

## QUESTIONNAIRE ON DAMAGE MODELLING – FIELD SURVEY RESEARCH INFORMATION

Please leave the question in blank if you don't know the answer and enter 0 just when the answer is 0.

1. Interview start time

2. Type of interview?
- Field (preferred)
  - Phone

3. Water depth, time and date in the different building levels:

	Outside the building (front door)	Outside the building (most flooded point)	Basement	Ground floor	First floor
Maximum water depth reached [m]					
Date and time of <b>water arrival</b>					
Date and time of <b>maximum water depth</b>					
Date and time of <b>water leaving the building</b>					

4. Are you a **tenant** or **owner** of the accommodation?  
*[Note: Co-owners are considered owners (example: co-ownership of a married couple, homeowners, associations, etc.)]*
- I am a tenant
  - I own the housing unit (e.g., a flat in an apartment block)
  - I own the whole building

5. To what do you attribute **the flooding of your home**?

*[Note: multiple answers possible!]*

- Runoff (for example, rainwater flowing down uncontrolled on the road or on neighbouring land)
- Overflow of a watercourse (for example, a stream or a river having overflowed its bed)
- Saturation of the sewage system, which could no longer take water from the roads
- Water has directly entered the rooms below street level (e.g., backflow through drains, toilets, showers or sewage system)
- Lack of drainage on the property (overflowing depressions in the garden, overflowing manholes, failing drainage of the gutters)
- Failure of a dike or dam / failure of a flood retention basin
- Groundwater flood (rise of groundwater)
- I don't know
- Other cause of flooding → Q n°6

6. Other cause of flooding:

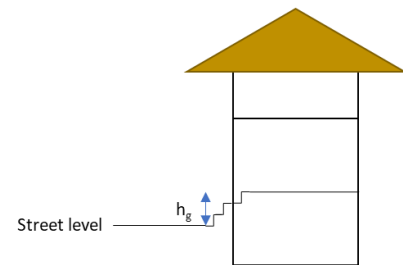
7. What do you think: Could an **average person have been able to stand effortlessly in the flooded street** in the immediate vicinity of your house, would (s)he has had to **make efforts to stay upright** or would (s)he have been **swept away**?

*[Note: At the most dangerous moment, i.e., the moment of the highest flow velocity]*

- Could have easily stood
- Should have made efforts to stay upright
- Would have been swept away by the current
- The water was too deep to stand
- I don't know

8. How high do you have to **climb to reach the ground floor from the street level** (sidewalk)? **[to be measured (ex: 0.30 m)]**

*[Note: This corresponds to steps, located both outside and inside, which you must climb from street level to reach the ground floor; it's not about the steps you have to climb from the basement to reach the ground floor. Indicate the value in meters].*




9. At **what level(s)**, including the basement, was the residential **building damaged**?

*[Note: Please mark ALL relevant levels!]*

- Basement
- Ground floor
- 1st floor
- 2nd floor
- 3rd floor
- 4th floor
- Attic
- No damage in any level
- I don't know

10. Are the following levels finished in the building?

*[Note: Before the floods. Finished means with plaster, painting or any additional covering material in the walls and floor]*

	Yes (even if partially finished)	No (e.g., garage, storage area ...)
Basement		
Ground floor		 (sample photograph)

11. Which of the **following materials** were **transported** or **deposited by water** in the building or in direct contact with it?

*[Note: Please read and mark as appropriate!]*

- Mud
- Sand/stone
- Vegetation (wooden logs, branches, roots)
- Garbage
- Rubble (material from demolished buildings or structures upstream)
- Large objects (e.g., tanks, cars, containers, interlocked objects)
- None
- I don't know

12. From the previous materials transported by water, could you estimate their **maximum size**?

*[Note: Please enter the estimated length [m]]*

13. How **strong** was the **water flow** in the immediate vicinity of your house? Please give me a number between 1 for “calm flow”; and 6 for “torrential”. You can use the intermediate values to score your answer.

*[Note: only one answer possible!]*

- 1 - Calm flow
- 2
- 3
- 4
- 5
- 6 - Torrential flow

14. Has your home been **contaminated by any of the following substances**?

*[Note: read and mark as appropriate. Several possible responses!]*

- Chemicals, paints, varnishes, pesticides, small amounts of motor oil
- Sewage or faeces
- Hydrocarbons (fuel, fuel oil, etc.)
- No, no pollution due to these substances
- I don't know

15. What is the **surface** of your **ground floor**?

*[Note: Enter the area in square meters. If necessary, ask for a rough estimate.]*

16. Which of the **following items** did you need to **replace**?

*[Note: Please read aloud, multiple answers are possible].*

- |  |   |
|--|---|
| <input type="checkbox"/> Washing machine; dryer              | <input type="checkbox"/> Furniture for bedroom(s), guest room |
| <input type="checkbox"/> Refrigerator; Freezer               | <input type="checkbox"/> Leisure accessories                  |
| <input type="checkbox"/> Boiler                              | <input type="checkbox"/> Tools                                |
| <input type="checkbox"/> Pellet stove                        | <input type="checkbox"/> Other electrical appliances          |
| <input type="checkbox"/> Stove / Oven                        | <input type="checkbox"/> Bathroom furniture                   |
| <input type="checkbox"/> Dishwasher                          | <input type="checkbox"/> Personal objects such as clothing,   |
| <input type="checkbox"/> Television, stereo                  | <input type="checkbox"/> Antiques and art works               |
| <input type="checkbox"/> Computer / Laptop                   | <input type="checkbox"/> Other voluminous and/or expensive    |
| <input type="checkbox"/> Equipped kitchen                    | items   |
| <input type="checkbox"/> Telephone system                    | <input type="checkbox"/> No, no valuable object               |
| <input type="checkbox"/> Living room furniture               | <input type="checkbox"/> I don't know                         |
| <input type="checkbox"/> Furniture for children's bedroom(s) |   |

17. Which other voluminous and expensive items?

18. Have you had a car or motorcycle impacted by the flood? If yes, how many?

- Car : \_\_\_\_\_
- Motorcycle : \_\_\_\_\_

19. How much do you estimate the **total cost** of **replacing** your **damaged household contents**?

*[Note: Make sure the amount is in EURO! Important: This is the total amount for all damaged items!]*

20. What is this **value based on**?

- Receipts and invoices
- Expert advice for damage compensation, for example through insurance or financial assistance
- Own estimate
- Other document(s) used → Q n°21

21. Other document(s) used:

22. Have you completely replaced the damaged household items or do they still show obvious defects and gaps as a result of the flood?

*Please give me a number between 1 for “I have completely replaced all affected household items since then” and 6 for “Household items still have significant gaps and defects”. You can use the intermediate values to score your answer.*

- 1 - Fully functional
- 2
- 3
- 4
- 5
- 6 - Household items still have significant defects or shortcomings
- I don't know

23. How many months after the event did it take you to fully recover (repair or replace) your personal household effects?

24. Which **description** matches best the building?

- Detached house (four facades)
- Semi-detached house (three facades)
- Attached (two facades)
- Appartement block
- Other → Q n°25

25. Other description of your house:

26. How many **levels** does the building have **in total**, including basement, ground floor, and attic?

*[Note: Include the attic, even if it is not finished!]*

27. What is the **construction method** of the different building levels?

*[Note: Multiple answers possible (for mixed construction methods). We must answer to this question only when we have a piece of evidence, or we fully trust the knowledge of the person. Otherwise, we must tick "I don't know"]*

	Basement	Ground floor	Upper floors
Reinforced concrete			
Timber frame			
Concrete masonry			
Clay masonry			
Prefabricated			
Natural stone			
Cavity walls			
Half-timbered building (FR: Colombage, DE: Fachwerkhaus, NL: Vakwerkhuis)			
I don't know			
Other method → Q n°28			

28. Other construction method(s):

	Basement	Ground floor	Upper floors
Other method			

29. How were the **flooded basement rooms used** BEFORE the July 2021 flood?

*[Note: Do not read aloud! Mark as appropriate, multiple answers are possible]*

- Basement apartment
- Storage room
- Boiler room, technical installations
- Place for the domestic fuel tank
- Sauna
- Work room, recreation room
- Laundry
- Drying room
- Living room (example: bedroom, children's room, guest room)
- Office
- Commercial shop
- Bicycle cellar
- Fitness room
- Kitchen
- Party room
- Storage room (wine cellar, food, etc.)
- Underground parking, garage
- Crawl space (used only for building maintenance)
- No use
- Other use(s) → Q n°0

30. Other use(s):

31. Can you tell me approximately when the building was built?

- Before 1875
- 1875-1918
- 1919-1945
- 1946-1970
- 1971-1990
- 1991-2000
- 2001-2010
- After 2011

32. Has the building undergone a major renovation? If so, when was the last time?

*[Note: Write down the year, only "major renovations" as the replacement of the soil, walls or isolation are meant.]*

33. What is the **heating system** of the accommodation?

[Note: multiple answers are possible.]

- Coal heating
- Gas heating
- Oil heating
- Electric heating or night storage
- District heating
- Pellet or wood chip heating, wood heating
- Air-source heat pump
- Ground source heat pump
- Other heating system(s) → Q n°34

34. Other heating system(s):

35. At what level was the heating system at the time of the disaster?

- |                                       |   |
|---------------------------------------|---|
| <input type="checkbox"/> Basement     | <input type="checkbox"/> Attic                                    |
| <input type="checkbox"/> Ground floor | <input type="checkbox"/> Each level, each apartment               |
| <input type="checkbox"/> 1st floor    | <input type="checkbox"/> Dependency outside the home (annex)      |
| <input type="checkbox"/> 2nd floor    | <input type="checkbox"/> Other place where the heating system was |
| <input type="checkbox"/> 3rd floor    | <input type="checkbox"/> I don't know                             |
| <input type="checkbox"/> 4th floor    |   |
| <input type="checkbox"/> 5th floor    |   |

36. Other place where the heating system was?

37. How much do you estimate the **total cost** of repairing the **heating system**?

[Note: Make sure the amount is in EURO!]

38. How much do you estimate the **total cost** of repairing the **electrical system**?

[Note: Make sure the amount is in EURO!]

39. How much do you estimate the **total cost** of repairing the **plumbing and sanitation system**?

[Note: Make sure the amount is in EURO!]



40. How much do you estimate the **total cost** of the **damaged systems**?

[Note: Make sure that the amount is indicated in EURO!]

41. What is included in the **total cost** of the **damaged systems**?

- Heating system
- Electrical system
- Plumbing and sanitation system
- 

42. Please describe the **building damage** in more detail using the following list.

[Note: Please read the text! Many possible responses!]

- Moisture infiltration only
- Wooden structure: expansion / contraction
- Slight cracks, damage to the exterior coating of the building (masonry, plaster)  
[structural and non-structural damage]
- Damage to interior linings
- Damage to the pavement (Floor covering material)
- Damage to doors
- Damage to windows
- Significant cracks or settlements, or deformations of walls and ceilings
- Collapse of construction elements (walls, ceilings)
- Building collapse
- Demolition required
- I don't know

43. What is the approximate **damage cost** related to the **replacement of the interior lining** (plaster, tiles on the wall, etc.)?

[Note: Make sure the amount is in EURO!]

44. What is the **approximate cost** of **damage to windows**?

[Note: Make sure the amount is in EURO!]

45. What is the **approximate cost** of **damage to doors**?

[Note: Make sure the amount is in EURO!]

46. If you cannot estimate the individual costs of damage to windows and doors, could you estimate the **total cost** of damage of **windows and doors**?

*[Note: Make sure the amount is in EURO!]*

47. To what do you primarily **attribute the damage to the building**?

*[Note: please read the text! Several possible responses!]*

- Water level
- Flow velocity
- Mud and sediment deposits
- Impacts of floating objects (tree trunks, debris, washed away vehicles, etc.)
- Water pressure
- Flood duration
- I don't know

48. If you **add up the costs** (material and labor) of **all necessary reparation work** on and in the **building**, what was the **total amount of damage to the building**?

*[Note: give the estimate that seems most likely to you in EURO. If asked: this also includes rental costs for equipment such as dehumidifiers, space heaters, etc. Important: The total amount of ALL damage is meant!]*

49. What is this **value based on**?

- Invoices for work carried out
- Trades quotes
- Expert estimate, for example from the insurance company
- Personal estimation
- Other source(s) → Q°50

50. Other source(s):

51. For waste disposal, how many **hours of cleaning** did you report to insurance?

*[Note: Unit = Hour]*

52. What **compensation** did you receive **from the insurance** company for the **cleaning hours**?

[Note : in euro]

53. How much did it cost you to buy or rent **equipment related to the dehumidification** of your house after the floods (dehumidifier, heat gun...)?

[Note: in euro]

54. If your home was contaminated by hydrocarbons, how much did it cost you to **decontaminate it**?

[Note: in euro]

55. Can you indicate the **total amount** of the costs related to the **cleaning of the building** (waste disposal, dehumidification, decontamination)?

[Note: in euros.]

56. What is included in the **total cost** of the **cleaning of the building**?

- Waste disposal
- Dehumidification
- Decontamination

57. What is the **amount of damage** approved by the **insurance company**?

[Note: Make sure the amount is stated in EURO! On request: only the insurance for damage to or in the house is concerned; the car insurance should not be taken into account! If zero euros were declared, write down zero].

58. Did you have to leave your apartment or house because of the damage?

- Yes
- No

59. How many days did you leave your accommodation?

60. If you compare the building **before the flood** and its **current condition**, can you give a number between 0 for “the building is completely restored and improved” and 6 for “the building still has significant damage”. You can use the intermediate values to score your answer.

- 0 - Completely restored and improved (e.g., more water resistant or better finished)
- 1 - Completely restored
- 2
- 3
- 4
- 5
- 6 - In the same state as immediately after the flood
- I don't know

61. How many months were needed after the event to completely restore your building?

62. What is the **total amount of financial compensation** you have already received? (for example, donations, financial aid, insurance, etc.).

*[Note: Make sure the amount is in EURO! Important: We are talking about the total amount for all damages.]*

63. Why did you not receive financial compensation?

*[Note: multiple answers possible!]*

- The damage is not covered by any (insurance) policy
- The administrative burden was excessive
- I do not know if I am entitled to compensation
- Did not consider compensation necessary
- Other reasons → Q n°64
- I don't know

64. Other reason(s) for not receiving financial compensation?

65. Which needs do you still have that have not yet been addressed?

66. What could have been done **better in terms of information/support** from government/own capabilities?

67. Did you receive a **warning** about the possibility of **flooding before or during the flood**? *[Note: Just one answer is possible]*

- No
- Yes, I received a warning before the flood occurred
- Yes, but there has never been a flood in my street
- Yes, but my street was already flooded by then

68. Which **source of information** gave you a **warning about a possible risk of flooding**? *[Note: Multiple answers are possible]*

- Severe weather warning (by weather service)
- Official multi-porpoise warning system (BE:BE-Alert , NL: NLAlert)
- Official flood warning system (BE: Infocruet)
- Warning from local authorities (fire brigade, police)
- Warning by neighbours, friends, relatives, acquaintances
- Reporting in news
- Social media
- Personal research on internet (ex: on rain radars)
- Personal observation (ex: remarkable cloud formations, storms, thunderstorm)
- Other source → Q n°69

69. Other warning source:

70. How many hours did you receive the **warning before the flood** reached your house?  
*[Note: Enter the time in **hours**. (Ex: 12h) A rough estimate is sufficient]*

71. Did you have time to implement precautionary measures after receiving the warning?

- Yes
- No time enough to apply precautionary measures

72. Regarding the precautionary measures that you implemented during the event, how many hours **after the warning** you **started applying emergency measures**?

[Note: Enter the time in **hours**. (Ex: 12h) A rough estimate is sufficient].

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73. Which of the following activities have you undertaken, or plan to undertake, to be better informed of what to do in case of a flood?

[Note: Activities that are planned in more than 6 months are considered "unplanned"!]

	In place (during the event)	After the event (<6 months after the event)	Not planned / Not possible
Consult the existing hazard maps			
Register to national/regional warning system(s)			
Search for information on individual house flood protection			
Get an insurance			

74. Which of the following **precautionary measures** did you implement **during the July 2021 floods**, after this event, or you do not currently intend to implement?

[Note: Measurements that are planned for more than 6 months are considered "unplanned"!]

Short term mitigation measures

	In place during the event	After the event (<6 months)	Not planned / not possible
Moving the heating and/or electrical system to higher levels			
Water protections, fixed or mobile, which prevent water from entering the building/accommodation (such as partitions for windows and doors, sandbags, flood gates)			
Adaptation of the use of levels exposed to the risk of flooding			
Moving the furniture to upper floors			
Pumps			
Preventive cut-off of power, gas, and water			
Evacuating the accommodation			
Moving the house (trailer house)			

Long term mitigation measures

	In place during the event	After the event (<6 months)	Not planned / not possible
Water-resistant or easily renewable construction and finishing materials			
Oil tank protection (prevent flotation)			
Improvement of the stability and/or the waterproof resistance of the building			
Non-return valves at the water outlets			

75. For what reason(s) did you choose **not to implement certain prevention measures** following the event?

*[Note: Multiple answers are possible]*

- Lack of financial means
- Work not covered by insurance
- Not interested
- Because such a flood should not happen again (extreme event)
- Because such a flood should not happen again (e.g., mismanagement of a dam, human error)
- Missing space
- Technically not possible
- Intention to move
- Intention to sell the building
- Overwhelmed by the event/ Don't know what to do / Lack of information

76. Before the July 2021 event, **how many times have you already been affected** by floods?

- Never before
- Once
- Twice
- Three times
- Four times
- More than four times

77. When was it (the last time)?

*[Note: Please enter the year of the last flood event you experienced in the same house]*

78. Interview end time

Comments: