required

Output 7 of the REGARD project requires a professional competence audit of BE professional bodies' documentation.

As such it is: "a desk review of professional competencies laid down by the built environment professional bodies. All built environment professional bodies have a list of competencies that they expect from their members. As part of this exercise, these competencies will be reviewed, analysed, and mapped in order to identify the key competencies expected from the built environment professionals".

Method

To achieve Output 7, the work was done in 4 stages:



Stage 1 – Built Environment Professional Accreditation Body Document List

UCLan developed a template for data collection regarding professional competency documents.

The template was sent to all partners for inputs relating to their countries. The partners were required to list accrediting bodies (in their respective countries) of the core BE professionals identified in Output 4. Partners were also asked to check and include mention if these bodies have either/both a European and International presence. As noted in the REGARD Output 4 report, all the accrediting bodies have a list of competencies that they expect from their members. However, not all the professional bodies make their competency documents accessible online. For those that have, partners were asked to retrieve and provide the links. According to the final filled templates received, Table 2 shows the professional bodies that have their relevant competency documents available online.

The findings are displayed in Table 2 and show that all the BE professionals in the UK have one or more accrediting body. Some of them have a presence in Europe, and many in both Europe and at international level. As per the table, it is mostly the UK-based professional bodies that have an international presence relating to REGARD; and also have many of their competency documents available online and in English.

Table 2 – Professional Bodies Representing BE Professional Categories Identified in REGARD Output 4

Category	BE Professionals	Professional Bodies	UK/EU	Int'l Presence	Document Availability online	Document Link
UK						
Surveying	Quantity Surveyors	RICS – Royal Institution of Chartered surveyors	✓	✓	✓	https://www.rics.org/globalassets/rics-website/media/qualify/pathway-guides/pathway-guides-requirements-and-competencies-v1.3-oct-2018.pdf
Surveying	Civil Engineering Surveyors	The Chartered Institution of Civil Engineering Surveyors (CICES)	✓	✓	✓	https://www.cices.org/membership/about/competencies/
Design	Architects	RIBA – Royal Institute of British Architects	✓	✓	✓	Think-Architecture-PDF.pdf
Design	Architects	Chartered Institute of Architectural Technologies (CIAT)	✓	✓	✓	https://architecturaltechnology.com/uploads/assets/uploaded/2901cf7f-8ff5-47d2-9b40fb5ad8d3814a.pdf
Design	Architects	The Association of Consultant Architects (ACA)	x	x	✓	CIAT Requirements for Registration: CIAT Chartered Practices (architecturaltechnology.com)
Design	Landscape Architects	The Landscape Institute (LI)	x	x	x	https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2020/12/LI-Entry-Standards-and-Competency-Framework-Additional-Landscape-Competencies.pdf
Design	Urban Design	Urban Design Group	x	x	x	Urban Design Group (udg.org.uk)
Design	Interior Architect	Chartered Society of Designers	✓	✓	✓	https://www.csd.org.uk/content/uploads/2015/10/PATHWAY-TO-CHARTERED-DESIGNER-GUIDANCE.pdf
Design	Town Planner	RTPI – Royal Town Planning Institute	x	✓	✓	https://www.rtpi.org.uk/media/2052/rtpi-2019-membership-guidance-summary-of-changes-june-2019-edit.docx

Construction Professionals	Builders	CIOB = Chartered Institute of Building	✓	✓	✓	Industry PR Guidance Notes.pdf (ciob.org)
Engineering	Civil Engineer	ICE - Institute of Civil engineers	✓	✓	Depends on which registration body under the ICE	Varies
Engineering	Structural Engineer	IStructE - The Institutions of Structural Engineers	✓	✓	✓	https://www.engc.org.uk/engcdocuments/internet/Website/UK-SPEC%20third%20edition%20(1).pdf
Engineering	Building Services Engineer	Chartered Institute of Building Services Engineer	x	✓	✓	https://www.cibse.org/getmedia/7c84096b-6a31-439a-9551-2d0af0200023/Factsheet-M21.pdf.aspx
Engineering		CIPHE - Chartered Institute of Plumbing and Heating Engineering	x	x	✓	https://www.cibse.org/getmedia/4ddec097-de4a-4875-90ae-d7a69bd67ce3/Factsheet-F21.pdf.aspx
Engineering	Water and Environmental Management Professionals	CIWEM - Chartered Institution of Water and Environmental Management	x	x	✓	https://www.ciwem.org/assets/pdf/Membership/Application%20Guidance/C.WEM%20MC%20Guidance.pdf
Engineering	Wastes Management Professionals	Chartered Institution of Wastes Management	x	x	✓	https://rise.articulate.com/share/v7zQhnENPeTuk9nGmb0YhpLrqm2LLrsN#/
Engineering	Materials, Minerals and Mining Engineers	The Institute of Materials, Minerals and Mining (IOM3)	✓	✓	✓	https://www.iom3.org/resource/guide-to-ceng-cenv-and-csci-2020-pdf.html
Management	Project Manager	APM - Association for Project Management	✓	✓	✓	https://www.apm.org.uk/media/2274/apm-competence-framework.pdf

Management	Construction Manager	ICM - The Institute of Construction Management			✓	https://the-icm.co.uk/tag/digital-competencies-framework/
Management	Facilities Managers	IWFM - The Institute of Workplace and Facilities Management (Former BIFM – British Institute of Facilities Management)		✓		Professional-Standards-Handbook.pdf (iwfm.org.uk)
ESTONIA						
Design	Architects	EAA - Estonian Association of Architects under the ACE - Architects' Council of Europe	✓	x	a but in Estonian language	https://www.kutsekoda.ee/wp-content/uploads/2019/KS/Uldised-kompetentsid.pdf
Design	Landscape Architects	Estonian Landscape Architects' Union under IFLA - the International Federation of Landscape Architects	✓	✓	✓	190413 IFLA Europe Membership Application_Guidelines_CBr
Design	Spatial Planner	EAP - The Estonian Association of Planners	✓	✓	✓	http://www.planeerijad.ee/doc/ruumilise-keskkonna-planeerija-kutse-materjalid/194-hindamisstandard-2017/file
Construction Professionals	Builders	Estonian Association of Construction Entrepreneurs	x	x	✓	http://eel.ee/kutse-andmine/ehituse-kutseala-kutseomistamise-kord/

Engineering	Civil Engineer	EEL - The Estonian Association of Civil Engineers	✓	x	✓	//www.kutseracco/ctrl/en/KAO/vaata/10086630
Management	Project Manager	EPMA - Estonian Project Management Association	x	✓	✓	https://shop.ipma.world/?v=79cba1185463
SWEDEN						
Design	Architects	Sveriges Arkitekter (Architects Sweden)	✓	✓	✓	190413 IFLA Europe Membership Application Guidelines_CBr
Design	Landscape Architects	Sveriges Arkitekter (Architects Sweden)	✓	✓	✓	190413 IFLA Europe Membership Application Guidelines_CBr
Design	Interior Architect	Sveriges Arkitekter (Architects Sweden)	✓	✓	✓	190413 IFLA Europe Membership Application Guidelines_CBr
Management	Project Manager	SPMA - The Swedish Project Management Association, under the IPMA - International Project Management Association	✓	✓	✓	https://shop.ipma.world/?v=79cba1185463
Management	Facilities Managers	IFMA - International Facilities Management Association	✓	✓	✓	https://ifmacdn.azureedge.net/sfcdn/docs/default-source/marketing/pd-pages/11-core-competencies_oct2020.pdf?sfvrsn=2
SRI LANKA						
Surveying	Quantity Surveyors	IQSSL - Institute of Quantity Surveyors Sri Lanka	x	x	✓	CPD Guide of IQSSL - Institute of Quantity Surveyors Sri Lanka - Official Website

Engineering	Structural Engineer	Society of Structural Engineers – Sri Lanka (SSESL)	x	x	✓	Application Form Fellow Member.pdf (sssl.lk)
Engineering	Building Services Engineer	The Institution of Engineers	x	x	✓	PROFESSIONAL REVIEW RULES (iesl.lk)

Stage 2 Built Environment Professional Competencies

From these professional body documents, a list of competencies expected for accreditation within the professions was developed (Table 3). As the UK has many more BE accredited bodies, and the competency documents are more accessible, the list of competencies is weighted towards UK expectations, with minor revisions/deviations to other professional competencies in Estonia, Sweden, and Sri Lanka.

Table 3 Professional Competencies Included in BE Professional Accrediting Bodies' Documentation

Professional Category	Competencies Highlighted in Professional Body Documents	
	Theme	Competencies
Construction and FM	Occupational Competence	Planning and Organising Work
		Managing Health, Safety and Welfare/Wellbeing
		Managing Quality
		Sustainable & Environmental Practices in Construction
		Knowledge of Commercial, Contractual and Legal Issues
	Management Competence	Communication
		Decision Making
		Managing Information
		Strategic Management/Financial Management
		Developing People and Teams
	Innovation	
Commitment to Professionalism	Commitment to Professionalism	
Planners	Capacity Check: Knowledge and Skills	Foundations of Urban Design
		Urban Design Topics: Form and context
		Urban Design Topics: People
		Urban Design Topics: Servicing
		Urban Design Topics: Management
	Capacity Check: Roles in Urban Design	Carrying out urban design studies and appraisals
		Preparing urban design policy, guidance, and statements
		Masterplanning
		Designing
		Communicating design in two dimensions (by hand or computer)
		Communicating design in three dimensions (by hand or computer)
		Providing urban design advice
		Managing urban design processes
		Promoting placemaking
Chartered Engineers	A Use a combination of general and specialist engineering knowledge and understanding to optimise the application of existing and emerging technology.	A1 Maintain and extend a sound theoretical approach in enabling the introduction and exploitation of new and advancing technology.
		A2 Engage in the creative and innovative development of engineering technology and continuous improvement systems.

	<p>B Apply appropriate theoretical and practical methods to the analysis and solution of engineering problems.</p>	<p>B1 Identify potential projects and opportunities.</p>
		<p>B2 Conduct appropriate research and undertake design and development of engineering solutions.</p>
		<p>B3 Manage implementation of design solutions and evaluate their effectiveness.</p>
	<p>C Provide technical and commercial leadership.</p>	<p>C1 Plan for effective project implementation.</p>
		<p>C2 Plan, budget, organise, direct and control tasks, people and resources.</p>
		<p>C3 Lead teams and develop staff to meet changing technical and managerial needs.</p>
		<p>C4 Bring about continuous improvement through quality management.</p>
<p>Architects (RIBA Mandatory Competencies)</p>	<p>RIBA Climate Literacy Knowledge Schedule</p>	<p>Global and built environment climate fundamentals Climate fundamentals Financial risks and net zero economy Environmental impacts of the built environment Sustainable urbanism, architecture, and engineering Built environment policy, legislation, regulations, commitments, benchmarks, and construction industry guidance</p>
		<p>RIBA Sustainable Outcomes and common threads RIBA Sustainable Outcomes Guide: outcomes-based briefing and design, Plan for Use, Soft Landings, and post occupancy evaluation Retrofit, adaptation and reuse Planning for climate extremes, disaster risk, resilience, redundancy, and adaptation Life cycle costing, investment, and procurement Research and innovation</p>
		<p>Human factors Health and wellbeing Communities, interconnectivity, and inclusion Social value Biophilic and sensory design User experience design and occupancy behaviour</p>
		<p>Circular economy Resource efficiency and geographic implications Designing for change (flexibility and adaptability) and regeneration Environmental and health impacts of materials and waste Waste as a resource Responsible and ethical sourcing</p>
		<p>Energy and carbon Passive design Active design Whole life carbon (for retrofit and new build): modelling, carbon assessments and iterative design process Offsetting Operational energy and carbon, modelling and technology</p>
		<p>Ecology and biodiversity Biodiversity and net gain Nature-based solutions</p>

		Land use and building density Bio-regional urbanism and design Urban farming and sustainable food production
		Water Water cycle, demand, supply, and reduction Water recycling and reuse Rainwater harvesting, stormwater management and sustainable urban drainage Water pollution in (natural) aquatic habitats Climate change impacts (floods, droughts, water quality)
		Connectivity and transport Site location Compact development and walkability Regional and local infrastructure and planning Low carbon transport and multimodal transportation networks Planning for future of transportation
	RIBA Ethical Practice Knowledge Schedule	Ethics in practice History & definitions Recognising an ethical issue Virtue Ethics / Social Contract Ethics / Duty Ethics / Utilitarian Ethics Defining behaviours - Codes, Regulations, Sanctions and Best Practice The Public Interest - How it is defined and who is responsible The 6 duties
		Duty to Oneself The Codes of Conduct and Practice Principles and values Competence Continuing Professional Development Pro Bono work Corruption Dilemma - A conflict of interest
		Duty to the Profession The Codes of Conduct and Practice Reputation & Value Respecting previous appointments Copyright & Credit Whistleblowing Research, POE & Building Performance Equity, Diversity, and Inclusion (including the RIBA Inclusion Charter) Dilemma - A competition
		Duty to those in the workplace Employment Law The Codes of Conduct and Practice Company culture Respecting colleagues Managing practice Equity, Diversity, and Inclusion (including the RIBA EDI Policy Guide) Dilemma - Workplace
		Duty to those Commissioning Services The Codes of Conduct and Practice

		<p>Lay clients Experienced private clients Public Sector clients Confidentiality Dilemma - Client's best interest</p>
		<p>Duty to Society and the End User Building Regs, Housing Standards and Planning Policy The Codes of Conduct and Practice Equity, Diversity, and Inclusion (including bias and discrimination) Health and safety Modern Slavery Community Engagement & Regeneration Social Value and Social Responsibility Rights of Future Generations Dilemma - Affordable housing provision</p>
		<p>Duty to the Wider World The Codes of Conduct and Practice The Climate and Biodiversity emergency Sustainable and Regenerative design Supply Chains Rights of Nature Dilemma – Challenging the brief</p>
		<p>Resolving Ethical Issues Core values Decision making Lifelong learning Independence Advocacy Resources and toolkits</p>
	RIBA Health and Life Safety Knowledge Schedule	<p>Preparing to visit site Site surveys and research Plan of work Site occupation and vacant sites Clothing, equipment, and personal protective equipment Weather conditions First aid</p>
		<p>Undertaking site visits Lone working Personal site safety Person responsible for control of the site Induction and orientation Safety signage Navigating around site Site vehicles and mobile plant Inspecting construction work Communication with site personnel Site behaviour Action in the event of an emergency Post site visit activity</p>
		<p>Site hazards Site assessment Site contamination Falls from height Slips and trips Unsafe Structures</p>

		Excavations Enclosed spaces Confined spaces Respiratory hazards (dust and fumes) Noise Hazardous substances Fire safety Manual handling Geological, man-made landscape or hydrological features Flora and fauna
		Design risk management Principles of design risk management General principles of prevention Significant hazards and risks Communication and co-ordination (including meetings, residual risk registers, drawings, and models)
		Statute, Guidance and Codes of Conduct Statute and the regulatory environment (legislation under the Building Act and Health and Safety at Work Act) Statutory and non-statutory guidance Codes of conduct
		CDM Regulations Regulation 8 – General duties Regulation 9 – Designer duties Regulation 11 – Principal Designer duties Pre-construction information and the health and safety file
		Principles of Fire Safety Design Ignition, development and spread of fire Fire performance of construction materials Design for fire safety Fire safety information (Regulation 38 of the Building Regulations)
	Surveyors (RICS Mandatory Competencies)	Level 3
Level 2		Client care
		Communication and negotiation
		Health and safety
Level 1		Accounting principles and procedures
		Business planning
		Conflict avoidance, management, and dispute resolution procedures
		Data management
		Diversity, inclusion and teamworking
		Inclusive environments
	Sustainability	

Stage 3 – Mapping Exercise: BE Professional Competencies and REGARD Competencies

The third stage was to review the BE professional competencies identified in Professional bodies’ documentation (Table 3) with respect to REGARD professional competencies developed in Output 4 of the project (Table 1). This was done as a mapping exercise to examine which REGARD professional competencies are currently covered (or not) in professional documentation, the extent of that provision if covered.

The mapping exercise gave 4968 individual points of comparison, as:

There are 72 REGARD competencies identified in Output 4. As highlighted in Table 3, 69 BE professional competencies were identified in Professional body documentation. The latter depended upon accessibility to documents and language.

These points were mapped using Microsoft Excel to create a crosstab of the results. For each individual point of comparison mapping identified whether REGARD competencies are **covered/partially covered** by professional documents; and if they are, whether they are **key** to the general BE professional competencies. Four possible outcomes for each compared point were determined (Figure 1):

- K - **Key Competency and Covered** in the professional documentation.
- P - **Key Competency and Partially Covered** in the professional documentation.
- NC - **Relevant Key Competency but Not Covered** in the professional documentation.
- NR - REGARD Competency is **Not key/Not relevant** to professional competency

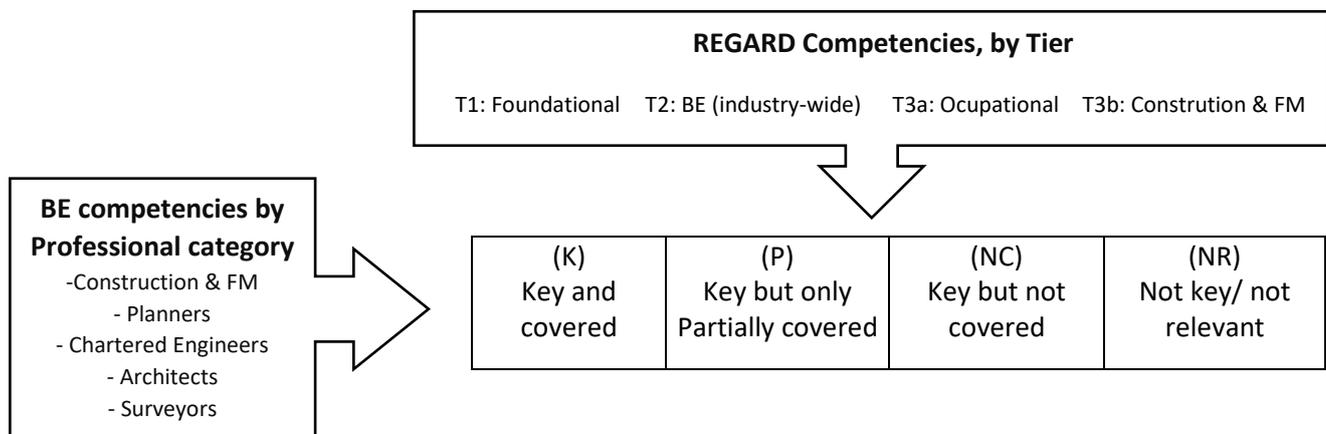


Figure 1 – Mapping Exercise Possible Outcomes from Comparing Built Environment (BE) Professional Competencies with REGARD Competencies

Output 4 notes that the REGARD competencies can be divided into three tiers (Figure 2). This identifies that not all those involved in the BE sector will find relevance in all three tiers. Foundational Competencies (Tier 1) *are relevant to all professionals and practitioners with an interest in mass displacement*. BE (Industry-Wide) Competencies (Tier 2) *are relevant to all BE professionals and practitioners*. Occupational Competencies (Tier 3) *are relevant to professionals and practitioners in BE occupations and roles*.

This is an important consideration alongside the understanding that it was the professional body documentation competencies that were mapped against REGARD competencies, and not the competency of BE professionals themselves. Tier 1 REGARD competencies can apply to a wide population, beyond the BE professionals being audited. It also allows that a BE professional may be highly competent but not be interested in mass displacement. Tier 2 is specifically aimed at BE professionals, and Tier 3 is a subset of Tier 2.

The results that are derived from this do not suggest that any one profession displays greater competencies than another, simply that in relation to the REGARD competencies, there are different levels of relevance to varying professional roles and different provisions provided by their documentation.

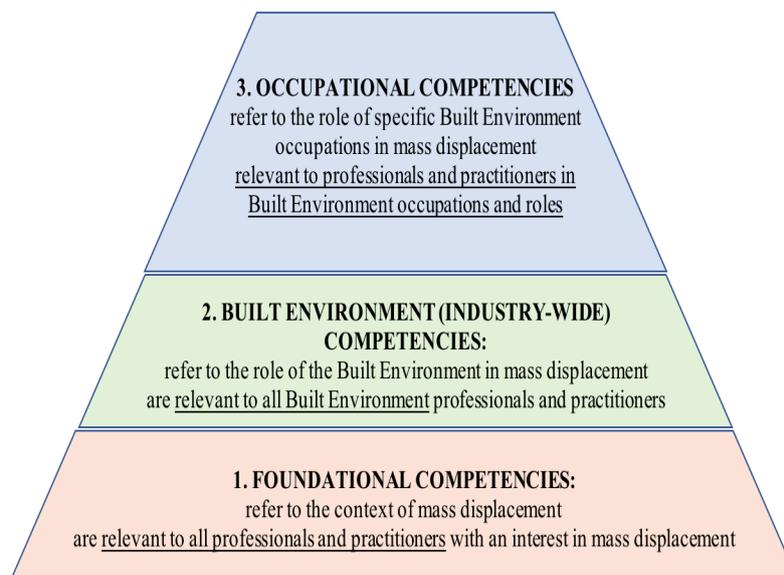


Figure 2 REGARD Competency Framework Identified in Output 4

Tier 1 – REGARD Foundational Competencies	(13 competencies)
Tier 2 – REGARD Built-environment Industry-wide Competencies	(16 competencies)
Tier 3 – REGARD Occupational Competencies	
subdivided into a. Planning and Design	(26 competencies)
and b. Construction and Facilities Management	(17 competencies)

Stage 4 – Analysis of Mapping Results

Once the two sets of competencies had been mapped and cross tabulated, we analysed the results in terms of how many of each of the four possible outcomes each REGARD competency received.

We decided that if a REGARD competency was identified as ‘Key and Covered’ (K) within at least one professional competency that was sufficient to say that is a ‘Key and Covered’ result for that professional role. For example, for the first REGARD competency; “Causes, contexts, and dynamics of mass displacement” (Table 1) when we examined the “Construction and FM” professional documentation (Table 3) we identified this as being covered by the documentation for “Planning and Organising Work” (the first of the 12 competencies identified for Construction and FM professionals). Therefore, we considered this REGARD competency as being ‘Key and Covered’ in that professional role regardless of the remaining 11 professional competency results. We then identified how many times that REGARD competency was identified as ‘Key and Covered’ for the other professional competencies in that role and awarded it a Key percentage score (100% K would mean the REGARD competency was identified throughout that professional role’s documentation).

Where we identified that the REGARD competency had no ‘Key and Covered’ results for that professional role documentation we identified the number of results that were ‘Key and Partially Covered’ (P) and ‘Key but Not Covered’ (NC). These were also given a percentage score for how often each was represented in the documentation.

A REGARD competency was only considered ‘Not Key/Not Relevant’ (NR) if it was not covered and not considered relevant to every part of the documentation covering expected professional competencies (100% ‘N’ throughout that professional role’s documentation).

Overall Results of the Mapping Exercise

1. There are no REGARD competencies that are 'Not Key/Not Relevant' (N) for every professional competency in every professional category, so every REGARD competency has some significance (K/P/NC) for at least one BE professional role.
2. There are 50 REGARD competencies that have 'Key and Covered' (K) values for at least one professional competency included in documentation.
3. Consequently, 22 REGARD competencies have no 'Key and Covered' (K) value for all the documented competencies in professional roles but do have Key and Partially Covered (P) and/or Key but Not Covered (NC) outcomes. These may represent an opportunity for skills development in the context of REGARD for accreditation for at least one, few or all BE professional role. These 22 REGARD competencies are;

Tier 1 (7 REGARD competencies with no K value for any BE professional)

1. Societal impacts of mass displacement
2. Stakeholders of mass displacement and their characteristics
3. Language issues
4. Health issues (mental and physical)
5. Livelihoods and employment (including access to means, land, etc.)
6. Access to education and training
7. Addressing discrimination against displaced people

Tier 2 (4 REGARD competencies with no K value)

1. Contextual differences (causes, scales, and dynamics of displacement, industrialised versus developing countries, etc.)
2. Policy, legal and regulatory frameworks relevant to the Built Environment (e.g. land issues, regional and local strategies, building codes, etc.)
3. Disaster Resilience (including multi-hazard mapping, Build Back Better)
4. Inclusive Built Environment (including supporting vulnerable and special needs groups)

Tier 3a (7 REGARD competencies with no K value)

1. How planning and design can alleviate mass displacement challenges
2. Disaster resilience
3. Disaster Management
4. Transport infrastructure and services
5. Sociology of housing
6. Location decisions
7. Cultural sensitivity in housing design

Tier 3b (4 REGARD competencies with no K value)

2. Project management considerations for mass displacement construction and maintenance contexts
3. Employment and livelihood opportunities in construction and maintenance
4. Infrastructure provision and management in mass displacement contexts
5. Construction and maintenance of public buildings and spaces in mass displacement contexts

4. The majority of results from the mapping exercise are categorised as ‘NC’ – ‘Key but Not Covered’. This suggests scope for development of the professional documentation to reflect the competencies identified as required by Rebuilding after Displacement (REGARD).

5. Even if some of the documentation was developed so that ‘NC’ results were transformed to be ‘P’ (‘Key and Partially Covered’) results (if not fully to ‘Key and Covered’ results) that would be a positive outcome. There are currently fewer ‘P’ results than ‘NC’ results mapped across all professions and REGARD competencies tiers with the sole exception of Tier 3a and the Surveyor professional competency documentation.

6. Tier 3 REGARD competencies are reliant on the Construction and FM professional role documentation, and the Surveyor professional role documentation, to provide the majority of ‘Key and Covered’ matches. The other three professional roles contribute very few (Planners 0%, Chartered Engineers 0%, Architects 4%) despite these competencies being “*relevant to professionals and practitioners in BE occupations and roles*” (Output 4)

A summary of each REGARD Tier competency results follows, with a full list of each match included in Appendix 1.

Tier 1 Foundational Competencies

REGARD competencies Summary Distribution by Professional Category	Tier 1			
	K	P	NC	NR
Construction and FM	3%	8%	73%	16%
Planners	9%	11%	64%	15%
Chartered Engineers	9%	11%	50%	31%
Architects	0%	10%	62%	29%
Surveyors	1%	24%	75%	0%

The number of Tier 1 REGARD competencies that are identified as ‘Key and Covered’ by the mapping exercise with professional documentation is relatively small. The highest incidence of 9% (for Planners and Chartered Engineers) must be qualified by the fact that numerous positive results come from relatively few REGARD competencies. The Planners had n=15 ‘Key and Covered’ matches from just two REGARD competencies (‘Cultural awareness and diversity’ and ‘Enabling Measures’), while Chartered Engineers were identified as having ‘Enabling Measures’ as ‘Key and Covered’ in all nine of their professional documentation competencies (8% of their 9% K total for Tier 1).

Construction and Facilities Management competencies registered the greatest variety of ‘Key and Covered’ matches in the exercise, with four separate REGARD competencies being identified in this category. Architects have zero ‘Key and Covered’ matches, and Surveyors just one. All these results have to be seen on the previously mentioned context that Tier 1 is not exclusive to BE professionals and assumes an ‘interest in mass displacement’ which is not a pre-requisite to a BE career.

The ‘Key and Covered’ results should not be viewed too negatively, as there are similar patterns in the ‘Not Key/Not Relevant’ category within the mapping. No Tier 1 REGARD competency is considered ‘Not Key/Not Relevant’ to every profession, and indeed for Surveyors none of the REGARD competencies are mapped as this, they all exhibit some relevance to their professional documentation. The larger result of 29% for Architects comprises n=46 responses from just two REGARD competencies (‘Livelihoods and employment’ and ‘Addressing discrimination against displaced people’) and reflects the large number of professional competencies Architects are expected to possess. More REGARD competencies are included in the Architects, and Chartered Engineers results, but these are not exclusively ‘Not Key/Not Relevant’ and so bear some relevancy to the profession. Construction and FM professionals, and Planners, similarly see a relatively high number (n=7 and n=8) of ‘Not Key/Not Relevant’ results in one single REGARD competency.

The 'Key and Partially Covered' mapping results are relatively consistent and few, except for the Surveyors profession. Three Tier 1 REGARD competencies ('Legal, policy and institutional frameworks', 'Cultural awareness and diversity', and 'Enabling measures') are matched as 'Key and Partially Covered' for every professional competency in Surveyors' documentation. While Chartered Engineers and Planners also map numerous professional competencies to single REGARD competencies as 'Key and Partially Covered' neither are exclusively matched in this category, which accounts for the Surveyors higher overall percentage of matches (24%).

By far the greatest result for every professional role across the Tier 1 REGARD competencies are for the 'Key but Not Covered' category. Every one of the 13 REGARD competencies in Tier 1 matches many of these results, from half of all Chartered Engineer results to three quarters of the Surveyors. This category identifies that the REGARD competency should be included in that professional role's documentation so there is considerable scope for development should the organising bodies wish to act upon this.

Tier 2 REGARD Built Environment (Industry-wide) Competencies

REGARDS competences Summary Distribution by Professional Category	Tier 2			
	K	P	NC	NR
Construction and FM	7%	25%	62%	6%
Planners	0%	25%	73%	3%
Chartered Engineers	8%	8%	65%	19%
Architects	10%	24%	66%	0%
Surveyors	15%	21%	64%	0%

As with Tier 1, the number of matches for 'Key and Covered' REGARD competencies in Tier 2 is not high, but this time positive mapping results exhibit greater range across REGARD competencies. Construction and FM's 7% matches are across six different REGARD competencies, Architects and Surveyors count eight REGARD competencies as 'Key and Covered' in at least one area of their professional documentation. Chartered Engineers only match with three REGARD competencies as 'Key and Covered' and n=9 of their n=11 positive results are in the same competency of 'Ethics and Professionalism'. Planners have zero matches, but as can be seen they also have very few (3%) 'Not Key/Not Relevant' results which is a positive feature.

In the 'Not Key and Not Relevant' category there are very few matches outside of the Chartered Engineer group, and even that group only matches with three REGARD competencies as this designation. All of their 19% result is from the competencies of; The importance of housing (for social cohesion and integration, livelihoods, etc), Inclusive housing (including supporting vulnerable and special needs groups), and Access to basic needs and services (food, livelihoods, health, education, recreation, etc). The 13 other REGARD competencies for Chartered Engineers are either K, P, or NC, which is a beneficial outcome as it shows a synergy between REGARD competencies and what the professional roles may already, or be expected to, know.

In the 'Key and Partially Covered' results, the Chartered Engineers are again somewhat of an outlier in mapping. All their 8% (and the next lowest is 21%) is from just two REGARD competencies, the other BE professional documentation matches P results across at least n=11 REGARD competencies (Architects) up to n=13 REGARD competencies (Planners and Construction/FM).

The 'Key but Not Covered' category is, however, relatively consistent across the five professional roles. As with Tier 1 results, these are by far the greatest number and provide opportunity for development. For greater detail and perhaps to provide for updates of documentation, Appendix 1 should be consulted.

Tier 3 REGARD Occupational Competencies - Combined

REGARDS competences Summary	Tier 3			
Distribution by Professional Category	K	P	NC	NR
Construction and FM	33%	22%	42%	3%
Planners	0%	7%	46%	47%
Chartered Engineers	0%	13%	84%	2%
Architects	4%	35%	61%	1%
Surveyors	17%	52%	32%	0%

These are analysed in the following separate sub-Tiers;

Tier 3a Planning and Design

REGARDS competences Summary	Tier 3a			
Distribution by Professional Category	K	P	NC	NR
Construction and FM	34%	20%	44%	3%
Planners	0%	11%	76%	12%
Chartered Engineers	0%	21%	76%	4%
Architects	6%	35%	58%	1%
Surveyors	22%	68%	10%	0%

For the 'Key and Covered' outcome in Tier 3a there are very varied results across the professional roles. The highest percentage of positive matches for Construction and FM are ranged across n=19 of the REGARD competencies, while Planners and Chartered Engineers have zero. This Tier concerns competencies relating to planning and design, so this is somewhat surprising. While Architects only match 6% of their total results, these are in n=13 REGARD competencies and the relatively low figure is attributable to the large number of professional competencies listed in their documentation.

Surveyors have a much larger percentage figure of 'Key and Covered' matches (22%) and these are in n=10 separate REGARD competencies.

These differences are, however, largely resolved when examining the 'Not Key and Not Relevant' category. There are zero matches among Surveyors professional documentation and the REGARD competencies, and very few among Construction and FM, Chartered Engineers, and Architects (Chartered Engineers 4% result for example is entirely in the REGARD competency of 'Access to basic needs and services'). The Planners group returns a relatively high result of 12% matches, and these are ranged across n=12 REGARD competencies, which makes it very much an outlier. However, in none of these categories are the matches with the professional competencies exclusively 'Not Key and Not Relevant' so they REGARD competencies do retain some relevance for the profession.

Surveyors have a very high percentage of 'Key and Partially Covered' matches in Tier 3a, the only time in this exercise that the result for 'P' is higher than any other outcome. This suggests the REGARD competencies in this Tier are a very positive fit with the profession. In fact, there are matches across numerous competencies for all the professions, Planners being almost half the percentage of matches as the next lowest, but still seeing 'P' results in n=8 REGARD competencies.

Planners and Chartered Engineers are relatively high in 'Key but Not Covered' results, a pattern that has been seen across the previous two Tiers, but the other three professions are quite considerably reduced, down as far as 10% for the Surveyors. As has already been said, this is not an exercise in identifying which professions are 'better' at matching REGARD competencies than another, simply where the documentation for each professional role may be revised in line with REGARD requirements. In this there is opportunity for Planners and Chartered Engineers to expand in the Tier 3a Planning and Design category.

Tier 3b Construction and Facilities Management

REGARDS competences Summary	Tier 3b			
Distribution by Professional Category	K	P	NC	NR
Construction and FM	31%	25%	39%	4%
Planners	0%	0%	0%	100%
Chartered Engineers	0%	3%	97%	0%
Architects	1%	34%	65%	0%
Surveyors	8%	27%	65%	0%

The 'Key and Covered' results for Tier 3b of the REGARD competencies display the widest variation of all the Tiers. This is perhaps unsurprising as its categorisation of competencies into 'Construction and Facilities Management' will clearly suit the Construction and FM profession. Indeed, they have a 31% positive match of 'Key and Covered' results in our mapping exercise. This percentage is across n=13 of the n=17 REGARD competencies. The Surveyor role matches are within n=5 REGARD competencies, the same ones as the Architects match. Planners and Chartered Engineers register zero, indeed the entire Tier is considered 'Not Key and Not Relevant' to the Planners.

The totality of 'Not Key and Not Relevant' matches between Planners' professional documentation and Tier 3b REGARD competencies is balanced by the three zero 'N' results for Surveyors, Architects, and Chartered Engineers, and the 4% result for Construction and FM roles. This highlights the benefit of separating the results into each profession, Tier, and category, as a simple mean score would distort the reality of the situation. It is simply not a Tier of REGARD competencies for Planners to be active in.

'Key and Partially Covered' results do, however, show that Chartered Engineers may develop additional consideration in their documentation for Tier 3b competencies. Their 3% score is for n=4 REGARD competencies, leaving many 'R' results for their documentation. Surveyor and Architect results are additionally concentrated in just n=6 REGARD competencies, from the seventeen in total. Only Construction and FM displays a broad range of 'Key and Partially Covered' matches across a larger number (n=13) REGARD competencies.

This means that the 'Key but Not Covered' results are highly visible for the Surveyors, Chartered Engineers, and Architects, with all of the professional competencies in many cases being rated 'NC' against numerous REGARD competencies. This offers a lot of scope for development.

APPENDICES

1. Construction and FM (12 professional competencies)

Summary

Construction and FM professionals match 42 REGARD competencies as being covered by documentation and key to their professional roles. There are 15 REGARD competencies that are also considered at least partially key. Only 15 REGARD competencies are key but not covered. None of the REGARD competencies are considered not relevant to professional roles. This makes the current mapping of Construction and FM professional sector documentation against REGARD competencies a very positive result with a relatively high degree of synergy between the two considerations. The relevant results show there is potential for development in the professional documentation if desired and the lack of not relevant results highlights that REGARD and rebuilding after displacement is appropriate to the role.

Distribution by Tier	Construction and FM			
	K	P	NC	NR
Tier 1	3%	8%	73%	16%
Tier 2	7%	25%	62%	6%
Tier 3a.	34%	20%	44%	3%
Tier 3b.	31%	25%	39%	4%

Tier 1 (13 REGARD competencies)

4 REGARD competencies are K (key and covered)

1. Causes, contents, and dynamics of mass displacement (1 Key match – 8% of possible inclusions in professional competency documentation)
2. Legal, policy and institutional frameworks (8%)
3. Enabling measures (17%)
4. Sustainable development (8%)

6 REGARD competencies are P (key and partially covered) and NC (key but not covered)

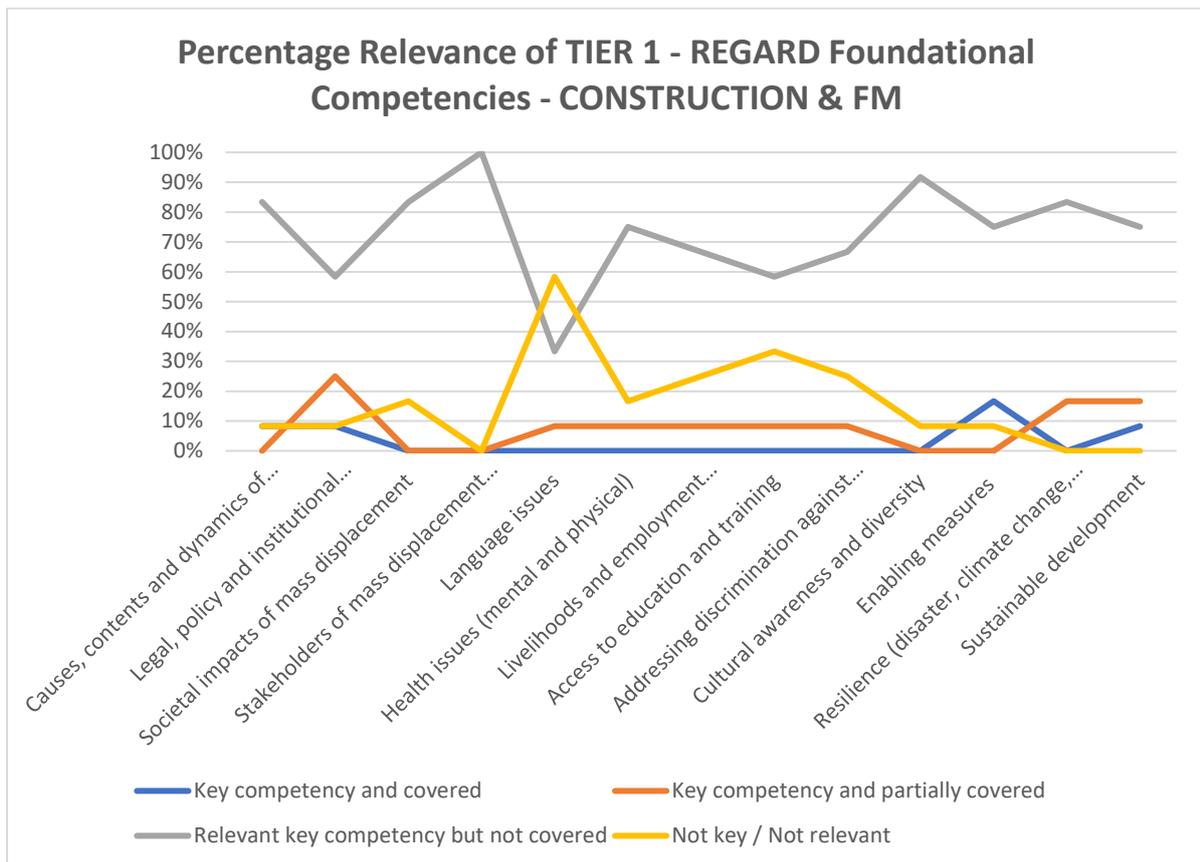
1. Language issues (8%P results 33%NC results)

2. Health issues (mental and physical) (8%P 75%NC)
3. Livelihoods and employment (including access to means, land, etc.) (8%P 67%NC)
4. Access to education and training (8%P 58%NC)
5. Addressing discrimination against displaced people (8%P 67%NC)
6. Resilience (disaster, climate change, etc.) (17% P 83% NC)

3 REGARD competencies are NC (key but not covered)

1. Societal impacts of mass displacement (83%NC)
2. Stakeholders of mass displacement and their characteristics (100%NC)
3. Cultural awareness and diversity (92% R)

No REGARD competency has 'NR' (not key and not relevant) for every professional competency.



Tier 2 (16 REGARD competencies)

6 REGARD competencies are K (key and covered)

1. Stakeholders of Built Environment interventions (including typical institutional frameworks) (50%)
2. Types and stages of housing (emergency, temporary, transitional, permanent, resettlement, relocation, social housing, etc.) (17%)
3. Water supply, sanitation, and hygiene (WASH) (17%)
4. Access to basic needs and services (food, livelihoods, health, education, recreation, etc.) (8%)
5. Energy infrastructure and services (8%)
6. Waste management infrastructure and services (including drainage, wastewater treatment, reuse, and recycling of materials, etc.) (8%)

1 REGARD competency is P (key and partially covered)

1. Ethics and professionalism (100%P)

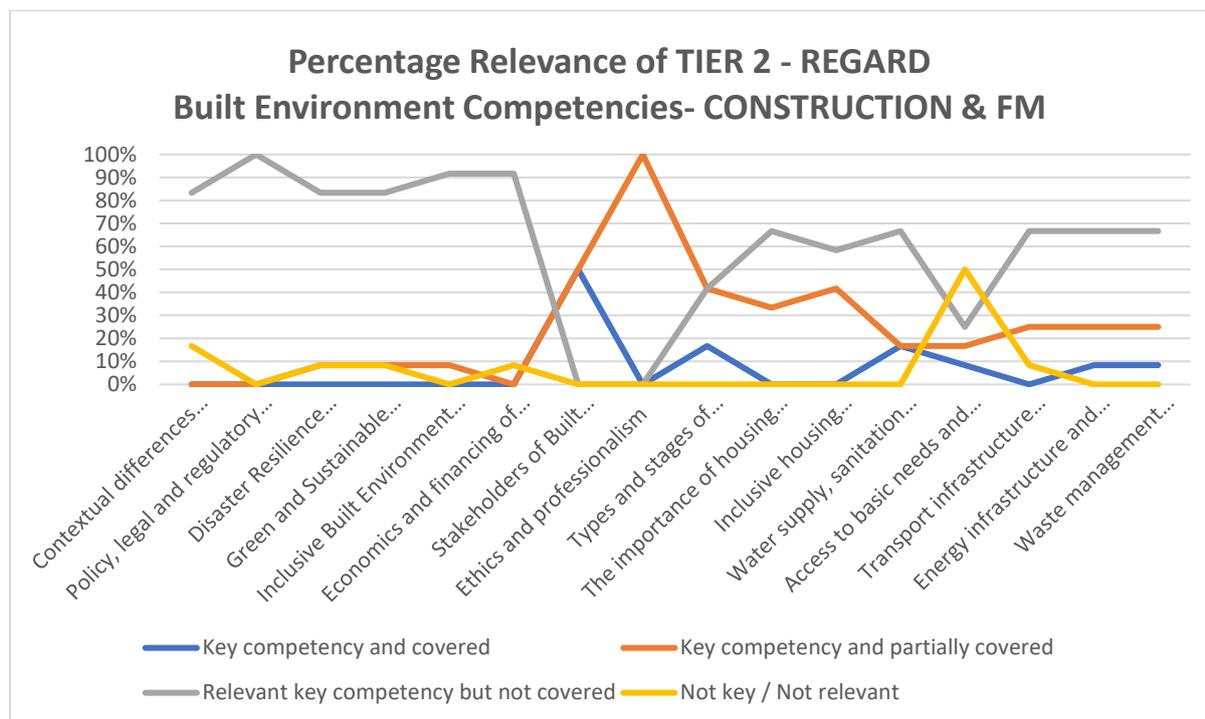
6 REGARD competencies are P (key and partially covered) or NC (key but not covered)

1. Disaster Resilience (including multi-hazard mapping, Build Back Better) (8%P 83%NC)
2. Green and Sustainable Built Environment (including nature-based solutions) (8%P 83%NC)
3. Inclusive Built Environment (including supporting vulnerable and special needs groups) (8%P 92%NC)
4. The importance of housing (for social cohesion and integration, livelihoods, etc.) (33%P 67%NC)
5. Inclusive housing (including supporting vulnerable and special needs groups) (42%P 58%NC)
6. Transport infrastructure and services (25%P 67%NC)

3 REGARD competencies are NC (key but not covered)

1. Contextual differences (causes, scales, and dynamics of displacement, industrialised versus developing countries, etc) (83% NC)
2. Policy, legal and regulatory frameworks relevant to the Built Environment (e.g. land issues, regional and local strategies, building codes, etc.) (100%NC)
3. Economics and financing of interventions (including cost benefit analyses, whole life costing) (92%NC)

No REGARD competency has 'NR' (not key and not relevant) for every professional competency.



Tier 3a (26 competencies)

19 REGARD competencies are K (key and covered)

1. Repair / rebuild / resettle decisions (8%)
2. Environmental sustainability (8%)
3. Planning and design policy, legal and regulatory framework (58%)
4. Water supply, sanitation, and hygiene (WASH) (17%)
5. Energy infrastructure and services (8%)
6. Waste management (8%)
7. Types of housing and their specific planning and design considerations (17%)
8. Access to basic needs and services (8%)
9. Repair / renovation / refurbishment of existing (damaged) housing (8%)
10. Resource efficiency (including materials, labour, equipment, etc.) (25%)
11. Designing for vulnerable and special needs groups (8%)
12. Inclusivity (100%)
13. Flexibility (100%)
14. Stakeholder engagement in planning and design (100%)

15. Whole life costing (100%)
16. Constructability (100%)
17. Energy Efficiency (100%)
18. Recycling of Building Materials (100%)
19. Flexibility in use (17%)

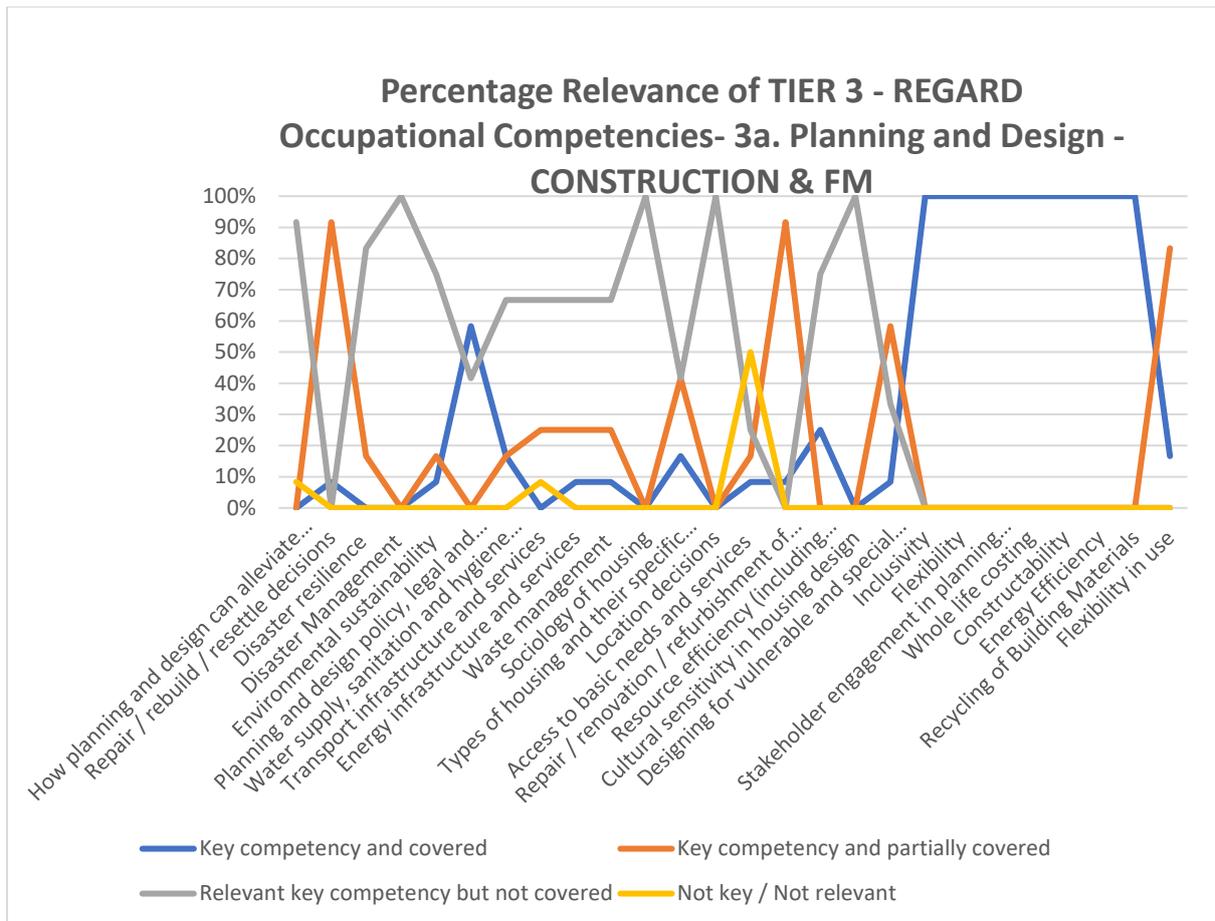
2 REGARD competencies are P (key and partially covered) or NC (key but not covered)

1. Disaster resilience (17%P 83%NC)
2. Transport infrastructure and services (25%P 67%NC)

5 REGARD competencies are NC (key but not covered)

1. How planning and design can alleviate mass displacement challenges (92%NC)
2. Disaster Management (100%NC)
3. Sociology of housing (100%NC)
4. Location decisions (100%NC)
5. Cultural sensitivity in housing design (100%NC)

No REGARD competency has 'NR' (not key and not relevant) for every professional competency.



Tier 3b (17 competencies)

13 REGARD competencies are K (key and covered)

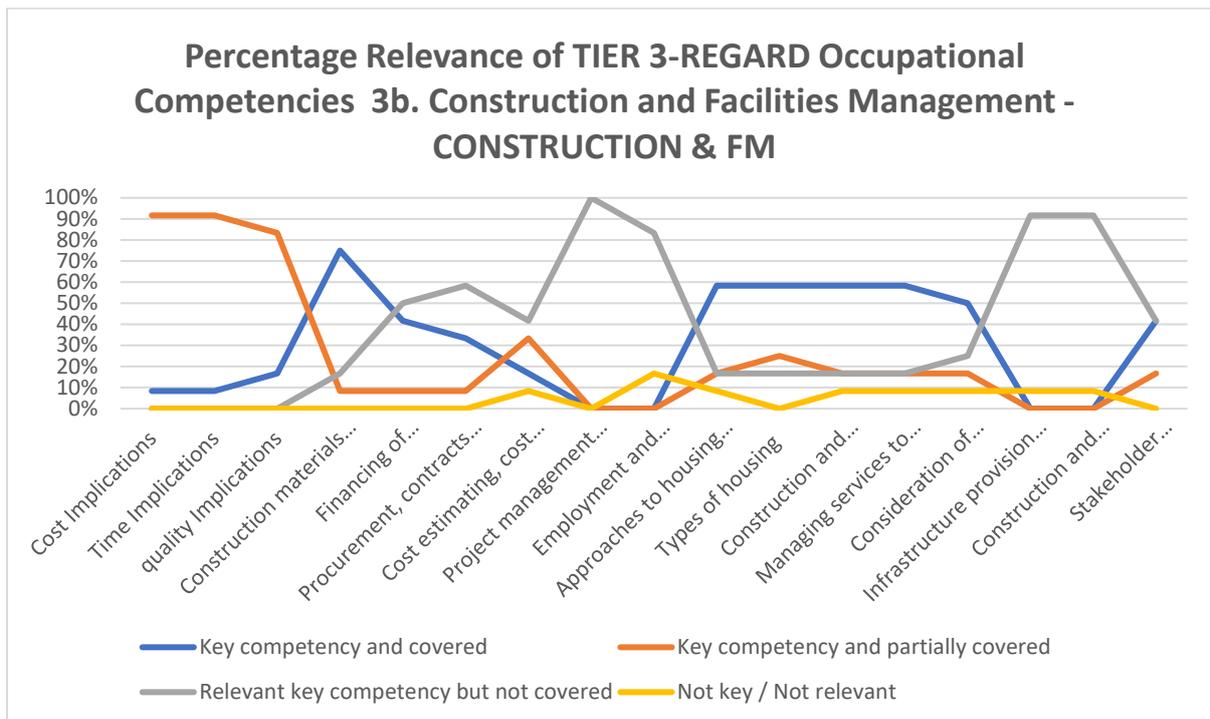
1. Cost Implications (8%)
2. Time Implications (8%)
3. Quality Implications (17%)
4. Construction materials and resources (75%)
5. Financing of construction and maintenance (42%)
6. Procurement, contracts, and project delivery (33%)
7. Cost estimating, cost control and contract management (17%)
8. Approaches to housing construction (58%)
9. Types of housing (58%)
10. Construction and maintenance considerations in the repair / renovation / refurbishment of existing housing (58%)
11. Managing services to and maintenance of housing in use (58%)
12. Consideration of vulnerable and special needs groups in housing construction and maintenance (50%)

13. Stakeholder engagement in construction and maintenance (42%)

4 REGARD competencies are NC (key but not covered)

1. Project management considerations for mass displacement construction and maintenance contexts (100%NC)
2. Employment and livelihood opportunities in construction and maintenance (83%NC)
3. Infrastructure provision and management in mass displacement contexts (92%NC)
4. Construction and maintenance of public buildings and spaces in mass displacement contexts (92%NC)

No REGARD competency has 'NR' (not key and not relevant) for every professional competency.



2. Planners (14 professional competencies)

Summary

Planning professionals match 3 REGARD competencies as being covered by documentation and key to their professional roles. There are 24 REGARD competencies that are also considered at least partially key. A further 28 REGARD competencies are key but not covered. None of the Tier 1, 2 and 3a REGARD competencies are considered not relevant but all of Tier 3b (17 competencies) is considered not relevant to Planning professional roles. This latter result makes the overall mapping of Planners' professional sector documentation against REGARD competencies imbalanced, and if this Tier is discounted there are clearly positive correlations and opportunity for development between rebuilding after displacement and the professional documentation. Tier 3b should be reviewed in due course to confirm it remains not relevant to the profession.

Distribution by Tier	Planners			
	K	P	NC	NR
Tier 1	9%	11%	64%	15%
Tier 2	0%	25%	73%	3%
Tier 3a.	0%	11%	76%	12%
Tier 3b.	0%	0%	0%	100%

Tier 1 (13 REGARD competencies)

3 REGARD competencies are K (key and covered)

1. Cultural awareness and diversity (57%)
2. Enabling measures (57%)
3. Resilience (disaster, climate change, etc.) (7%)

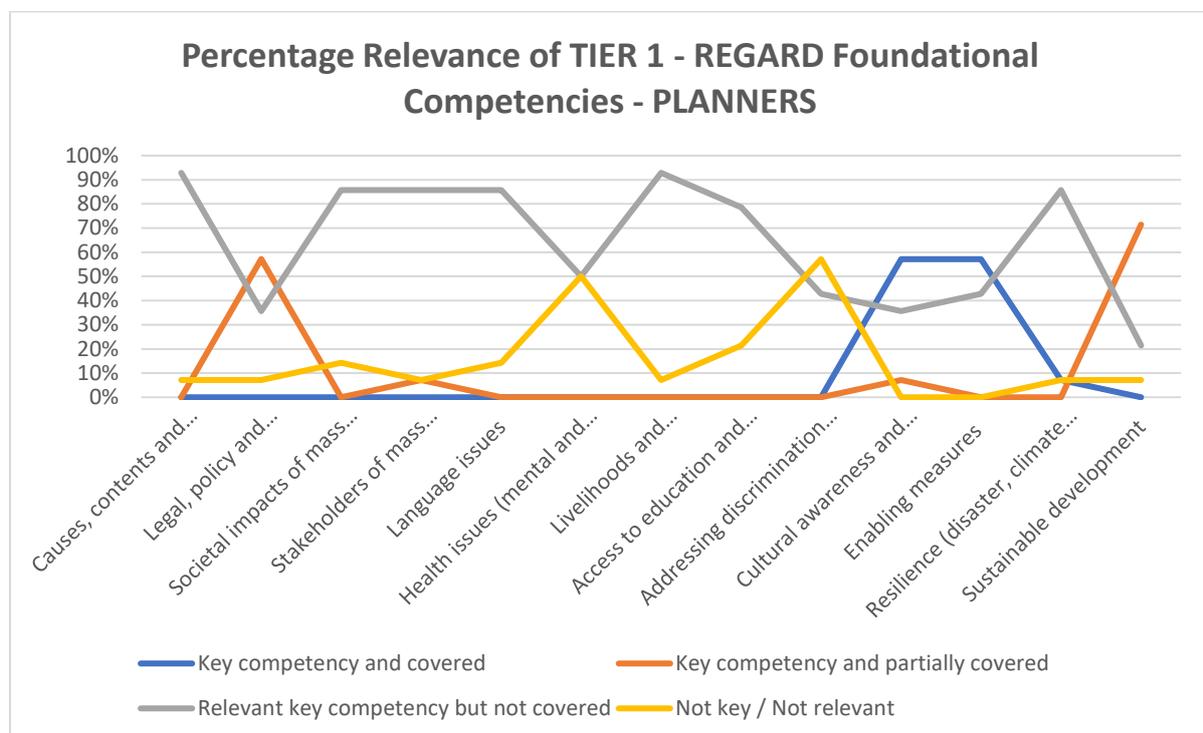
3 REGARD competencies are P (key and partially covered) or NC (key but not covered)

1. Legal, policy and institutional frameworks (57%P 36%NC)
2. Stakeholders of mass displacement and their characteristics (7%P 86%NC)
3. Sustainable development (71%P 21%NC)

7 REGARD competencies are NC (key but not covered)

1. Causes, contents, and dynamics of mass displacement (93%NC)
2. Societal impacts of mass displacement (86%NC)
3. Language issues (86%NC)
4. Health issues (mental and physical) (50%NC)
5. Livelihoods and employment (including access to means, land, etc.) (93%NC)
6. Access to education and training (79%NC)
7. Addressing discrimination against displaced people (43%NC)

No REGARD competency has 'NR' (not key and not relevant) for every professional competency.



Tier 2 (16 REGARD competencies)

K = 0 (There are no REGARD competencies in Tier 2 that are key and covered to Planner professional competencies)

13 REGARD competencies are P (key and partially covered) or NC (key but not covered)

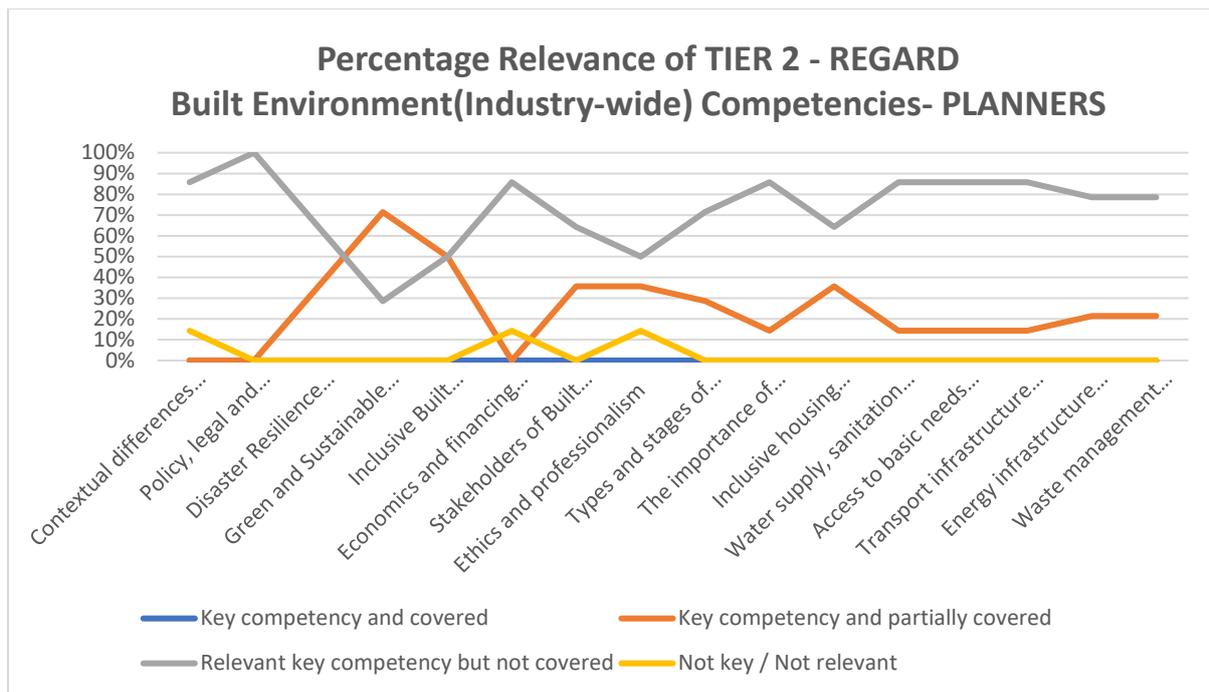
1. Disaster Resilience (including multi-hazard mapping, Build Back Better) (36%P 64%NC)
2. Green and Sustainable Built Environment (including nature-based solutions) (71%P 29%NC)

3. Inclusive Built Environment (including supporting vulnerable and special needs groups) (50%P 50%NC)
4. Stakeholders of Built Environment interventions (including typical institutional frameworks) (36%P 64%NC)
5. Ethics and professionalism (36%P 50%NC)
6. Types and stages of housing (emergency, temporary, transitional, permanent, resettlement, relocation, social housing, etc.) (29%P 71%NC)
7. The importance of housing (for social cohesion and integration, livelihoods, etc.) (14%P 86%NC)
8. Inclusive housing (including supporting vulnerable and special needs groups) (36%P 64%NC)
9. Water supply, sanitation, and hygiene (WASH) (14%P 86%NC)
10. Access to basic needs and services (food, livelihoods, health, education, recreation, etc.) (14%P 86%NC)
11. Transport infrastructure and services (14%P 86%NC)
12. Energy infrastructure and services (21%P 79%NC)
13. Waste management infrastructure and services (including drainage, wastewater treatment, reuse and recycling of materials, etc.) (21%P 79%NC)

3 REGARD competencies are NC (key but not covered)

1. Contextual differences (causes, scales, and dynamics of displacement, industrialised versus developing countries, etc.) (86%NC)
2. Policy, legal and regulatory frameworks relevant to the Built Environment (e.g. land issues, regional and local strategies, building codes, etc.) (100%NC)
3. Economics and financing of interventions (including cost benefit analyses, whole life costing) (86%NC)

No REGARD competency has 'NR' (not key and not relevant) for every professional competency.



Tier 3a (26 competencies)

K = 0 (There are no REGARD competencies in Tier 3a that are key and covered to Planner professional competencies)

8 REGARD competencies are P (key and partially covered) or NC (relevant key but not covered)

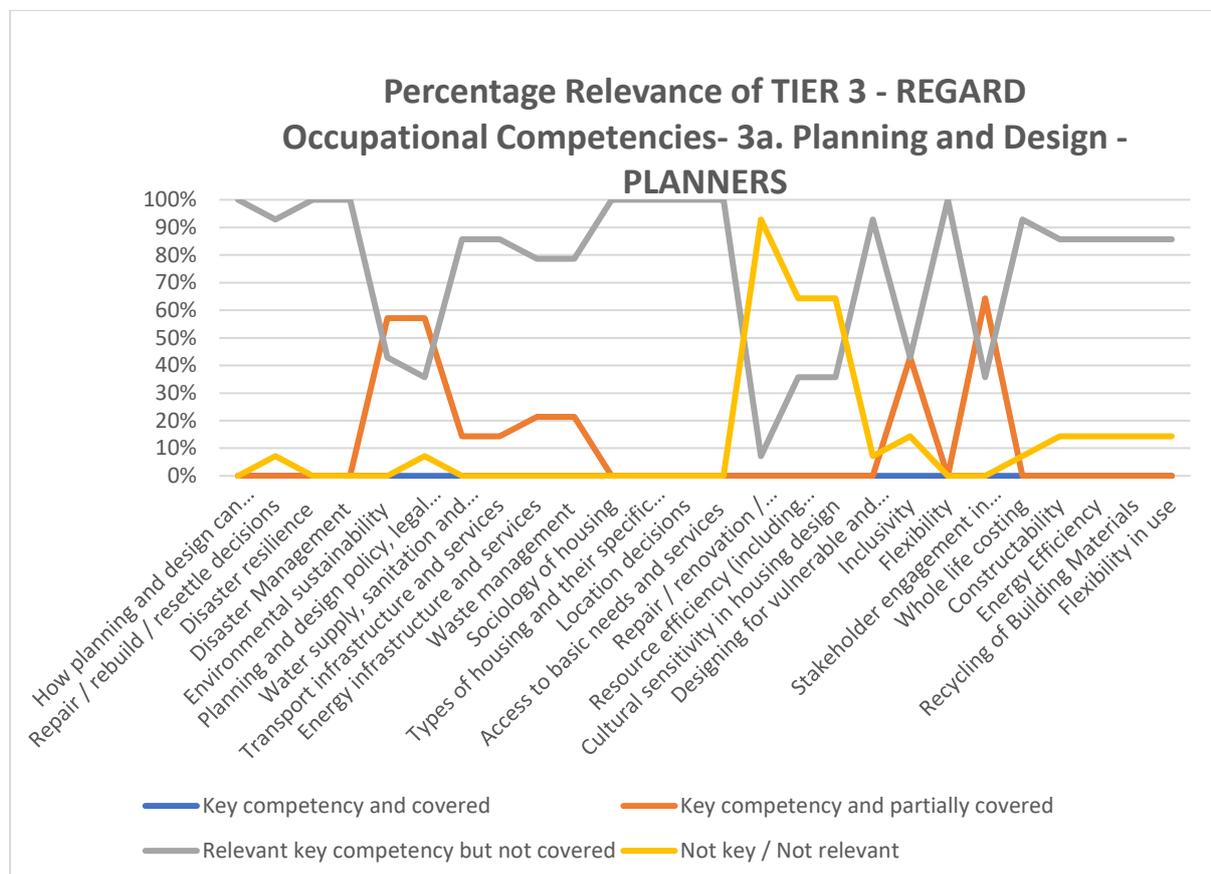
1. Environmental sustainability (57%P 43%NC)
2. Planning and design policy, legal and regulatory framework (57%P 36%NC)
3. Water supply, sanitation, and hygiene (WASH) (14%P 86%NC)
4. Transport infrastructure and services (14%P 86%NC)
5. Energy infrastructure and services (21%P 79%NC)
6. Waste management (21%P 79%NC)
7. Inclusivity (43%P 43%NC)
8. Stakeholder engagement in planning and design (64%P 36%NC)

18 REGARD competencies are NC (key but not covered)

1. How planning and design can alleviate mass displacement challenges (100%NC)
2. Repair / rebuild / resettle decisions (93%NC)
3. Disaster resilience (100%NC)

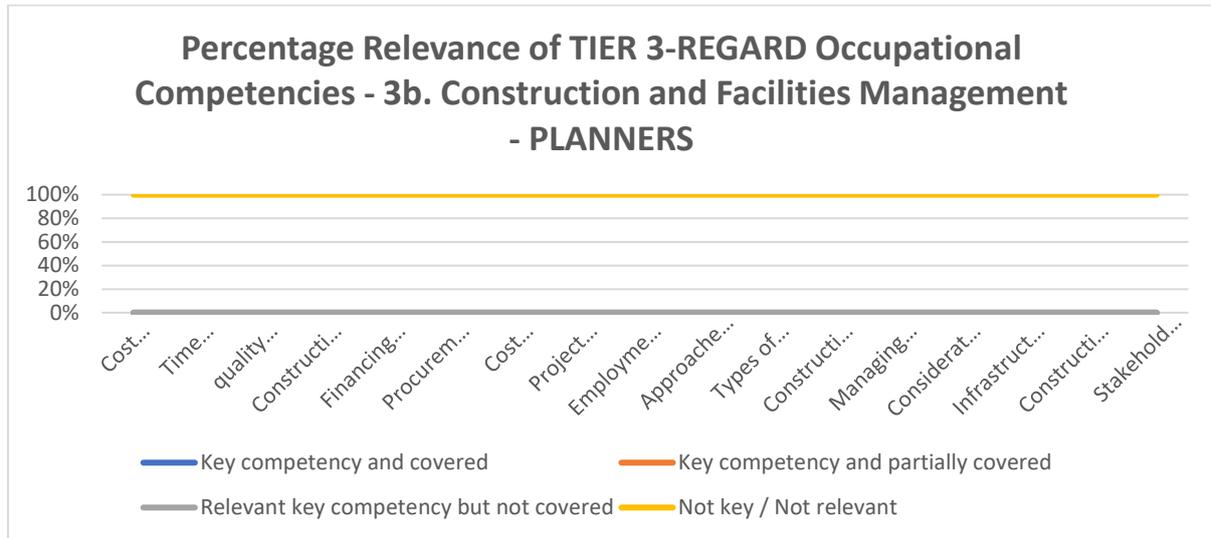
4. Disaster Management (100%NC)
5. Sociology of housing (100%NC)
6. Types of housing and their specific planning and design considerations (100%NC)
7. Location decisions (100%NC)
8. Access to basic needs and services (100%NC)
9. Repair / renovation / refurbishment of existing (damaged) housing (7%NC)
10. Resource efficiency (including materials, labour, equipment, etc.) (36%NC)
11. Cultural sensitivity in housing design (36%NC)
12. Designing for vulnerable and special needs groups (93%NC)
13. Flexibility (100%NC)
14. Whole life costing (93%NC)
15. Constructability (86%NC)
16. Energy Efficiency (86%NC)
17. Recycling of Building Materials (86%NC)
18. Flexibility in use (86%NC)

No REGARD competency has 'NR' (not key and not relevant) for every professional competency.



Tier 3b (17 competencies)

All REGARD competencies are mapped as NR in this Tier and are not relevant to the professional competencies of Planners.



3. Chartered Engineers (9 professional competencies)

Summary

Chartered Engineer professionals match 5 REGARD competencies as being covered by documentation and key to their professional roles. There are 16 REGARD competencies that are also considered at least partially key. A further 47 REGARD competencies are key but not covered. Only 4 REGARD competencies are not relevant for every Chartered Engineer professional competency in the documentation. These relatively few not relevant results are positive in terms of the mapping between Chartered Engineers and the REGARD competencies and needs of rebuilding after displacement. The high number of relevant but not covered results represents an opportunity for review and possible development for the profession to see more of the REGARD competencies as key or partially key.

Distribution by Tier	Chartered Engineers			
	K	P	NC	NR
Tier 1	9%	11%	50%	31%
Tier 2	8%	8%	65%	19%
Tier 3a.	0%	21%	76%	4%
Tier 3b.	0%	3%	97%	0%

Tier 1 (13 REGARD competencies)

2 REGARD Competencies are K (key and covered)

1. Cultural awareness and diversity (11%)
2. Enabling measures (100%)

2 REGARD competencies are P (key and partially covered) or NC (key but not covered)

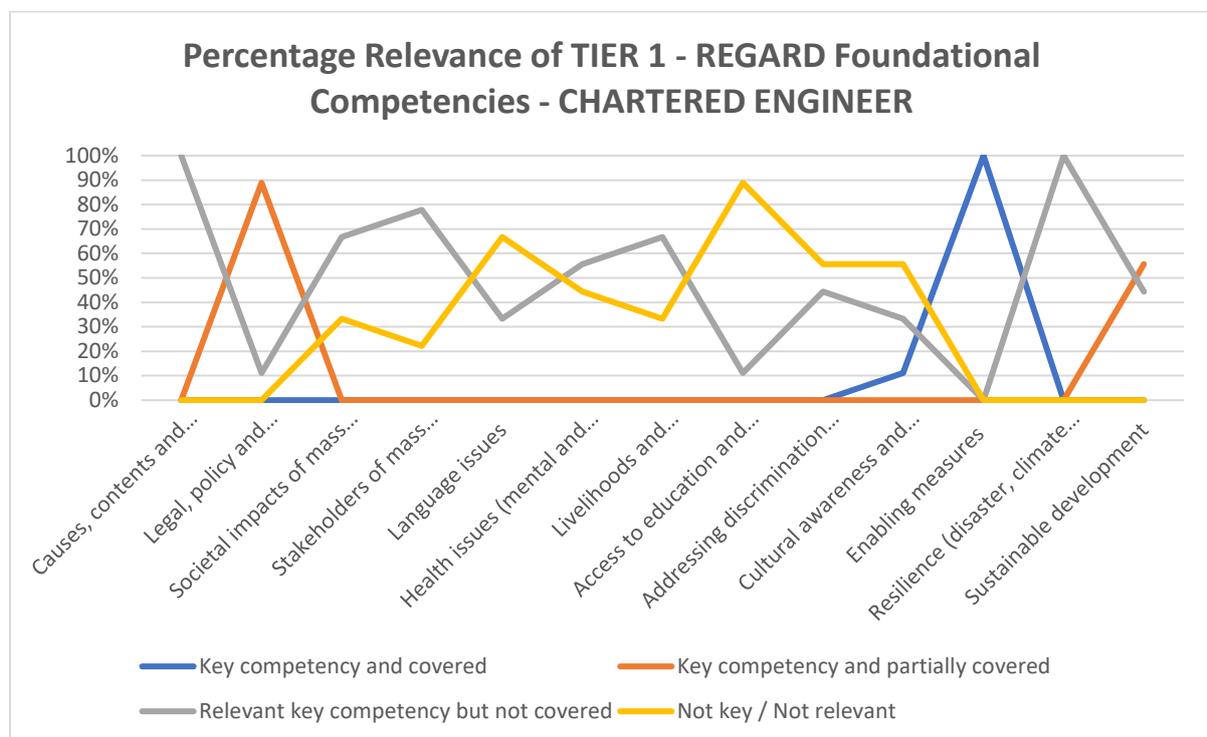
1. Legal, policy and institutional frameworks (89%P 11%NC)
2. Sustainable development (56%P 44%NC)

9 REGARD competencies are NC (key but not covered)

1. Causes, contents, and dynamics of mass displacement (100%NC)
2. Societal impacts of mass displacement (67%NC)

3. Stakeholders of mass displacement and their characteristics (78%NC)
4. Language issues (33%NC)
5. Health issues (mental and physical) (56%NC)
6. Livelihoods and employment (including access to means, land, etc.) (67%NC)
7. Access to education and training (11%NC)
8. Addressing discrimination against displaced people (44%NC)
9. Resilience (disaster, climate change, etc.) (100%NC)

No REGARD competency has 'NR' (not key and not relevant) for every professional competency.



Tier 2 (16 REGARD competencies)

3 REGARD competencies are K (key and covered)

1. Economics and financing of interventions (including cost benefit analyses, whole life costing) (11%)
2. Stakeholders of Built Environment interventions (including typical institutional frameworks) (11%)
3. Ethics and professionalism (100%)

1 REGARD competency is P (key and partially covered)

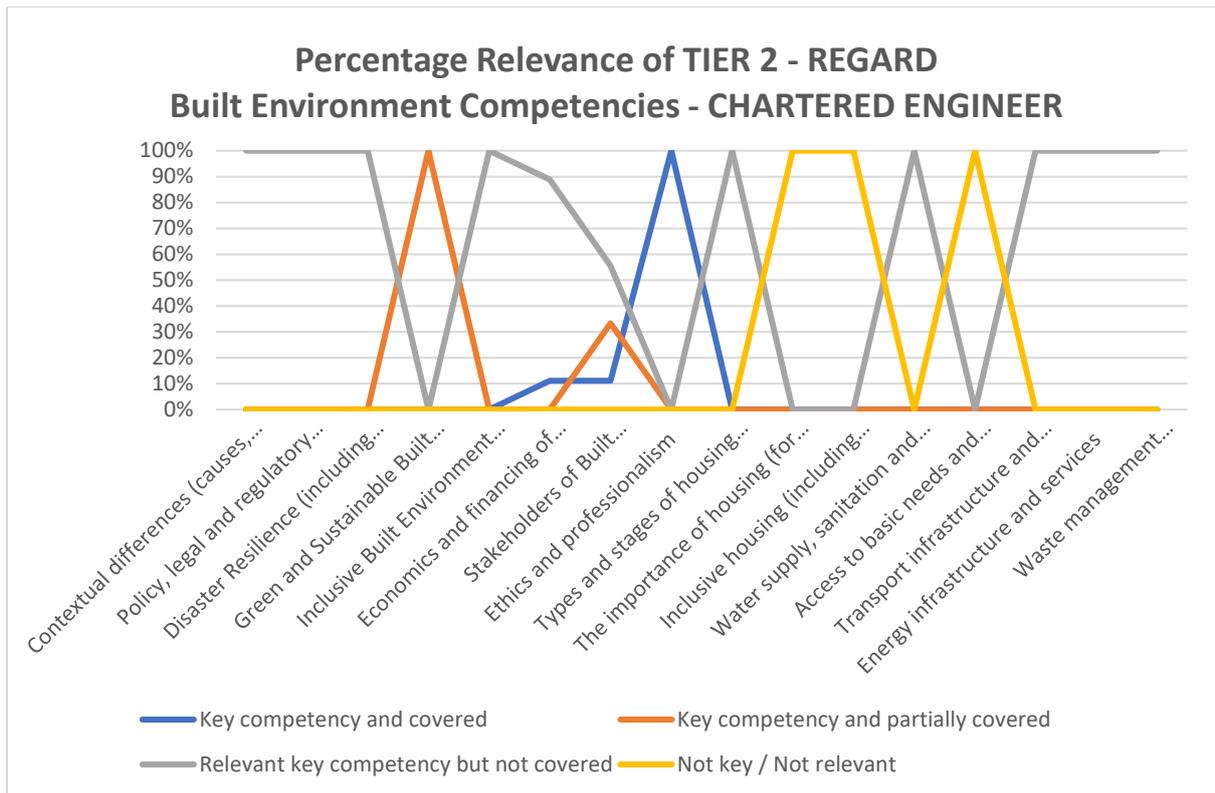
1. Green and Sustainable Built Environment (including nature-based solutions) (100%P)

9 REGARD competencies are NC (key but not covered)

1. Contextual differences (causes, scales, and dynamics of displacement, industrialised versus developing countries, etc.) (100%NC)
2. Policy, legal and regulatory frameworks relevant to the Built Environment (e.g. land issues, regional and local strategies, building codes, etc.) (100%NC)
3. Disaster Resilience (including multi-hazard mapping, Build Back Better) (100%NC)
4. Inclusive Built Environment (including supporting vulnerable and special needs groups) (100%NC)
5. Types and stages of housing (emergency, temporary, transitional, permanent, resettlement, relocation, social housing, etc.) (100%NC)
6. Water supply, sanitation, and hygiene (WASH) (100%NC)
7. Transport infrastructure and services (100%NC)
8. Energy infrastructure and services (100%NC)
9. Waste management infrastructure and services (including drainage, wastewater treatment, reuse, and recycling of materials, etc.) (100%NC)

3 REGARD competencies have 'NR' (not key and not relevant) for every professional competency

1. The importance of housing (for social cohesion and integration, livelihoods, etc.)
2. Inclusive housing (including supporting vulnerable and special needs groups)
3. Access to basic needs and services (food, livelihoods, health, education, recreation, etc.)



Tier 3a (26 competencies)

K = 0 (There are no REGARD competencies in Tier 3a that are key and covered to Chartered Engineer professional competencies)

4 REGARD competencies are P (key and partially covered)

1. Constructability (100%P)
2. Energy Efficiency (100%P)
3. Recycling of Building Materials (100%P)
4. Flexibility in use (100%P)

5 REGARD competencies are P (key and partially covered) or NC (key but not covered)

1. How planning and design can alleviate mass displacement challenges (22%P 78%NC)
2. Inclusivity (44%P 56%NC)
3. Flexibility (44%P 56%NC)
4. Stakeholder engagement in planning and design (11%P 89%NC)

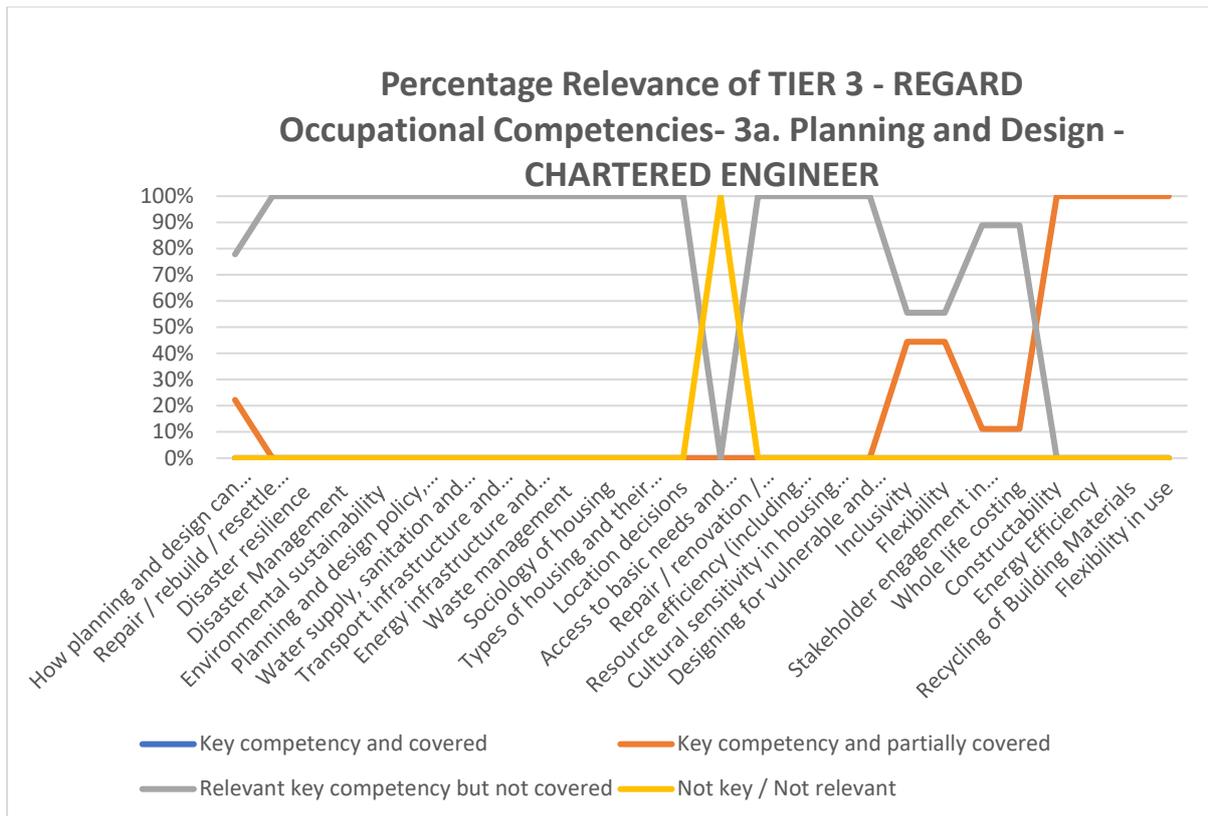
5. Whole life costing (11%P 89%NC)

16 REGARD competencies are NC (key but not covered)

1. Repair / rebuild / resettle decisions (100%NC)
2. Disaster resilience (100%NC)
3. Disaster Management (100%NC)
4. Environmental sustainability (100%NC)
5. Planning and design policy, legal and regulatory framework (100%NC)
6. Water supply, sanitation, and hygiene (WASH) (100%NC)
7. Transport infrastructure and services (100%NC)
8. Energy infrastructure and services (100%NC)
9. Waste management (100%NC)
10. Sociology of housing (100%NC)
11. Types of housing and their specific planning and design considerations (100%NC)
12. Location decisions (100%NC)
13. Repair / renovation / refurbishment of existing (damaged) housing (100%NC)
14. Resource efficiency (including materials, labour, equipment, etc.) (100%NC)
15. Cultural sensitivity in housing design (100%NC)
16. Designing for vulnerable and special needs groups (100%NC)

1 REGARD competency has 'NR' (not key and not relevant) for every professional competency

1. Access to basic needs and services



Tier 3b (17 competencies)

K = 0 (There are no REGARD competencies in Tier 3b that are key and covered to Chartered Engineer professional competencies)

4 REGARD competencies are P (key and partially covered) or NC (key but not covered)

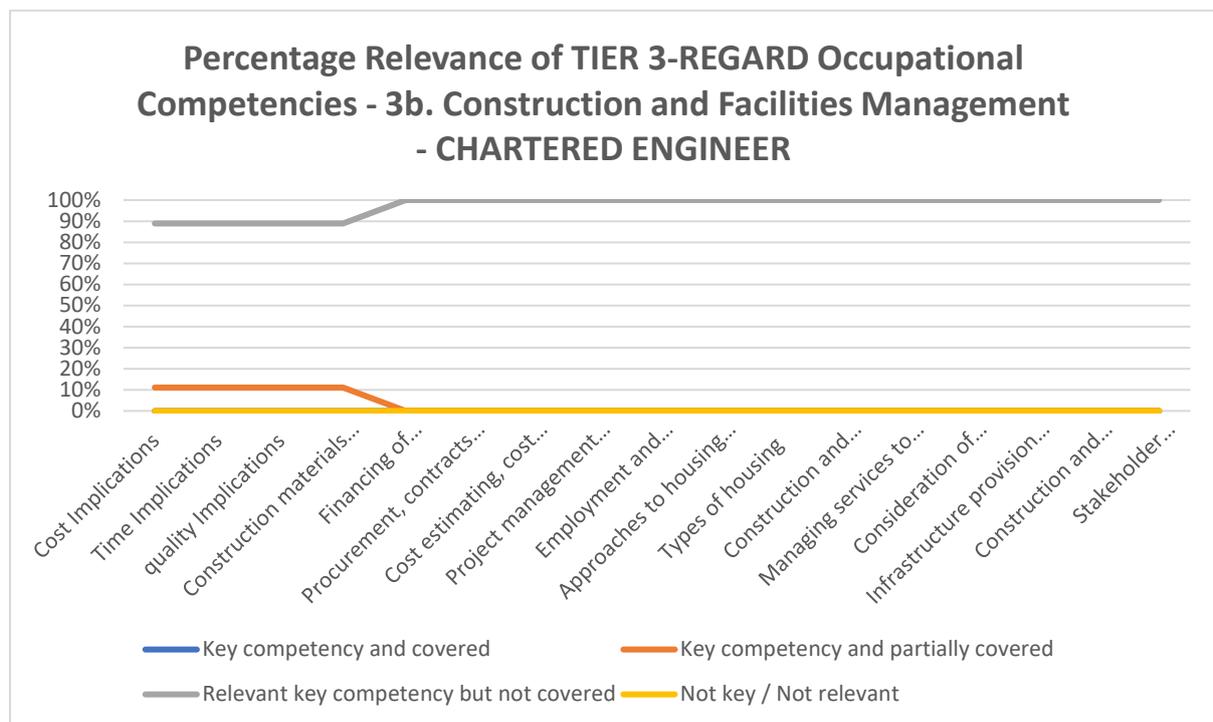
1. Cost Implications (11%P 89%NC)
2. Time Implications (11%P 89%NC)
3. Quality Implications (11%P 89%NC)
4. Construction materials and resources (11%P 89%NC)

13 REGARD competencies are NC (key but not covered)

1. Financing of construction and maintenance (100%NC)
2. Procurement, contracts, and project delivery (100%NC)
3. Cost estimating, cost control and contract management (100%NC)
4. Project management considerations for mass displacement construction and maintenance contexts (100%NC)
5. Employment and livelihood opportunities in construction and maintenance (100%NC)
6. Approaches to housing construction (100%NC)

7. Types of housing (100%NC)
8. Construction and maintenance considerations in the repair / renovation / refurbishment of existing housing (100%NC)
9. Managing services to and maintenance of housing in use (100%NC)
10. Consideration of vulnerable and special needs groups in housing construction and maintenance (100%NC)
11. Infrastructure provision and management in mass displacement contexts (100%NC)
12. Construction and maintenance of public buildings and spaces in mass displacement contexts (100%NC)
13. Stakeholder engagement in construction and maintenance (100%NC)

No REGARD competency has 'NR' (not key and not relevant) for every professional competency.



4. Architects (RIBA) (23 professional competencies)

Summary

The large number of professional competencies for architects makes for greater potential results in comparison with other professions.

Architect professionals match 27 REGARD competencies as being covered by documentation and key to their professional roles. A further 21 REGARD competencies are identified as being at least partially key. There are 23 REGARD competencies that are key but not covered. Only 1 REGARD competency is not relevant for every professional competency documented for Architects. The high number of key and partially key results is very positive while the key but not covered results in the mapping highlights possible opportunities for development in the professional documentation. This said, it is to be acknowledged that architects clearly are expected to demonstrate many professional competencies already and their accrediting bodies' lengthy documentation has an impact on the results of this exercise.

Distribution by Tier	Architects			
	K	P	NC	NR
Tier 1	0%	10%	62%	29%
Tier 2	10%	24%	66%	0%
Tier 3a.	6%	35%	58%	1%
Tier 3b.	1%	34%	65%	0%

Tier 1 (13 REGARD competencies)

K = 0 (There are no REGARD competencies in Tier 1 that are key and covered to Architect professional competencies)

1 REGARD competency is P (key and partially covered)

1. Livelihoods and employment (including access to means, land, etc.) (4%P)

6 REGARD competencies are P (key and partially covered) or NC (key but not covered)

1. Legal, policy and institutional frameworks (35%P 39%NC)
2. Health issues (mental and physical) (39%P 57%NC)

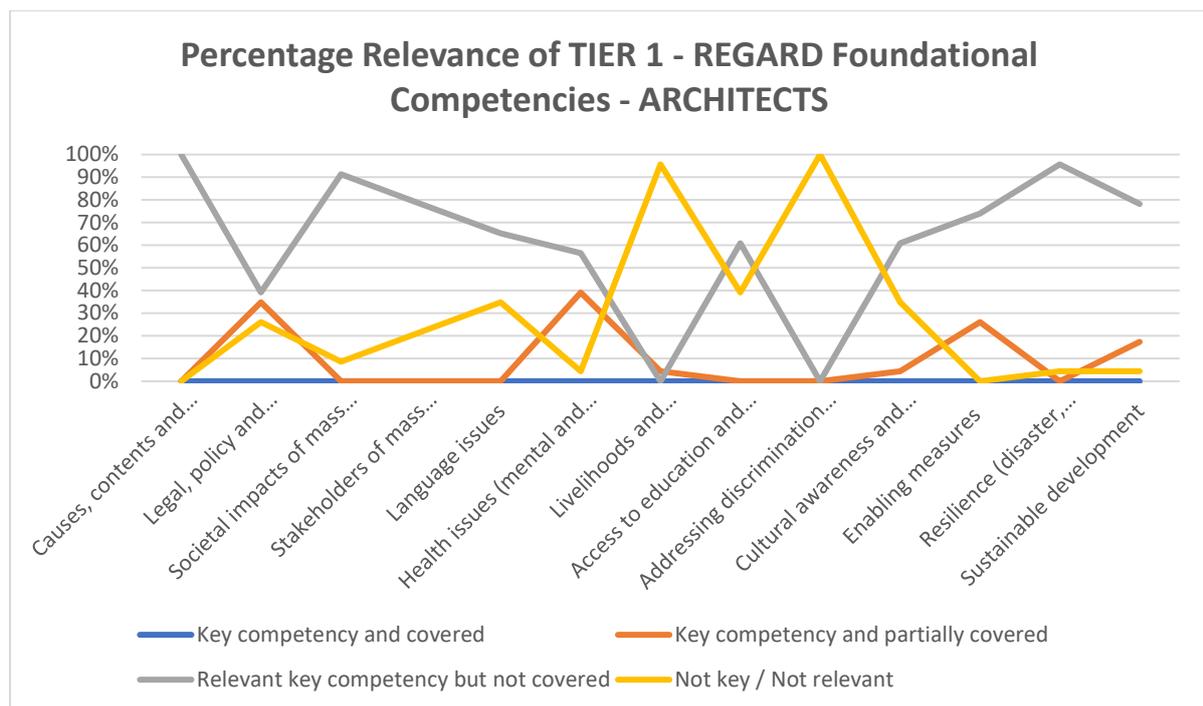
3. Cultural awareness and diversity (4%P 61%NC)
4. Enabling measures (26%P 74%NC)
5. Resilience (disaster, climate change, etc.) (96%NC)
6. Sustainable development (17%P 78%NC)

5 REGARD competencies are NC (key but not covered)

1. Causes, contents, and dynamics of mass displacement (100%NC)
2. Societal impacts of mass displacement (91%NC)
3. Stakeholders of mass displacement and their characteristics (78%NC)
4. Language issues (65%NC)
5. Access to education and training (61%NC)

1 REGARD competency has 'NR' (not key and not relevant) for every professional competency.

1. Addressing discrimination against displaced people



Tier 2 (16 REGARD competencies)

8 REGARD Competencies are K (key and covered)

1. Economics and financing of interventions (including cost benefit analyses, whole life costing) (4%)
2. Stakeholders of Built Environment interventions (including typical institutional frameworks) (4%)
3. Ethics and professionalism (100%)
4. Types and stages of housing (emergency, temporary, transitional, permanent, resettlement, relocation, social housing, etc.) (13%)
5. The importance of housing (for social cohesion and integration, livelihoods, etc.) (13%)
6. Inclusive housing (including supporting vulnerable and special needs groups) (13%)
7. Transport infrastructure and services (9%)
8. Energy infrastructure and services (4%)

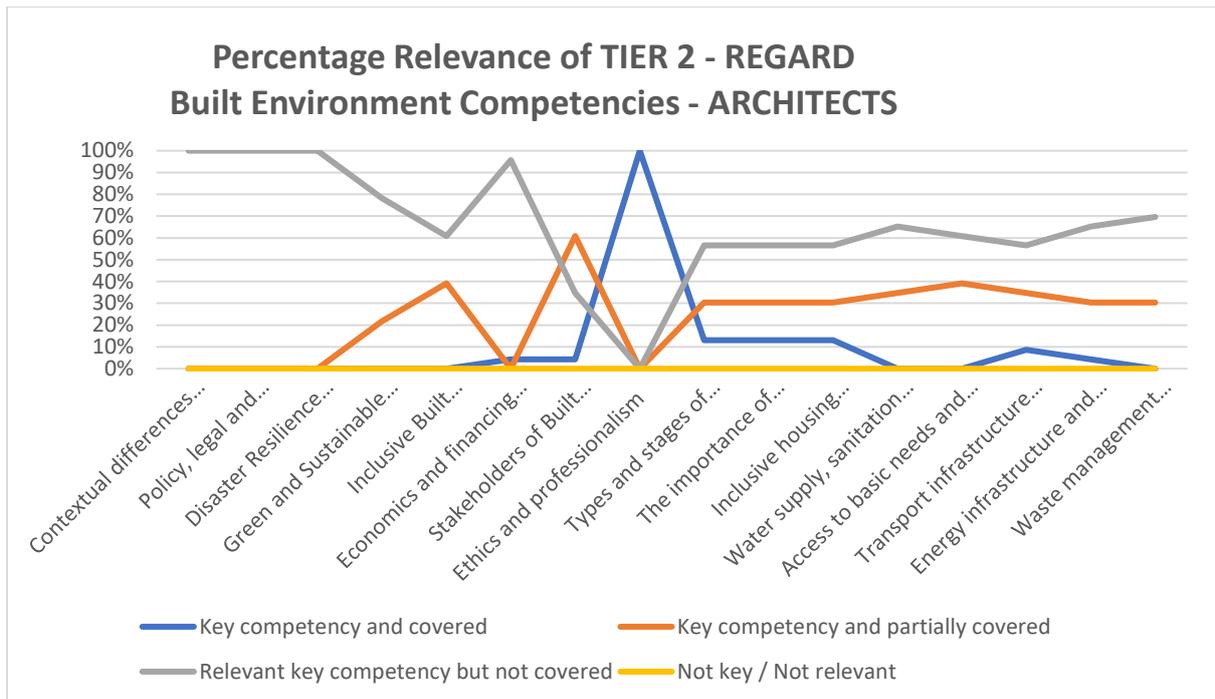
5 REGARD competencies are P (key and partially covered) or NC (key but not covered)

1. Green and Sustainable Built Environment (including nature-based solutions) (22%P 78%NC)
2. Inclusive Built Environment (including supporting vulnerable and special needs groups) (39%P 61%NC)
3. Water supply, sanitation, and hygiene (WASH) (35%P 65%NC)
4. Access to basic needs and services (food, livelihoods, health, education, recreation, etc.) (39%P 61%NC)
5. Waste management infrastructure and services (including drainage, wastewater treatment, reuse, and recycling of materials, etc.) (30%P 70%NC)

3 REGARD competencies are NC (key but not covered)

1. Contextual differences (causes, scales, and dynamics of displacement, industrialised versus developing countries, etc.) (100%NC)
2. Policy, legal and regulatory frameworks relevant to the Built Environment (e.g. land issues, regional and local strategies, building codes, etc.) (100%NC)
3. Disaster Resilience (including multi-hazard mapping, Build Back Better) (100%NC)

No REGARD competency has 'NR' (not key and not relevant) for every professional competency.



Tier 3a (26 competencies)

14 REGARD competencies are K (key and covered)

1. Environmental sustainability (9%)
2. Planning and design policy, legal and regulatory framework (52%)
3. Water supply, sanitation, and hygiene (WASH) (4%)
4. Waste management (4%)
5. Access to basic needs and services (4%)
6. Resource efficiency (including materials, labour, equipment, etc.) (13%)
7. Designing for vulnerable and special needs groups (4%)
8. Inclusivity (9%)
9. Flexibility (9%)
10. Stakeholder engagement in planning and design (9%)
11. Whole life costing (9%)
12. Constructability (9%)
13. Energy Efficiency (9%)
14. Recycling of Building Materials (9%)

9 REGARD competencies are P (key and partially covered) or NC (key but not covered)

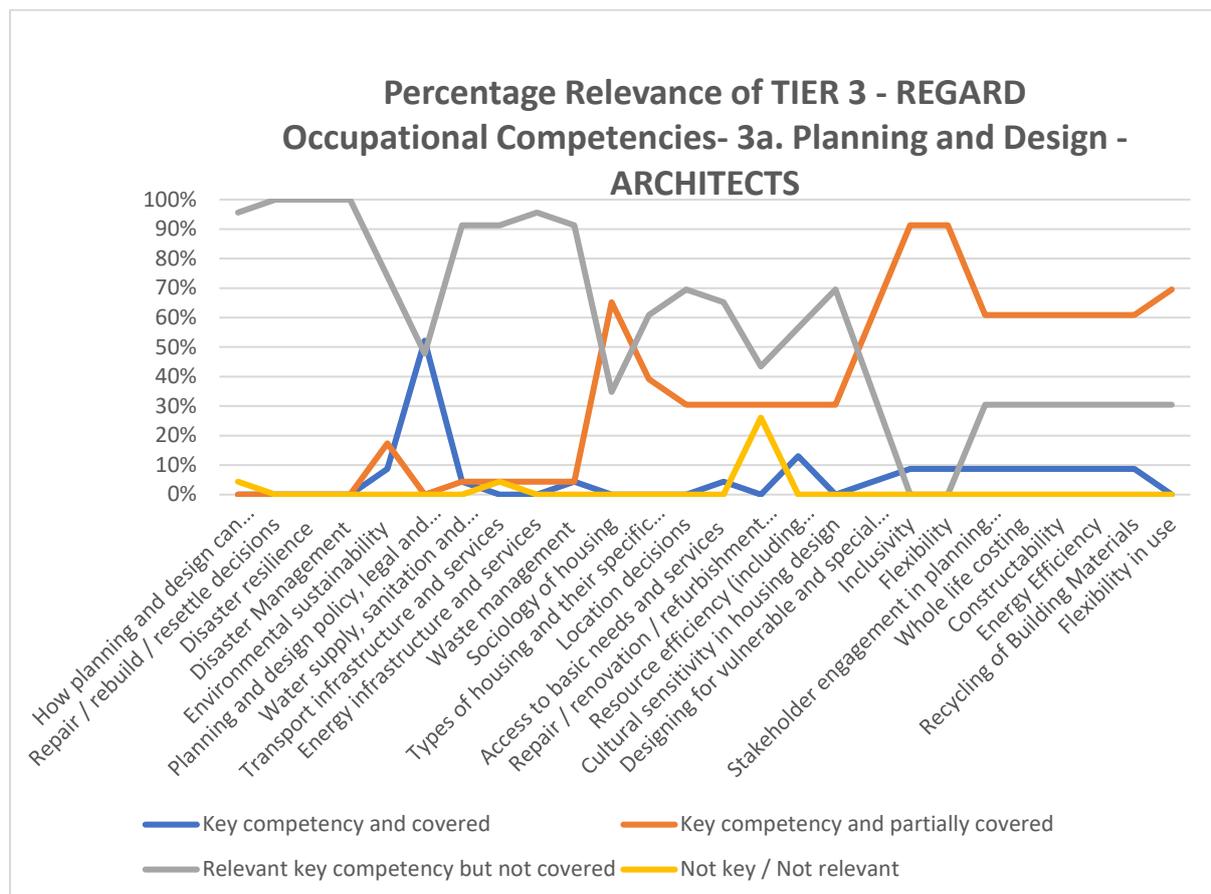
1. How planning and design can alleviate mass displacement challenges (96%NC)

2. Transport infrastructure and services (4%P 91%NC)
3. Energy infrastructure and services (4%P 96%NC)
4. Sociology of housing (65%P 35%NC)
5. Types of housing and their specific planning and design considerations (39%P 61%NC)
6. Location decisions (30%P 70%NC)
7. Repair / renovation / refurbishment of existing (damaged) housing (30%P 43%NC)
8. Cultural sensitivity in housing design (30%P 70%NC)
9. Flexibility in use (70%P 30%NC)

3 REGARD competencies are NC (key but not covered)

1. Repair / rebuild / resettle decisions (100%NC)
2. Disaster resilience (100%NC)
3. Disaster Management (100%NC)

No REGARD competency has 'NR' (not key and not relevant) for every professional competency.



Tier 3b (17 competencies)

5 REGARD competencies are K (key and covered)

1. Approaches to housing construction (4%)
2. Types of housing (4%)
3. Construction and maintenance considerations in the repair / renovation / refurbishment of existing housing (4%)
4. Managing services to and maintenance of housing in use (4%)
5. Consideration of vulnerable and special needs groups in housing construction and maintenance (4%)

1 REGARD competency is P (key and partially covered)

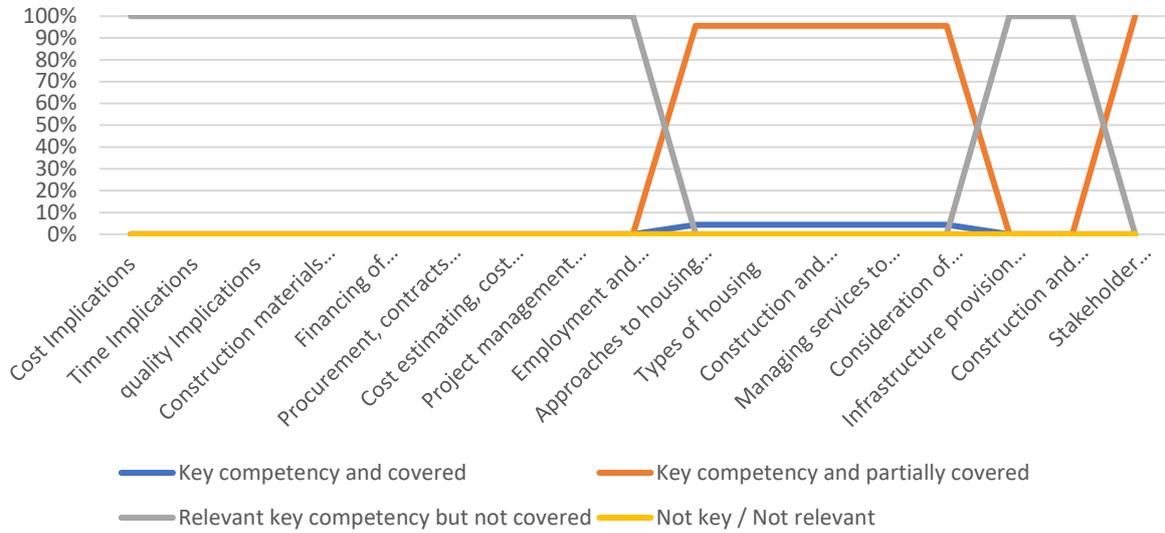
1. Stakeholder engagement in construction and maintenance (100%P)

11 REGARD competencies are NC (key but not covered)

1. Cost Implications (100%NC)
2. Time Implications (100%NC)
3. Quality Implications (100%NC)
4. Construction materials and resources (100%NC)
5. Financing of construction and maintenance (100%NC)
6. Procurement, contracts, and project delivery (100%NC)
7. Cost estimating, cost control and contract management (100%NC)
8. Project management considerations for mass displacement construction and maintenance contexts (100%NC)
9. Employment and livelihood opportunities in construction and maintenance (100%NC)
10. Infrastructure provision and management in mass displacement contexts (100%NC)
11. Construction and maintenance of public buildings and spaces in mass displacement contexts (100%NC)

No REGARD competency has 'NR' (not key and not relevant) for every professional competency.

Percentage Relevance of TIER 3-REGARD Occupational Competencies - 3b. Construction and Facilities Management - ARCHITECTS



5. Surveyors (RICS) (11 professional competencies)

Summary

Surveyor professionals match 24 REGARD competencies as being covered by documentation and key to their professional roles. A further 24 REGARD competencies are identified as being at least partially key. There are 24 REGARD competencies that are key but not covered. No REGARD competencies are considered not relevant to Surveyors. That the REGARD competencies are evenly divided between key, partially key, and key not covered, with none considered not relevant is positive. It shows two thirds of the REGARD competencies have been identified in the professional documentation and there are potentially opportunities for development for the professional role if desirable.

Distribution by Tier	Surveyors			
	K	P	NC	NR
Tier 1	1%	24%	75%	0%
Tier 2	15%	21%	64%	0%
Tier 3a.	22%	68%	10%	0%
Tier 3b.	8%	27%	65%	0%

Tier 1 (13 REGARD competencies)

1 REGARD competency is K (key and covered)

1. Sustainable development (9%)

3 REGARD competencies are P (key and partially covered)

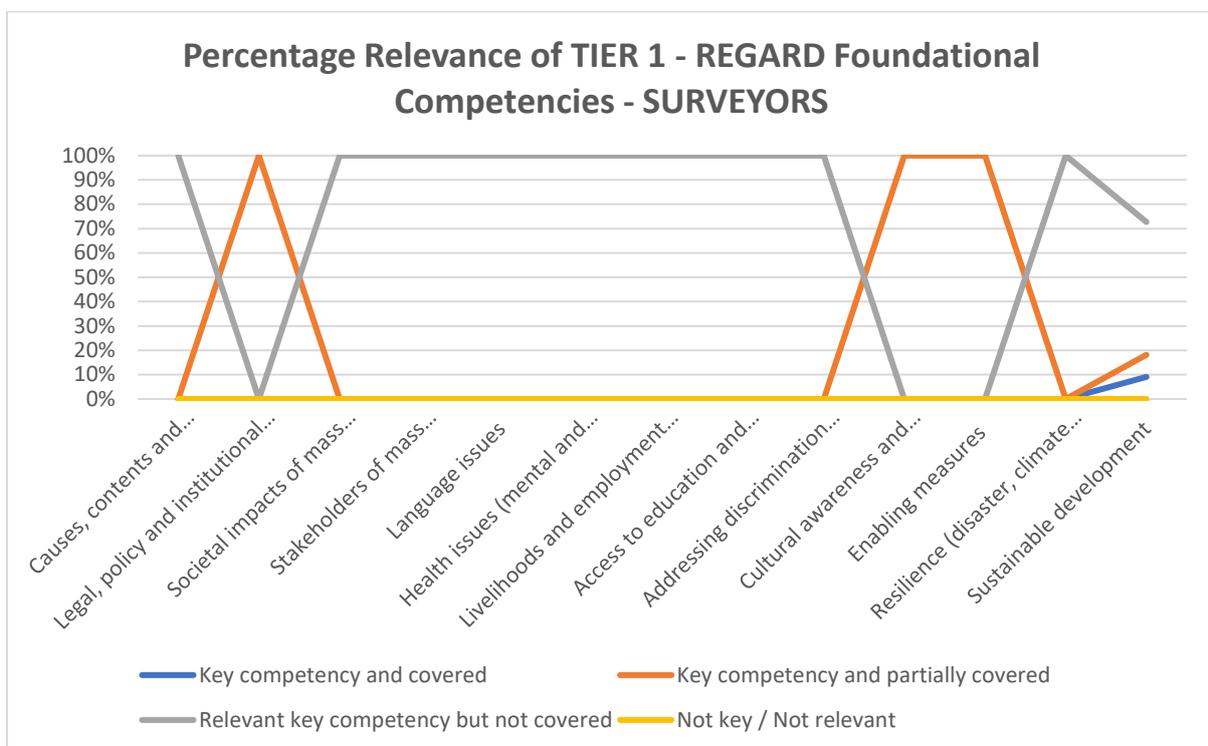
1. Legal, policy and institutional frameworks (100%P)
2. Cultural awareness and diversity (100%P)
3. Enabling measures (100%P)

9 REGARD competencies are NC (key but not covered)

1. Causes, contents and dynamics of mass displacement (100%NC)
2. Societal impacts of mass displacement (100%NC)

3. Stakeholders of mass displacement and their characteristics (100%NC)
4. Language issues (100%NC)
5. Health issues (mental and physical) (100%NC)
6. Livelihoods and employment (including access to means, land, etc.) (100%NC)
7. Access to education and training (100%NC)
8. Addressing discrimination against displaced people (100%NC)
9. Resilience (disaster, climate change, etc.) (100%NC)

No REGARD competency has 'NR' (not key and not relevant) for every professional competency.



Tier 2 (16 REGARD competencies)

8 REGARD competencies are K (key and covered)

1. Green and Sustainable Built Environment (including nature-based solutions) (55%)
2. Stakeholders of Built Environment interventions (including typical institutional frameworks) (9%)
3. Ethics and professionalism (100%)

4. Types and stages of housing (emergency, temporary, transitional, permanent, resettlement, relocation, social housing, etc.) (18%)
5. The importance of housing (for social cohesion and integration, livelihoods, etc.) (18%)
6. Inclusive housing (including supporting vulnerable and special needs groups) (18%)
7. Transport infrastructure and services (18%)
8. Energy infrastructure and services (9%)

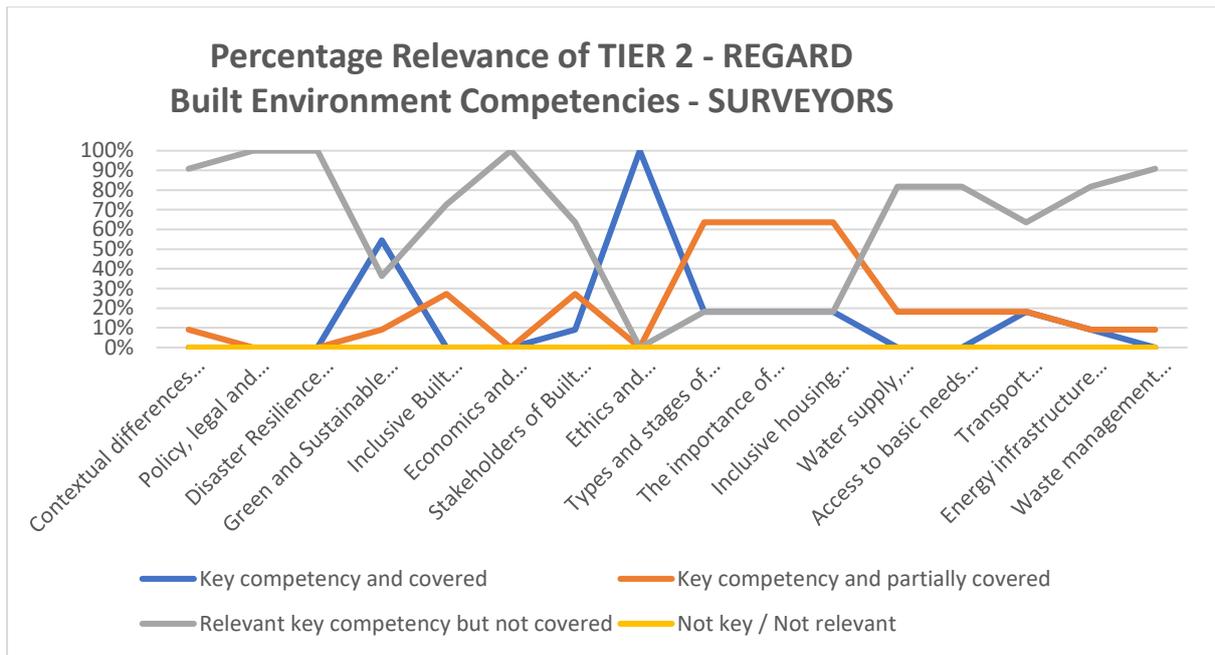
5 REGARD competencies are P (key and partially covered) or NC (key but not covered)

1. Contextual differences (causes, scales, and dynamics of displacement, industrialised versus developing countries, etc.) (9%P 91%NC)
2. Inclusive Built Environment (including supporting vulnerable and special needs groups) (27%P 73%NC)
3. Water supply, sanitation, and hygiene (WASH) (18%P 82%NC)
4. Access to basic needs and services (food, livelihoods, health, education, recreation, etc.) (18%P 82%NC)
5. Waste management infrastructure and services (including drainage, wastewater treatment, reuse, and recycling of materials, etc.) (9%P 91%NC)

3 REGARD competencies are NC (key but not covered)

1. Policy, legal and regulatory frameworks relevant to the Built Environment (e.g. land issues, regional and local strategies, building codes, etc.) (100%NC)
2. Disaster Resilience (including multi-hazard mapping, Build Back Better) (100%NC)
3. Economics and financing of interventions (including cost benefit analyses, whole life costing) (100%NC)

No REGARD competency has 'NR' (not key and not relevant) for every professional competency.



Tier 3a (26 competencies)

10 REGARD competencies are K (key and covered)

1. Repair / rebuild / resettle decisions (91%)
2. Environmental sustainability (18%)
3. Planning and design policy, legal and regulatory framework (91%)
4. Inclusivity (82%)
5. Flexibility (82%)
6. Stakeholder engagement in planning and design (73%)
7. Whole life costing (36%)
8. Constructability (36%)
9. Energy Efficiency (36%)
10. Recycling of Building Materials (36%)

9 REGARD competencies are P (key and partially covered)

1. Sociology of housing (100%P)
2. Types of housing and their specific planning and design considerations (100%P)
3. Location decisions (100%P)
4. Access to basic needs and services (100%P)
5. Repair / renovation / refurbishment of existing (damaged) housing (100%P)
6. Resource efficiency (including materials, labour, equipment, etc.) (100%P)

7. Cultural sensitivity in housing design (100%P)
8. Designing for vulnerable and special needs groups (100%P)
9. Flexibility in use (100%P)

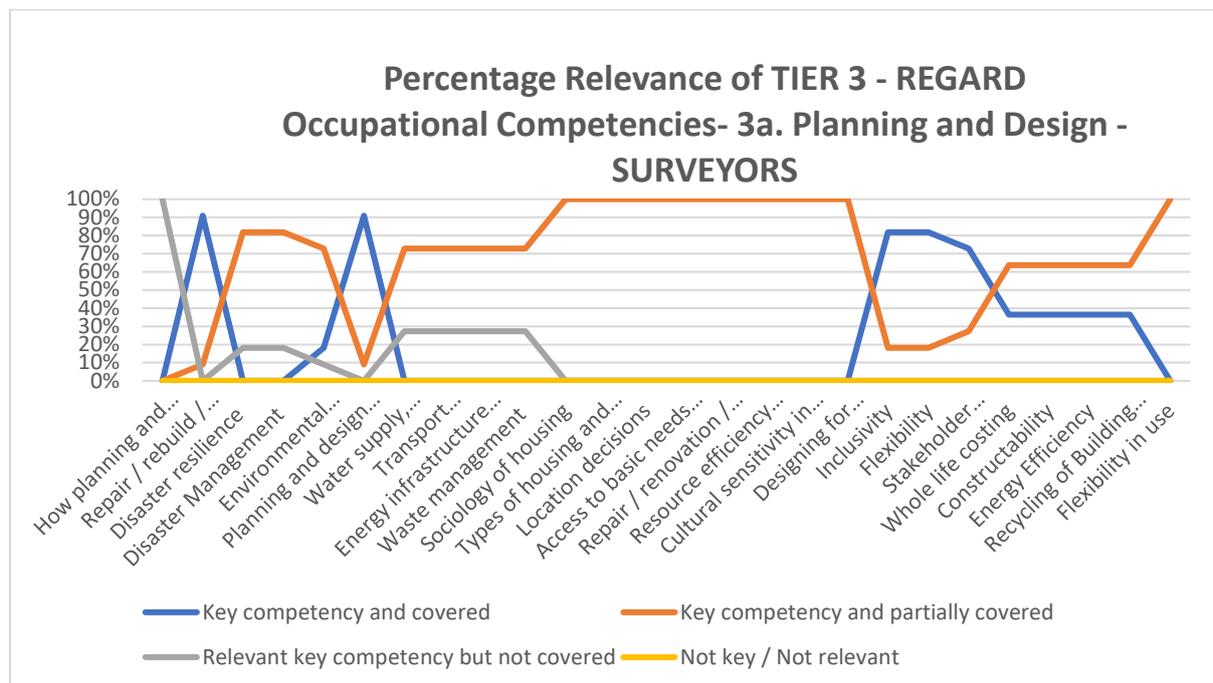
6 REGARD competencies are P (key and partially covered) or NC (key but not covered)

1. Disaster resilience (82%P 18%NC)
2. Disaster Management (82%P 18%NC)
3. Water supply, sanitation, and hygiene (WASH) (73%P 27%NC)
4. Transport infrastructure and services (73%P 27%NC)
5. Energy infrastructure and services (73%P 27%NC)
6. Waste management (73%P 27%NC)

1 REGARD competency is NC (key but not covered)

1. How planning and design can alleviate mass displacement challenges (100%NC)

No REGARD competency has 'NR' (not key and not relevant) for every professional competency.



Tier 3b (17 competencies)

5 REGARD competencies are K (key and covered)

1. Approaches to housing construction (27%)
2. Types of housing (27%)
3. Construction and maintenance considerations in the repair / renovation / refurbishment of existing housing (27%)
4. Managing services to and maintenance of housing in use (27%)
5. Consideration of vulnerable and special needs groups in housing construction and maintenance (27%)

1 REGARD competency is P (key and partially covered)

1. Stakeholder engagement in construction and maintenance (100%P)

11 REGARD competencies are NC (key but not covered)

1. Cost Implications (100%NC)
2. Time Implications (100%NC)
3. Quality Implications (100%NC)
4. Construction materials and resources (100%NC)
5. Financing of construction and maintenance (100%NC)
6. Procurement, contracts and project delivery (100%NC)
7. Cost estimating, cost control and contract management (100%NC)
8. Project management considerations for mass displacement construction and maintenance contexts (100%NC)
9. Employment and livelihood opportunities in construction and maintenance (100%NC)
10. Infrastructure provision and management in mass displacement contexts (100%NC)
11. Construction and maintenance of public buildings and spaces in mass displacement contexts (100%NC)

No REGARD competency has 'NR' (not key and not relevant) for every professional competency.

Percentage Relevance of TIER 3-REGARD Occupational Competencies - 3b. Construction and Facilities Management - SURVEYORS

