

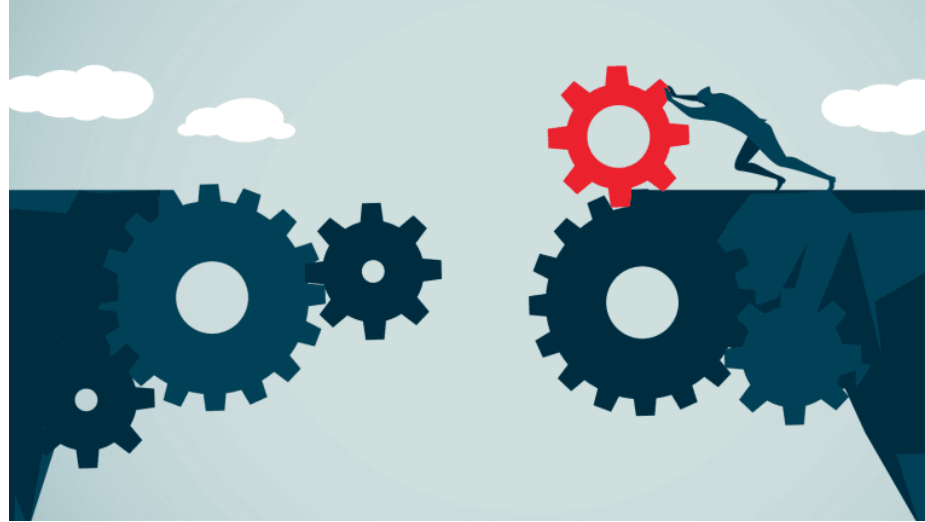
BEACON (Built Environment leArning for Climate adaptation)

Skill Gaps in Climate Change Adaptation in the Built Environment in Coastal Regions

Ruben Paul Borg, Glorianne Borg Axisa, Ryan Cilia

BEACON SYMPOSIUM – CANTABRIA | 19-21st June 2023

Methodology



- Debate – Skill gaps addressing professionals, technical staff, site workers.....?
- From a quantitative approach to a qualitative approach:
From survey to interviews or a combination of both

Guiding Questions



1. What is your engagement in climate change adaptation?
 - a. Current and/or previous experience
 - b. Area of specialisation
 - c. Entry point to the field of climate change
2. Experience in climate change adaptation in relation to the built environment context?
3. Do you feel that **your specialisation / expertise** supports your activities in climate change adaptation?
4. Do you feel that **your team's specialisation / expertise** supports your activities in climate change adaptation?
5. Do you feel that **your training** prepared you enough for your role in dealing with climate change adaptation?
6. Do you feel that **your team** has adequate training, in preparation of their role in dealing with climate change adaptation?
7. What Continuing Professional Development (CPD) courses would you suggest providing you and the team with adequate training?
8. Has the organisation experienced difficulties in finding qualified applicants and how did you respond to this shortage?
9. What may be the causes of shortages for these vacancies?
10. At which level does your organization find the skills shortage to be the most critical (senior / middle management / junior / intern)?

- skill gaps that may hinder work related to climate change adaptation?
12. How are these skill gaps addressed within your organisation? (Ongoing training, periodical reviews, coaching/mentoring/shadowing, etc.)
13. How have climate change adaptation strategies effected the preparedness of professionals?
14. Is there a regulatory framework for **your** profession?
15. Is there licensing of **your** profession?
16. What training is currently available from an accredited body?
17. How many institutions offer this training?
18. Is Continuing Professional Development (CPD) a requirement for your profession within the regulatory framework?
19. Is Continuing Professional Development (CPD) linked to climate change offered at your organisation?
20. Have recent climate related events affected the local market for professional services?
21. Are building codes reflective of climate change adaptation measures proposed?
22. What are the five most important challenges towards climate change adaptation in your country today with respect to:
 - a) Built environment
 - b) Professionals
 - c) The training of built environment professionals

University of
HUDDERSFIELD
Inspiring global professionals

University of Huddersfield,
UK



LUND
UNIVERSITY

Lund University,
Sweden



IH cantabria
INSTITUTO DE BIOLOGIA AMBIENTAL
UNIVERSIDAD DE CANTABRIA

IHCantabria – Universidad de
Cantabria, Spain



**L-Università
ta' Malta**

Universita Ta Malta,
Malta



University of
Colombo,
Sri Lanka



University of
Moratuwa,
Sri Lanka

UK



- Many built environment stakeholders lack awareness of how their professional roles are affected by climate change and often perceive it as linked only to sustainability.
- The need to incorporate the concept of living with climate change into all work plans and visions.
- The lack of clear ground-level plans for climate change adaptation in all disciplines, and that stakeholders need to be educated on the skills needed to handle it.

Skill shortages include:

- basic climate science knowledge,
- ability to link climate change impacts with professional roles,
- measuring long-term benefits of adaptation,
- resource allocation,
- communication skills,
- knowledge of green energy and decarbonization, and
- aligning with net zero strategy.

Sweden



- Experts have the necessary skills and knowledge for climate change adaptation, but lack coordination, collaboration and urgency in dealing with the issue.
- There is a general lack of understanding of how climate change can affect every citizen, especially at the political leadership level in municipalities.
- Climate adaptation needs to be dealt with on every level of government, by any segment of society, be it private or public.
- Legal issues, especially about financing climate adaptation and responsibility, need to be sorted out.
- Attracting qualified personnel is difficult in smaller municipalities or those far from major cities.
- Consultants, research institutes, and 'VA-collaboration' have no issues finding qualified personnel, but mainly deal with water management.

Sweden



- More resources and higher political priority are needed to avoid labour shortages.
- It is important to integrate climate adaptation into existing processes at all levels of government and society.
- Experience sharing seminars are becoming more common, organized by various actors.
- General knowledge about climate change adaptation needs to increase, especially among politicians and the general public, and cost-saving measures can be used as incentives.
- Coordination and collaboration structures need to be in place for efficient use of expertise.
- Legal issues, especially around financing and responsibility, need to be sorted out.

Sweden



Actions to avoid labour shortages:

- There are no specific actions currently being taken to address labour shortages in climate change adaptation.
- Funding and political leadership are key factors in determining whether qualified individuals can be hired to work on these issues.
- Consultants, research institutes, and VA-collaboration have an easier time attracting qualified personnel, but they primarily deal with water management and may lack expertise in other areas.

Incentives in training for climate change adaptation:

- Educating politicians on the economic benefits of climate adaptation is one approach to increasing general knowledge about these issues.
- Framing climate adaptation as a cost-saving measure may be the most effective incentive for training and education.

Sweden



Skill shortages:

- Coordination and collaboration structures are lacking in some organizations, leading to inefficient use of expertise.
- Climate adaptation specialists should ideally be present in every municipality, but this is not currently the case.
- Skill shortages may be more pressing in areas further north of Sweden, where climate impacts are less understood.
- Many organizations may not be aware of what skills they are lacking, highlighting the need for increased awareness and coordination efforts.

Sri Lanka



- Sri Lanka lacks experts with expertise in climate change adaptation and foreign exposure, and more training opportunities should be provided, such as PhD opportunities.
- There is a lack of regular training sessions on climate adaptation for academics in Sri Lanka, and most CPD courses do not focus on this topic.
- Respondents emphasize the need for a CPD program and a Master of Science degree program in climate change adaptation to provide proper training.
- Engineering and architecture academics have appropriate knowledge and experience but lack resources (tools and instruments).
- Building codes and climate change adaptation measures are poorly implemented.

Sri Lanka



- Skill gaps include deficiencies in climate change modelling and its localization, technological skills, knowledge of climate law and justice, analytical skills, and knowledge and skills on computer modelling.
- In Sri Lanka, the construction industry faces a shortage of skilled labour, which is impeding progress and global competitiveness.
- Factors contributing to this include:
 - poor workforce structure,
 - lack of standardized policies,
 - high industry wastage, and
 - the perception that the industry is not glamorous.

Sri Lanka



- To improve climate resilience, there is a need to develop new skills related to:
 - sustainability,
 - green infrastructure, and
 - climate adaptation.
- There are several training programs, policies, and incentives in place in Sri Lanka to help farmers adapt to climate change, but more needs to be done to increase awareness and understanding among local government officials, farmers, and communities.
- Community-based adaptation projects have been implemented to minimize land degradation, develop community-led strategies, and ensure adaptation to drought and floods but have greatly been focused on agriculture/rural aspect of Sri Lanka and not the Built Environment.

Sri Lanka



- It is important to develop new skills related to sustainability, green infrastructure, climate adaptation, etc.
 - This will improve competitiveness and productivity of the construction industry and increase climate resilience.
- There is a scarcity of skilled labour
 - lack of proper workforce structure and policies,
 - high industry wastage,
 - tough working conditions, and,
 - lack of social recognition of the profession.

Sri Lanka



- More incentives for training and technical knowledge related to climate change adaptation are necessary and can be provided through
 - government officials,
 - NGOs, and
 - other stakeholders.
- Some reported community projects include rehabilitation of reservoirs, minimizing land degradation, and developing community-led strategies and infrastructure for adaptation to droughts and floods.

Spain



- Stakeholders identified several necessary skills for climate change adaptation in coastal areas, including
 - communication,
 - sustainable water management,
 - hazard assessments, and
 - obtaining funding.
- There is no current labour shortage, but there is a need to raise awareness and integrate climate change adaptation into university studies.

Spain



- Skill Shortages
 - Communication and dissemination,
 - Identification of climate change impacts on the built environment, and
 - sustainable water management
- These are challenging skill shortages that need improvement in capacity building and university study plans.
- Overall, professionals feel a shortage of awareness and background knowledge in climate change adaptation.

Spain



- Develop and implement new regulations and legislation to promote climate change adaptation.
- Promote innovation and research in the field of climate change adaptation, particularly with regards to new technologies and methodologies.
- Increase public awareness and engagement in climate change adaptation.
- Ensuring that climate change adaptation is integrated into regional and local planning processes.
- Improve collaboration and coordination between different stakeholders involved in climate change adaptation, including public authorities, private sector actors, and civil society organizations.

Malta



- The professionals feel that they have the necessary skills and knowledge to address climate change adaptation, but recognise the importance of on-going training.
- Most of the activity related to climate change adaptation is related to the planning and design stage to address decarbonisation.
- Generally, the professionals do not feel that their formal professional training helped them in dealing with their activity related to Climate Change adaptations. This was particularly felt among professionals of a certain age.
- The professionals acknowledge the importance of CPDs.

Malta



- The suggest CPDs include the following themes:
 - Innovative materials
 - Energy efficient products
 - Innovative technologies (and use of software)
 - Practical implementation and sharing of experiences/case studies
 - Decarbonisation
 - Retrofitting and design
- The majority of the CPDs offered to professionals are **not** related to climate change adaptation.

Malta



- Organisations experience difficulties in finding qualified applicants to address Climate Change adaptation particularly site skilled works, technical persons and specialized professionals.
- Professionals are concerned about the lack of site skilled workers
- Professionals would like more training on the implementation stage of a project. They suggest that training sessions should include sharing of experiences from the local context.
- Professionals express a need to learn more about retrofitting.
- Professionals feel that a comprehensive approach to sustainability is necessary, including specialized CPDs for professionals, workers, and the general public.

Malta



Addressing the skill gaps is not enough.

- Professionals feel helpless as they depend on other stakeholders to achieve sustainability goals.
- Stakeholders include the general public as the pool of clients who are less willing to endure the initial capital expenditure to embark in climate change adaptation measures.
- Professionals insist that the general public should be educated more on the impacts of climate change.
- An effective enforcement system is required to drive cultural shifts and acknowledge sustainability efforts.



United Kingdom

- Climate Science Knowledge
- Linking CC impacts to professional roles
- Measure long-term benefits
- Resource allocation
- Communication skills
- Knowledge on green energy and decarbonisation
- Aligning to net-zero strategy

Spain

- Communication skills
- Sustainable water management
- Hazard assessment
- Obtaining funding

**Communication
Collaboration
Awareness/Knowledge
Effective use of resources
Tech skills
Skilled workers**

Sri Lanka

- CC modelling and localisation of impacts
- Technological skills
- Knowledge of environmental law
- Analytical skills
- Skilled labourers

Malta

- Appropriate Training
- Awareness to all professions
- Lacking proper retrofitting skills
- Lack of communication and knowledge sharing
- Effective enforcement

Sweden

- Coordination and collaboration skills
- Lack of CC specialists in each municipality
- Lack of awareness across the board



THANK YOU