

Leeds Insurance Group Climate Change Seminar 5th February 2020

Leeds City Council Flood Alleviation Programme

**David Parish
Principal Engineer Flood Risk Management**



Leeds CC FRM Programme 2019/20 to 2027/28

National Project Number	REFERENCE Project Name	PROJECT TOTALS		
		Estimated total Project Expenditure - PROJECT TOTAL	Total 2019/20 onwards	OM2 - PROJECT TOTAL
YOC354E/001A/001A	Leeds City Flood Alleviation Scheme	52,239,980	0	154
YOC354F/000A/038A	Leeds FAS Phase 2	94,426,000	86,374,000	77
YOC354F/000A/006A	Wyke Beck Improvements, Leeds	4,749,998	3,105,400	37
YOC500E/000A/071A	Otley Flood Alleviation Scheme	3,374,000	2,802,156	58
YOC500E/000A/097A	Micklefield Surface Water FAS	60,000	125,000	7
YOC500E/000A/115A	Mickletown FAS (Combined scheme)	1,180,000	1,126,500	5
YOC354F/000A/007A	Wortley Beck Improvements, Leeds	1,100,000	1,050,500	88
YOC354F/000A/008A	Farnley Wood Beck FAS, Cottingley, Leeds	444,000	417,800	15
YOC354F/000A/040A	Lin Dyke upstream catchment (Garforth)	1,438,974	1,865,900	53
YOC500E/000A/129A	Lin Dyke midstream catchment (Kippax)	668,000	570,000	114
YOC354F/000A/021A	Potternewton Surface Water Flood Alleviation Scheme, Leeds.	250,000	250,000	79
YOC354F/000A/019A	Guiseley Surface Water Flood Alleviation Scheme, Leeds	150,000	150,000	39
YOC354F/000A/002A	Thorner Beck Flood Alleviation Scheme, Thorner, Leeds	450,000	450,000	51
YOC501E/000A/357A	PLP Review	505,000	505,000	91
YOC501E/000A/148A	Meanwood Beck	3,410,000	3,410,000	110
YOC501E/000A/138A	Sheepscair Beck Refurbishment	2,600,000	2,600,000	54
YOC501E/000A/158A	Cock Beck, Stanks	650,000	650,000	44
YOC501E/000A/350A	Oil Mill Beck Catchment Study	400,000	396,000	31
YOC501E/000A/349A	Bramhope Surface Water FAS	160,000	160,000	42
YOC501E/000A/351A	Wetherby Surface Water FAS	230,000	230,000	31
YOC501E/000A/327A	Wyke Beck Phase 2	580,000	580,000	146
YOC501E/000A/087A	Rodley, Bagley Beck	685,000	685,000	125
YOC501E/000A/390A	Otley Surface Water FAS	550,000	550,000	58
YOC500E/000A/072A	Westfields, Allerton Bywater - Culvert works	502,000	0	40
YOC500E/000A/073A	Wharfedale Flooded Communities Study	90,000	0	0
	Total	170,892,952	108,053,256	1,549

Flooding from Wyke Beck



Flooding from Wyke Beck

- 3 flooding incidents in 3 years – August 2004, May 2005 and June 2007
- 70 Properties affected in Dunhills area



Opportunities within Wyke Beck Catchment

- Regeneration and Development area with multiple brownfield development sites. Opportunities to work with developers to jointly fund flood alleviation schemes
- Wyke Beck Nature Reserves form a wildlife corridor and greenspace. Flood alleviation schemes can provide environmental improvements. Local communities can benefit from improved access for recreation and amenity
- Opportunities to de culvert watercourses, i.e. open up piped systems, create meanders and tree planting to slow the flow, provide improved habitat, bio diversity and improved air quality

Wyke Beck Programme; Arthur's Rein

- Construction started April 2018
- Construction complete August 2018





UNIVERSITY OF LEEDS

Dr. Paola Sakai

Collaborative Strategic Planning at a City Level

&

Boosting resilience on SMEs through
insurers, lenders and surveyors

Chartered Insurance Institute

4th February, 2020

- Collaborative Strategic Planning
- Boosting flood resilience on SMEs
- Take home messages:
 - A **collaborative** approach for Strategic Planning can bring great **opportunities** to increase climate-resilience, health and well-being and inclusive growth in Leeds
 - Get in touch with me if you want to **know more about the risks** that **SMEs** represent to you? Do you want to know if you are subject to higher risk when insuring SMEs? Do you want to **develop products** to support SMEs at risk of flooding? **Get in touch!**



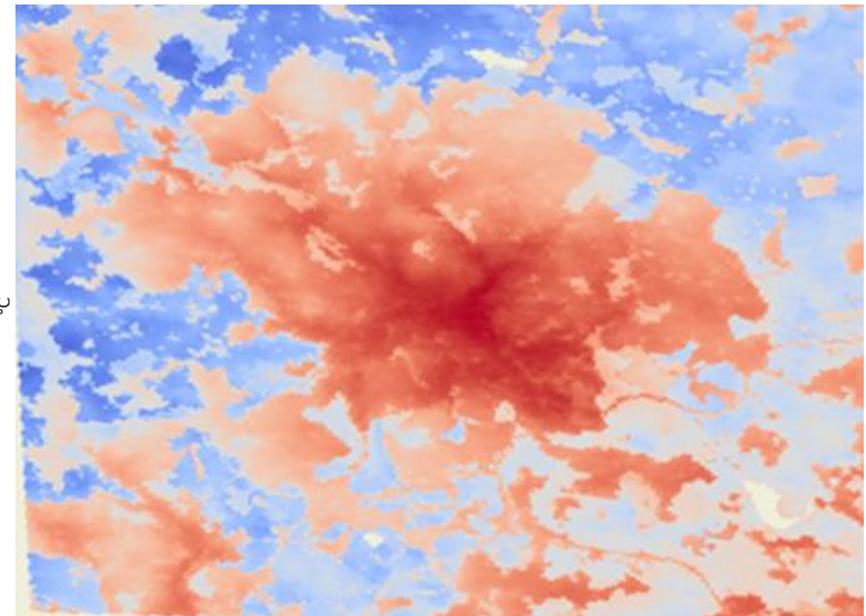
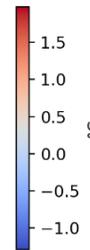


UNIVERSITY OF LEEDS



Dryer summers

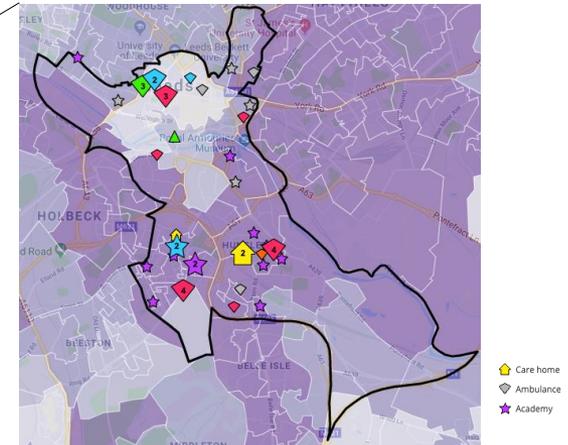
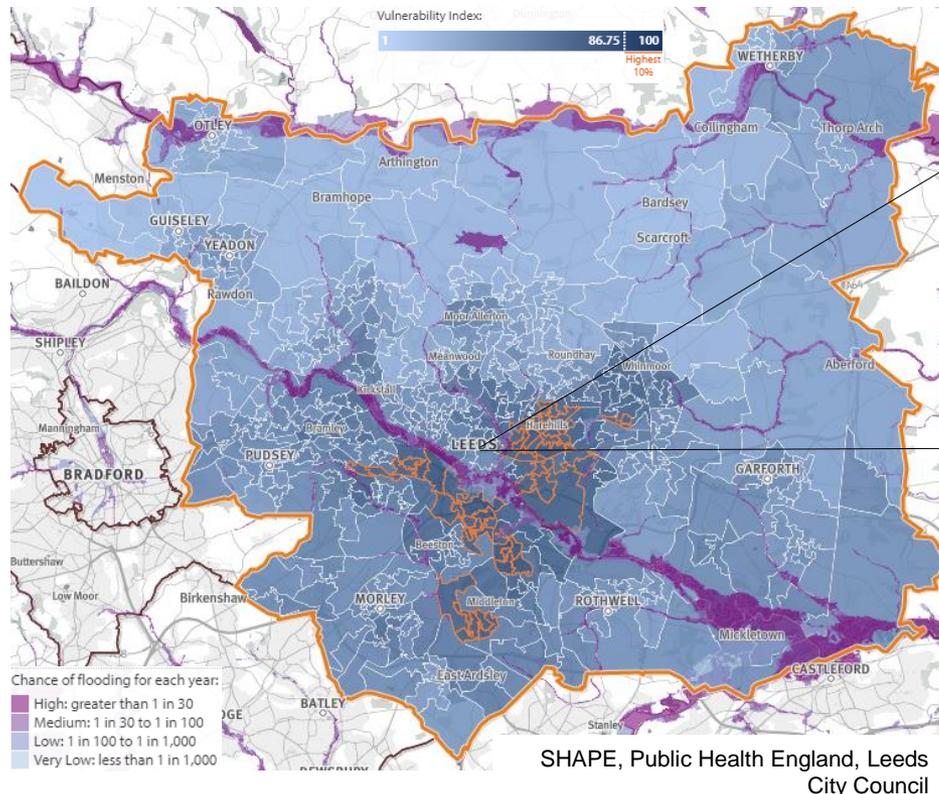
Wetter winters



Vulnerability index (tbr)



UNIVERSITY OF LEEDS



This vulnerability assessment also allows to **identify** the schools, hospitals, ambulance services, railway stations, and care homes located in the most vulnerable spots.

- Useful for **decision making** at different scales. Which is the most vulnerable LSOA, Ward, or Community Committee in Leeds? And pindown which aspects need to be improved?

Collaborative approach



UNIVERSITY OF LEEDS



Identify opportunities for interventions to reduce climate-risks and improve health and well-being while promote inclusive growth

Provide datasets in a common platform and enable spaces to share agendas and work together

- Department of Flood Risk Management
- Department for Children's and Education
- Department of Health



ECONOMIC COSTS OF FLOODING ON SMES AND EFFECTIVE RESILIENCE MEASURES



UNIVERSITY OF LEEDS

SMEs ARE IMPORTANT





The ripple effect



UNIVERSITY OF LEEDS

- ❖ £169.54 million
- ❖ £1 in direct losses, another £0.62 were lost indirectly
- ❖ 1.06% of the total output of the regional economy

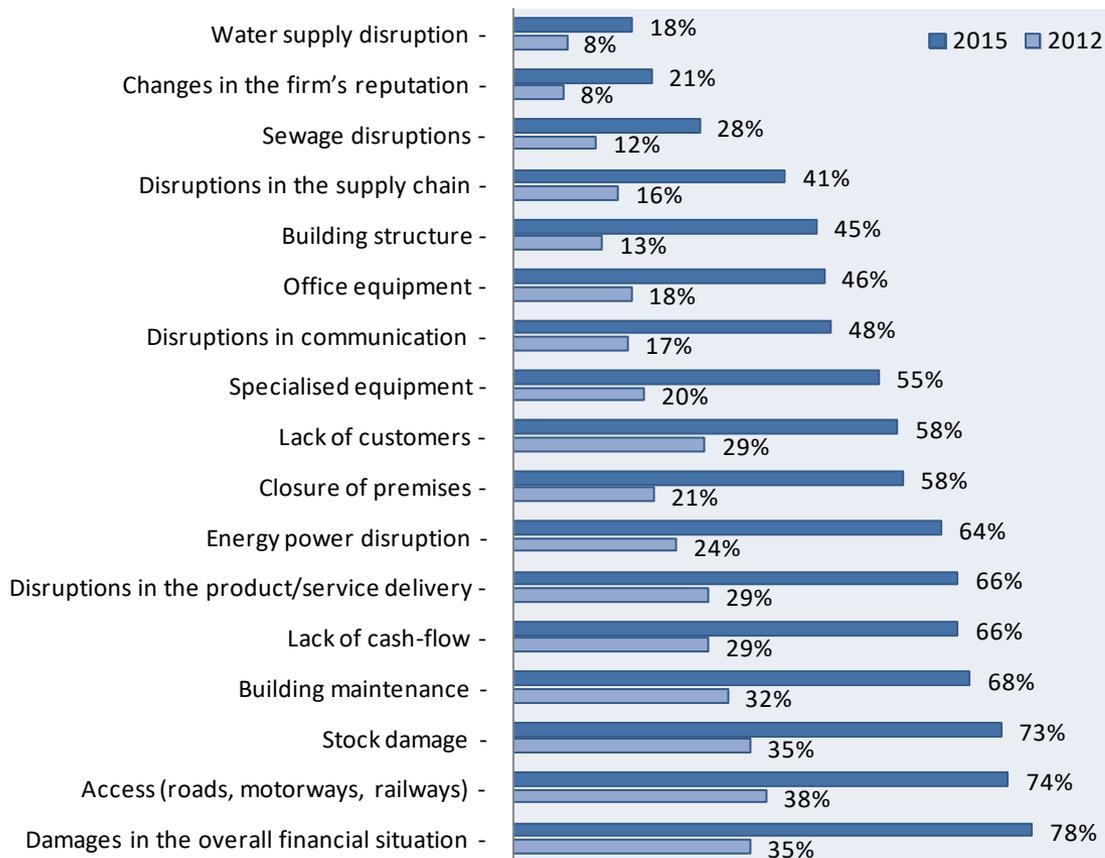


The higher the intensity, the higher the damages



UNIVERSITY OF LEEDS

Damages that SMEs experienced as a consequence of 2015 and 2012 floods



- ❖ Average total costs :
 - ❖ £26,000 (2012)
 - ❖ £47,000 (2015)
- ❖ Double amount of time to recover sales



UNIVERSITY OF LEEDS

**SMEs NEED TO INCREASE
THEIR CLIMATE-RESILIENCE**

Objective 1: Work with Insurers, Lenders and Surveyors



UNIVERSITY OF LEEDS

- ❑ Provide Insurers, Lenders and Surveyors tailored information on the economic costs of flooding on SMEs and the strategies they are already taking
- ❑ To develop a tool with LIS to assess the effectiveness of resilience measures
- ✓ To enable a better understanding on the risks that SMEs represent for them
- ✓ To encourage the development of products and solutions that support SMEs at risk of flooding.
- ✓ To increase trust that their money will be safe or are subject to higher risk than they realise

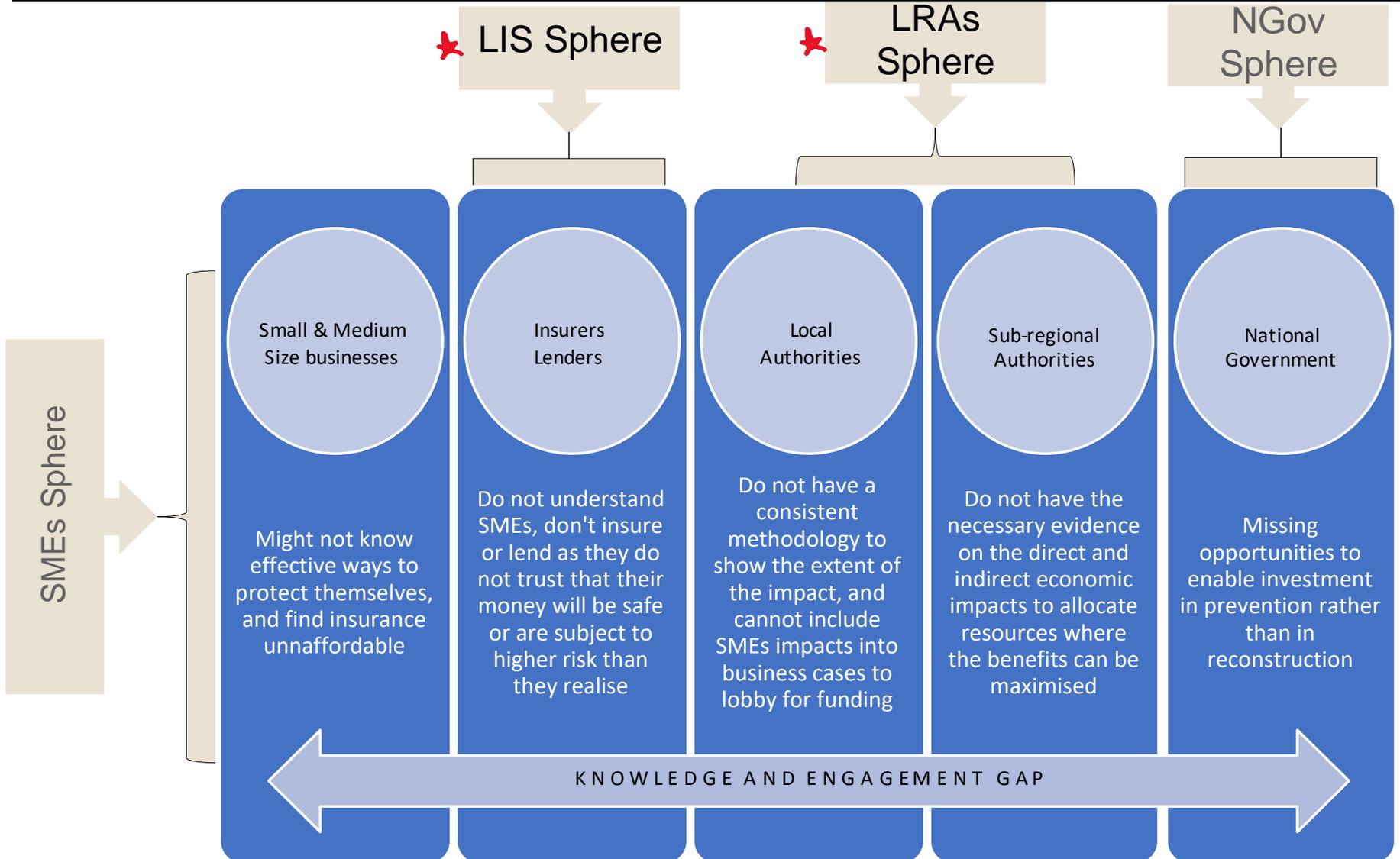


- ❖ Defra's Round Table Task Force on Flood resilience
- ❖ Cunningham Lindsay
- ❖ COOP
- ❖ ALLIANZ
- ❖ AGEAS
- ❖ BNP PARIBAS
- ❖ RAB flood consultants
- ❖ Environment Agency
- ❖ West Yorkshire Combined Authorities
- ❖ Flood Risk Managers of Yorkshire and the Humber

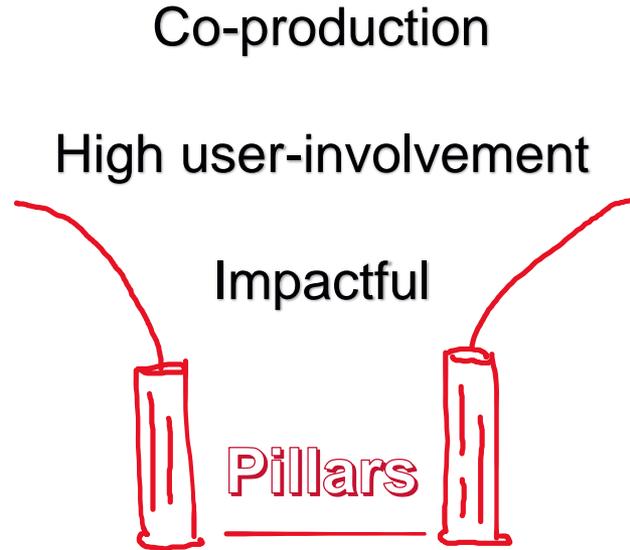
Bridging gaps to boost resilience



UNIVERSITY OF LEEDS



- Workshops with LRAs and LIS to identify specific information needs
- Literature review
- Webinars and meetings to present results
- Interviews & focus groups to co-create the tool
- Meeting to finalise survey piloting



- ✓ Tool-1 –economic costs
- ✓ Tool-2 –effective resilience
- ✓ Interim report on the economic costs
- ✓ Interim report on effective resilience
- ✓ Guidance to use Tool-1
- ✓ Final report
- ✓ Outreach policy event

- ❑ **Kick-off meeting and workshop:**
”Identifying information needs of LRAs & LIS on the economic costs of flooding on SMEs”
- ❑ **Save the date 2nd April (TBC)**
- ❑ **Participate in this impactful research!** Get in touch with me if you want to know more about the risks that SMEs represent to you? Do you want to know if you are subject to higher risk when insuring SMEs? Do you want to develop products to support SMEs at risk of flooding? **Get in touch!**



Thank you

Dr. Paola Sakai
P.H.M.D.Oca@leeds.ac.uk

 @PaolaSakai



Centre for
Climate Change
Economics and Policy

An ESRC Research Centre



UK Research
and Innovation



UNIVERSITY OF LEEDS