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Competency Framework: Knowledge and Skills Register

FD2681

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Research and Development Programme

Surveying for Flood Resilience in Individual Properties

Competency Framework: Knowledge and Skills Register

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Introduction

This document sets out the register of knowledge areas and skills that an independent Flood Risk Assessment Service needs to display. The summaries presented in Section 3 form a competency framework for the key subject areas that will form the training or route map towards an accredited iFRAS. These elements form the Knowledge and Skills Register.

Background

A series of consultation and research exercises have been held to list the activities that an Independent Flood Risk Assessment Service (iFRAS) would need to provide in order to deliver an effective and efficient service to property owners. The evidence base is presented in the Joint FCERM R&D Programme, Report FD2681 - Surveying for Flood Resilience in Individual Properties.

These exercises have enabled the consortium project team to describe the activities using the headings of knowledge and skills for the 12 subject areas that are used in local flood prevention and property-level protection discussions.

The brief of considering how an individual might deliver an iFRAS has been followed but other opportunities of delivering the iFRAS are considered, notably through groups or teams within a single company. This balanced approach was adopted to meet the specification of the project brief (i.e. to describe a development pathway that could be used to produce 'a corpus of competent professionals') whilst ensuring that greatest value from this project would be achieved if any opportunities and options, not originally specified in the brief, were identified and considered.

The key feature to note is the breadth of the subject areas presented. Although this list might appear to be long, it is based upon direct practical experience of scheme delivery. It is important to remember that not all the elements of knowledge and skills will always be used in every piece of work. Indeed, it is likely that in most cases, some elements of knowledge and skill will not be drawn on. However it is critical that all these elements of knowledge and skill are available to the iFRA if required, either from the one person or more likely from a group of providers.

Recommendation 1:

We recommend that all the elements of the Knowledge and Skills are used to define the responsibility of the iFRA or the iFRAS

Using the Knowledge and Skills Register

The application of knowledge and skills might be applied in two scenarios. Firstly, when a single person possesses all the required elements in every subject area and they have no need to call upon anyone else and can deliver the complete iFRA role themselves. Secondly, an iFRA might have to seek the expertise and ask a colleague (if they are working in the same organisation) or an associate (if they are working in a freelance capacity) to assist them in an area of knowledge or skill required. In these instances an iFRA will draw on them to fill any gaps in their knowledge or skill.

What is not in any doubt is that these elements of knowledge must be available so that confidence in the service is readily gained by the property owner. If the client (property owner or scheme promoter) senses any gap in the knowledge or skills of an iFRA, doubt will prevail leading to a reduced likelihood of PLP being taken up

The list of knowledge and skill requirements is long and we do not expect many individuals to be proficient in all of the elements. The critical demand on people working as an iFRA is the ability to know in what circumstances to call upon additional help if they do not possess either the knowledge or skills themselves in a situation where they believe that they need additional expertise.

However comprehensive the list of knowledge and skills is, it will only be effective if the need to seek help in any areas of weakness is identified and acted upon. An iFRA must have a mind and an approach to their work where they are prepared to seek evidence that may not immediately be apparent. For example, a flood map might show a source of flooding comes from an easily identifiable source. An iFRA's must also be able to investigate other potential sources of flooding beyond the obvious sources.

Recommendation 2:

A set of behavioural skills should be included in the development and accreditation process. The behavioural skills should describe the manner in which an iFRA must carry out their responsibilities. For example, the commitment to investigate all potential sources of flooding, not just the ones that easily fit the convenience of time, money, resources and previous experience.

Knowledge and Skills Register

Area 1: Catchment & Community Flood Risk Assessment (CCFRA)

Knowledge

- Knows and understands the roles and responsibilities of Flood Risk Management Authorities (FRMA) as set out in the Flood and Water Management Act (2010) and other relevant legislation e.g. EC Floods Directive
- Knows and understands the purpose, objectives and content of relevant local catchment investigations and other flood management plan(s)
- Identifies who is responsible for the development, maintenance and monitoring of the strategy for local flood risk
- Knows which authorities are responsible for each element of managing flood risk including sewage (water companies)
- Understands the concept and principles behind flood risk and the need to take a holistic catchment view in order to recognise and identify the appropriate intervention to manage flood risk from all sources
- Understands the local flood risk management funding arrangements and investment programmes
- Understands when PLP is and isn't the recommended option for the catchment, property and person
- Understands when their knowledge and/or expertise needs to be supplemented and has ready access to specialist knowledge.

Skills

- Clearly explains to clients (property owners) the roles and responsibilities defined in the FWMA, its relevance to PLP and clearly explains why PLP is being recommended
- Gains trust, understanding and engagement with the property owner(s)
- Identifies the FRMAs responsible in each location under consideration for PLP
- Generates and maintains a collaborative, partnership approach to work that embraces all sources of flood risk, the different ways of managing that risk and how those ways of managing risk might interact with PLP?
- Obtains data, reports and evidence relating to flood risk from all relevant sources
- Enables clients to understand the concept and importance of considering catchment flood risk from all sources and acceptance of individual responsibilities to manage their risk

Area 2: Data Management

Knowledge

- Understands the importance of flood history and of establishing who holds the relevant data and records of the flood history
- Knows the wide range and sources of data that are needed to consider community or individual PLP responses to flood risk
- Knows the range of data available for the purposes of flood risk assessment and how it can be obtained under the necessary licensing arrangements
- Knows responsibilities regarding data confidentiality and can comply with the provisions of the Data Protection Act
- Knows and understands the different sources of data, the importance of testing it's robustness, reliability and any caveats that are in force if using the data.

Skills

- Seeks, identifies and captures the knowledge of the property owner and community
 - Has the skills to gather, use, manipulate, analyse and present data e.g. GIS
 - Has the ability to request, analyse and interpret correct data to ascertain its suitability and robustness
 - Possesses the ability to communicate data clearly and use it appropriately
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Area 3: Flood Risk Management

Knowledge

- Knows and understands the purpose and key objectives of the legislation contained in the Flood and Water Management Act (2010) and other legislation.
- Knows and understands the requirements of existing flood warning and emergency plans e.g. County Plans
- Understands local flood risk management plans, procedures and responsibilities and their relevance to PLP
- Knows what options might exist for the funding of PLP
- Knows and understands the principles behind the hierarchy of flood risk management, the importance of taking a holistic view and knowing where and when each option is appropriate
- Understands the reasons for the need of a range of interventions for different situations and their relative effectiveness and cost.

Skills

- Describes the importance and relevance of the hierarchy of options and the reason why PLP has been recommended
- Explains the role and importance of emergency plans and flood warning

- Communicates clearly to raise awareness of local flood risk management options.
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Area 4: Hydrology and Hydrogeology

Knowledge

- Possesses a comprehensive understanding of all sources of flooding
- Understands the concept of sources, pathways and consequences for receptors in terms of possible impact to the community and individual
- Knows how to explain the importance of the speed, timing, rate of rise, flood depth and other hazard factors that affect the preparation and type of PLP to be deployed or whether PLP should be deployed
- Knows how a property should be described in the context of local water sources, the local environment and how the property fits in with the wider catchment area.

Skills

- Identifies all sources of flood risk relevant to the location and understands the impact and consequence of local flooding on the property
 - Identifies the interactions between all sources of flooding
 - Communicates the implications of risks drawn from a review of the catchment response and consequence.
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Area 5: Engaging and communicating with property owners and the community

Knowledge

- Knows the tools, techniques and the most effective methods of engaging and communicating with individuals and the community
- Knows how to assess and describe the local community in terms of economic, social, ethnicity etc. Understands individuals and communities in terms of their vulnerability, their needs, options, opinions and risks
- Knows how to identify the extent of knowledge held by the local community, groups (flood risk groups, parish councils etc.) and property owners.

Skills

- Communicates complex issues in simple terms when needed to raise levels of awareness, responsibility and willingness to take effective action
- Demonstrates empathy through listening and support
- Establishes the level of knowledge held by individuals and groups and does so without preconception

- Listens to different types of evidence and can understand the difference between information, knowledge, and opinion, and deal with each appropriately
 - Explains complex information clearly, including information about flood risk, building constraints and the range and suitability of options available
 - Takes account of the influence of vulnerability, community issues and personal preference in order to design an appropriate scheme.
 - Able to effectively manage expectations on PLP's performance in a flood situation.
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Area 6: Client liaison scheme organisers and flood action groups.

Knowledge

- Knows and can explain the objectives and eligibility criteria for communities considering forming flood groups and other community-based groups
- Knows the criteria and options for the procurement of PLP surveys and flood products

Skills

- Develops relationships with clients by demonstrating that the clients' needs are understood
 - Uses project management skills
 - Uses effective communication when dealing with all stakeholders
 - Uses programme management skills
 - Demonstrates listening and empathising skills
 - Able to effectively manage expectations on PLP's performance in a flood situation.
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Area 7: Insurance

Knowledge

- Knows, understands and keeps up to date with the changing resources available for flood resilience work.
- Knows, understands and keeps up to date with national and local flood risk insurance issues
- Knows the different sources of help that can be suggested to property owners
- Knowledge of how PLP may impact accessibility and affordability of insurance and what is acceptable to insurers

Skills

- Communicating local and national insurance issues clearly in a way that is relevant to property owner
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Area 8: Emergency Planning

Knowledge

- Knows how roles, relationships and responsibilities between personal and community plans might be formed
- Understands how emergency planning procedures might affect (facilitate and inhibit) PLP
- Awareness of operational parameters of PLP and how PLP may introduce vulnerability including potential Health and Safety risks to emergency planning frameworks

Skills

- Helps stakeholders to contribute to the development of emergency planning programmes
 - Identifies emergency planning lead personnel and stakeholders and develops relationships with them for the benefit of a community or individual approach to PLP
 - Identifies issues of vulnerability, discusses the risk with partners and proactively works to promote effective action.
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Area 8: Flood Warning

Knowledge

- Knows, understands and can explain the features and importance of flood warning to groups and individuals.
- Knows and understands where there are potential gaps and constraints in the provision of flood warning e.g. nothing for smaller watercourses
- Knows the options that should be considered if flood warning provision is inadequate for local needs
- Knows and understands the extent, limitations and coverage of existing of flood warning procedures and how these might influence PLP product recommendation.

Skills

- Identifies relevant flood warnings and explains how they could be included in the local flood plan
- Assesses the significance and relevance of gaps and weaknesses in flood warning to client and knows how to introduce suitable responses
- Promotes and supports local flood warning arrangements and the community/individuals participation in plans
- Knows how to create positive action regarding flood warnings despite constraints e.g. financial resources & commitment.

Area 9: PLP products and services

Knowledge

- Knows the range of PLP products that are available and able to offer impartial and independent advice on the suitability of their use
- Knows, understands and can explain Kitemarking; can distinguish between suitable and unsuitable conditions for their deployment
- Knows, understands and can explain standards that apply to the installation of PLP products
- Understands and can apply principles behind vulnerable points and threshold surveys
- Knowledge of recent developments and is aware of forthcoming innovations in PLP
- Knowledge of the limitations and vulnerabilities of PLP
- Keeps up-to-date with the latest innovations, standards and testing.

Skills

- Has skills and judgement to recognise good and bad installation
- Is able to investigate, communicate and agree actions with independence, integrity and impartiality
- Recognises the factors that need to be considered when giving advice to client regarding procurement options
- Manages expectations in respect of the understanding of the terms resilience, resistance and dealing with residual risk
- Prices a range of solutions and presents the financial options clearly

Area 10: Report writing

Knowledge

- Knows and understands the importance of ensuring that the contents within the Defra template is fully addressed
- Understands and clearly communicates regarding what PLP can and can't do and what each property owner is required to do
- Understands how different audiences might use the report; understands the importance of clarity in order that there is no ambiguity.

Skills

- Able to write clearly and concisely using plain English
- Able to use graphics where a visual representation is easier for the client(s) to understand information
- Able to draft report for multiple audiences (client, insurer, and PLP installers)

- Able to refer to additional sources of information that could provide greater clarity, detail or additional information e.g. short dialling codes.
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Area 11: Building Construction

Knowledge

- Knows property types and their associated vulnerabilities and suitability for PLP
- Knows about flood depths and durations including the associated relationships with Kitemarking limitations e.g. 0.9m limits; safe working 0.6m.
- Knows about different levels of property condition, their associated relationship to flooding and their performance in flood conditions
- Knowledge and understanding of how flood water affects building types and application of this to a specific property
- Knowledge of potential points of water ingress and application of this to a particular property
- Knowledge of what issues to consider for each building type when dealing with resistance and resilience measures
- Knows building regulations and when they may apply within the assessment, particularly when dealing with listed structures.

Skills

- Able to know how to decide whether PLP is appropriate and the ability to explain why resistance techniques may not be appropriate
- Able to describe the hazard and potential impact and consequences for buildings caused by excessive depths, velocities and durations of floodwater in contact with the property and the PLP measures
- Able to illustrate survey findings with useful and informative photographs, graphics and descriptions
- Awareness of the need to seek out and consider all details of the property, e.g. materials, condition, type of building, application of building regulations, and heritage designations.
- Adheres to existing health and safety guidelines regarding the construction industry generally.