



FloodSmartCanada: Bringing Together Communities, Businesses and Governments to Tackle Flood Risk

Shawna Peddle

OCCIAR Webinar
November 29, 2016



Agenda

- **Flood Happens**

- What does flood cost?
- Why don't we act?

- **Partners for Action**

- Mandate
- Projects

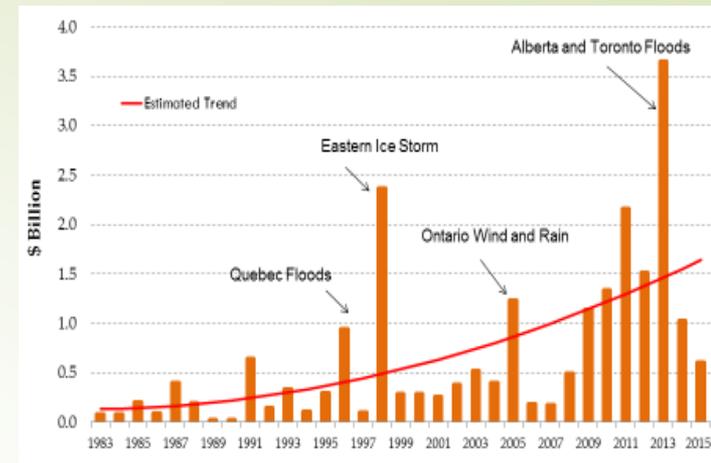
- **Municipal Flood Preparedness**

- **National Survey on Flood Risk Perception**

- Context – evolving flood risk management and policy
- Methods
- Results
- Recommendations

Flood Happens

- Our climate is changing
 - Heavier storms, more often
- Our communities are changing
 - Population growth/urbanization
 - Increased development
- 1.7 million Canadian households at VERY HIGH RISK (IBC, 2016)
- Flood damage costs taxpayers and insurers
 - \$12 billion from 2005 – 2014
 - expected to be similar over the next 5 years (double previous decade!), with federal assistance near \$3.4 billion (PBO, 2016)

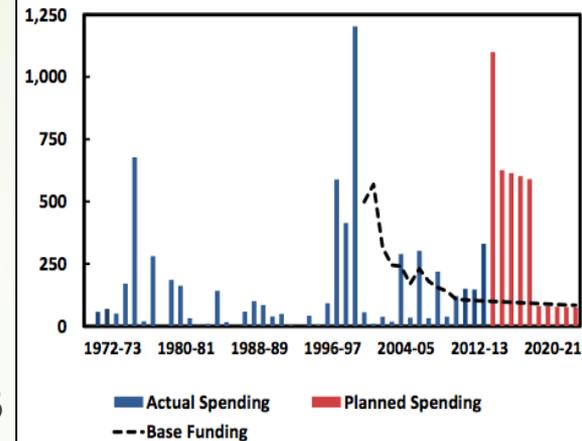


Disaster Assistance in Action

- Expensive
 - 2011-2014 floods: \$6.1B liability
 - 40% increase since 1970s
- Inefficient
 - 10 yrs for 1998 ice storm
 - 400 staff hrs for Waterloo ice storm 2013
- Insufficient
 - Calgary 2013: \$30,000 for victims with losses \$200,000+
 - Covers basics only
- Ineffective
 - No pre-mitigation investment (restores to pre-hazard condition)
 - Doesn't deter from building in the same risky areas

Government of Canada Disaster Financial Assistance Agreement Payments

\$ Millions, 2013 constant dollars



Why do we wait for a disaster to strike?

- ▶ We can save an average of \$4 for every \$1 spent to protect us from disasters (Foresight, 2012)
- ▶ Why don't we do anything?
 - ▶ We don't understand our risk
 - ▶ We don't understand low-probability events (1:100 year??) or uncertain events (climate change??)
 - ▶ Disasters are often seen as unavoidable – hazard may be unavoidable, but risk is manageable
 - ▶ Budget/financial priorities – investing in something that protects against something that may never happen...
 - ▶ Political visibility – protection isn't nearly as valuable as coming to the rescue after the fact



What is Partners for Action?

Applied research network, with the mandate to:

- Facilitate collaboration and innovative, practical research
- Share results and best practices
- Inform Canadians

Our goal is to help communities and individuals:

- Understand their flood risk
 - Flood and risk mapping, vulnerability assessment
- Have access to tools
 - Policies, plans, procedures
 - Cost-benefit of action vs. inaction
 - Lot-level personal actions
 - Incentives and insurance
- Build resiliency



Our Projects

- Communicate risk to influence behaviour towards resilience and shared responsibility:
 - Publicly-available accurate and relevant mapping and information to raise awareness towards personal choice and action.
 - Community disaster resilience programs and targeted mitigation to reduce risk at the local level.
 - Information on the difference between disaster relief and insurance
- Outreach to vulnerable populations - don't presume knowledge or interest – short attention spans.
- Work collaboratively across sectors to identify risk and measures to reduce risk.
- Connect practitioners towards a community of practice.

FloodSmartCanada.ca

- Neutral web portal – unbiased information
- Bilingual website, multi-lingual infographics
- Targeted information for residents/tenants, communities, organizations, and business (Indigenous to come)
 - Flood risk
 - Actions to reduce risk
 - Flood insurance versus disaster assistance
 - What to do before, during and after a flood
- Secure members section to connect practitioners
 - What should this look like?
 - How do you WANT to be engaged?



FloodSmartCanada



Helping Canadians Prepare for Floods

French Site Coming Soon.



FLOOD INSURANCE & DISASTER ASSISTANCE

Understanding the differences in order to better serve your flood-related needs

What is flood insurance?

Flooding accounts for 6 of the top 9 most expensive natural disasters in Canada over the past 25 years, and insurers and taxpayers have spent over \$12 billion in the last 10 years to recover from flood events.

All insured businesses in Canada are protected against flood. While many homes have sewer backup insurance, insurance for overland flood has only been available to Canadians since 2015. It is intended to protect against water that enters your home from overflowing lakes and rivers. A number of insurers offer this product nationally (<http://floodsmartcanada.ca/prepare-for-floods/>) and most provinces will not provide disaster assistance if you have a flood and could have purchased overland flood insurance, but did not.

What is disaster assistance?

Each province and territory offers a disaster relief program that is closely tied to (and receives funding from) the federal Disaster Financial Assistance Arrangements (DFAA). Programs are available for residents, small businesses, agricultural

While there are some differences in how much you could



PREPARE TODAY

Flood/Emergency Preparedness Guides

- Elders and Emergencies – Canadian Red Cross
- Emergency Preparedness Guide for Muskego Cree Families – Canadian Red Cross
- Emergency Preparedness Guide for People with Disabilities/Special Needs – Government of Canada
- Flooding in First Nation Communities – INAC
- For First Nations, Métis and Inuit Communities

Flood/Emergency Toolkits

- Emergency Preparedness Week Toolkit – Government of Canada
- Get a Kit – Canadian Red Cross
- Get an emergency kit – Government of Canada
- "Grab and Go" Bag Checklist for: Elders in Remote Northern First Nations Communities – Canadian Red Cross

Emergency Notifications and Alerts

- Alert Ready: Emergency Alert System
- The Weather Network
- The Weather Network App
- Twitter: @Get_Prepared

Recovery Information and Services

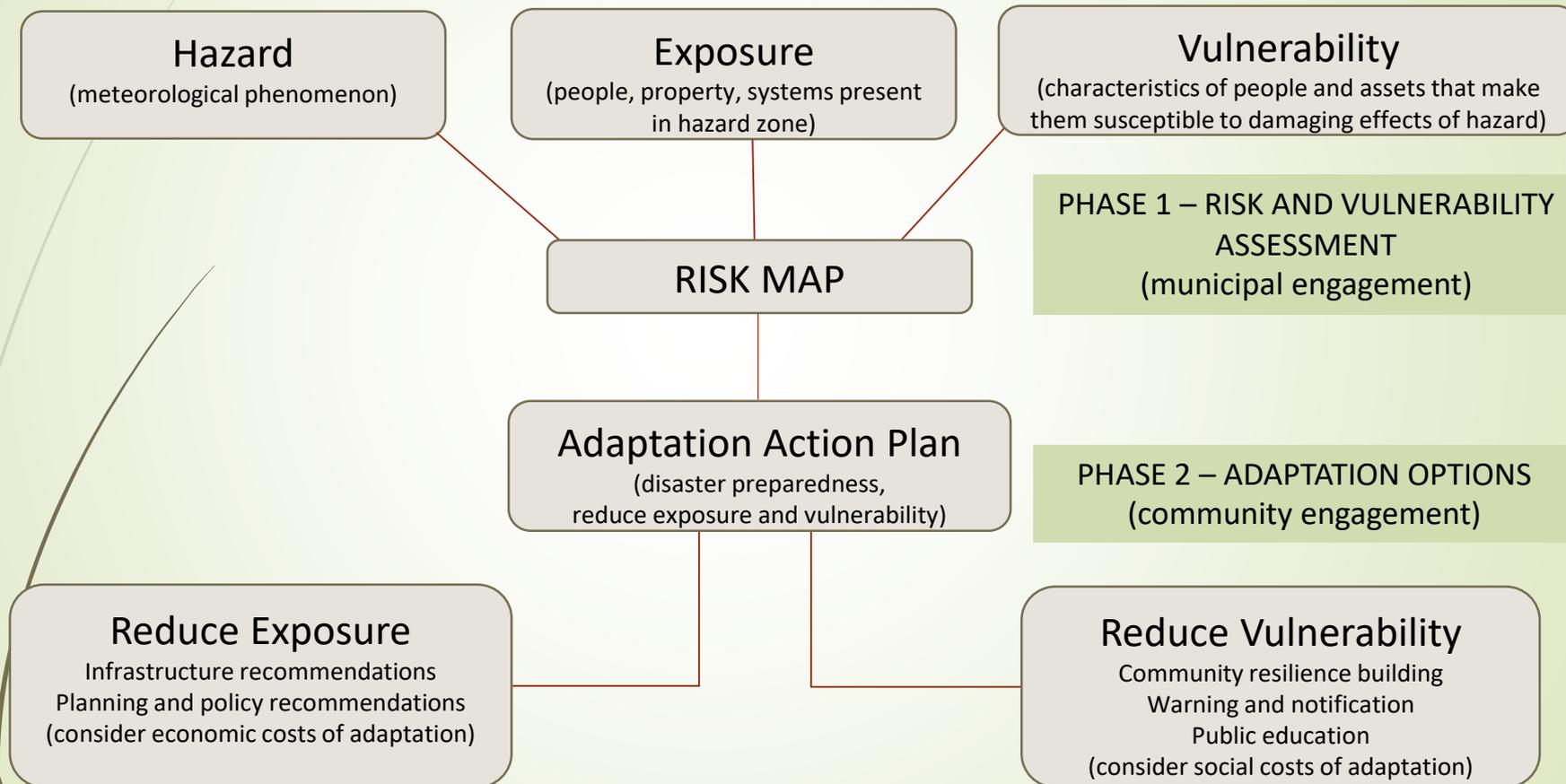
- Belfor Property Restoration Canada
- Coping with Crisis – Canadian Red Cross
- Focus on Backwater valves – ICLR
- Focus on Sump pump systems (EN) – ICLR
- Guide de prévention des inondations de sous-sols (FR) – ICLR
- Guide to Flood Recovery – Canadian Red Cross



FloodSmart Communities: Community-specific flood resilience

- Identify 3-4 Ontario pilot communities with high flood risk areas
- Engage community leaders to identify vulnerabilities and strengths
- Develop visualization tools for flood hazard, economic risk/exposure, and social vulnerability
- Facilitate workshops to identify hazards and opportunities for planning and emergency preparedness/disaster risk reduction
- Develop action plan for short-, medium- and long-term physical mitigation and community resilience
- Create tools other communities can tailor to their own situations

FloodSmartCommunities: Disaster Resilience to Reduce Vulnerability and Strengthen Communities



Municipal Survey - Key Findings

- Flooding is a major source of socio-economic vulnerability, and a drain on community resources.
- Communities are at the front line of adaptation, but feel they are being “left to their own devices”.
- Communities are managing vulnerability, but efforts are fragmented, creating uncertainty about effectiveness.
- Federal and provincial policies and funding are underdeveloped and underutilized.
- Strong divide in impacts, capacity, and preparedness between urban and rural communities.

Municipal survey – what do you need to prepare for flood?



Funding

- Maps and models
- Assessments
- Infrastructure
- Staff Capacity



Technical Support

- Climate Change
- Best Practices
- Planning
- Cost-Benefit



Policy

- Guidance
- Monitoring
- Enforcement
- Incentives



Political Will

- Flood Risk Awareness
- Personal Accountability

Municipal Survey - Recommendations

1. National standards for flood risk management and mapping and significant expansion / improved access for NDMP funding.
2. Increased funding to Conservation Authorities for planning, management, and maintenance/operation of flood structures.
3. Address leadership gap at federal and provincial level to prioritize community risk awareness and resilience.
4. Increase awareness of personal risk, encourage behavioural change, and increase uptake of incentive programs.
5. Governments need to work with insurers to improve our understanding of risk and opportunities to reduce risk.

National Survey on Public Perspectives on Flood Policy

➤ **Bilingual Online Survey** – April-May 2016

➤ **2300 respondents**

- Sampled by region and postal codes designated by the Flood Damage Reduction Program as high risk.

Atlantic Canada = 500
Quebec = 450
Ontario = 450
Man/Sask = 300
Alberta = 300
British Columbia = 300

➤ **Major Themes:**

- awareness of flood risk, degree of concern, flood experience
- responsibility to protect from flood and pay for damages – governments, homeowners, relief organizations
- understanding of and willingness to pay for insurance and property projection strategies

Acknowledgements

► Co-authors

- Jason Thistlethwaite – School of Environment, Enterprise and Development
- Dan Henstra – Department of Political Science
- Dan Scott – Interdisciplinary Centre on Climate Change



Flood Awareness and Concern

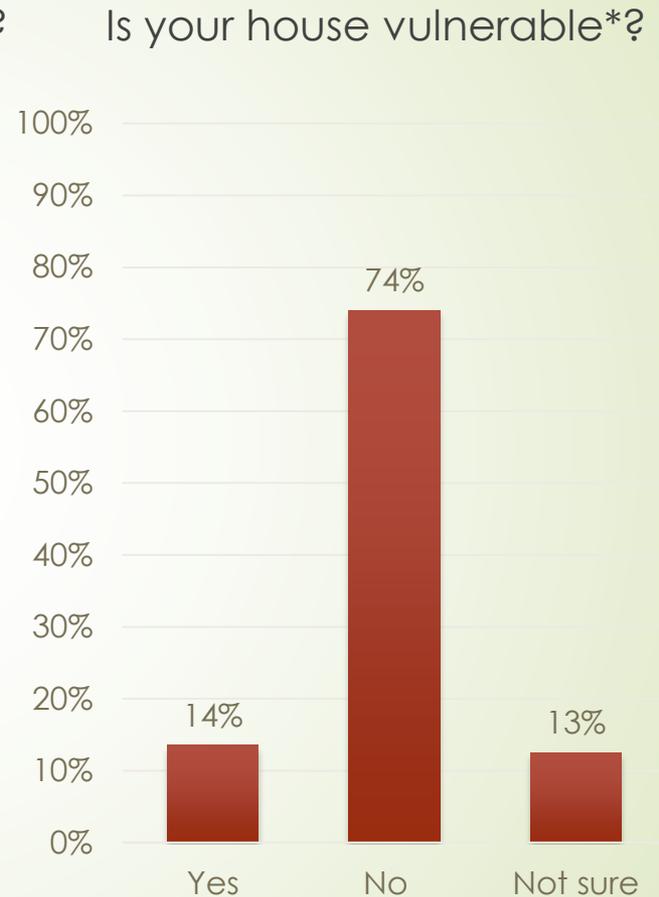
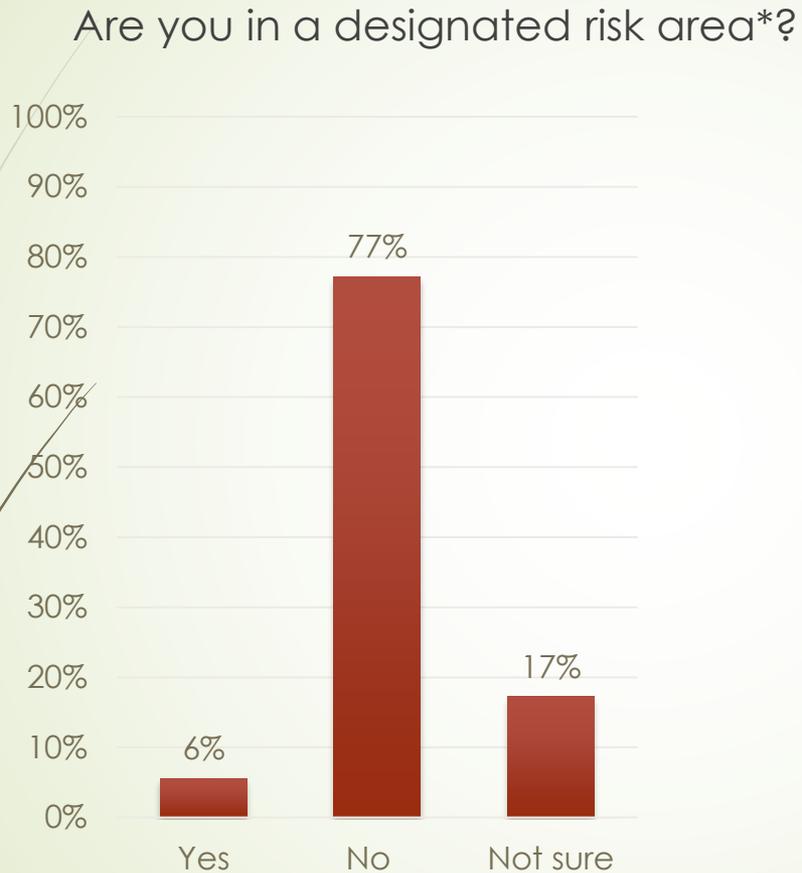
- Flood experience – direct and social
- Awareness of flood risk designation
- Level of flood risk concern
- Perception of future flood risks



Lack of awareness and non-disclosure creates 'inherited' risk.

Canadian Council of Insurance Regulators has expressed concern in their 2016 *Natural Catastrophes and Personal Property Insurance Issues Paper* that 'customers may not be aware of the risks posed by natural catastrophe events and the consequences of limited insurance coverage for some of those events.'

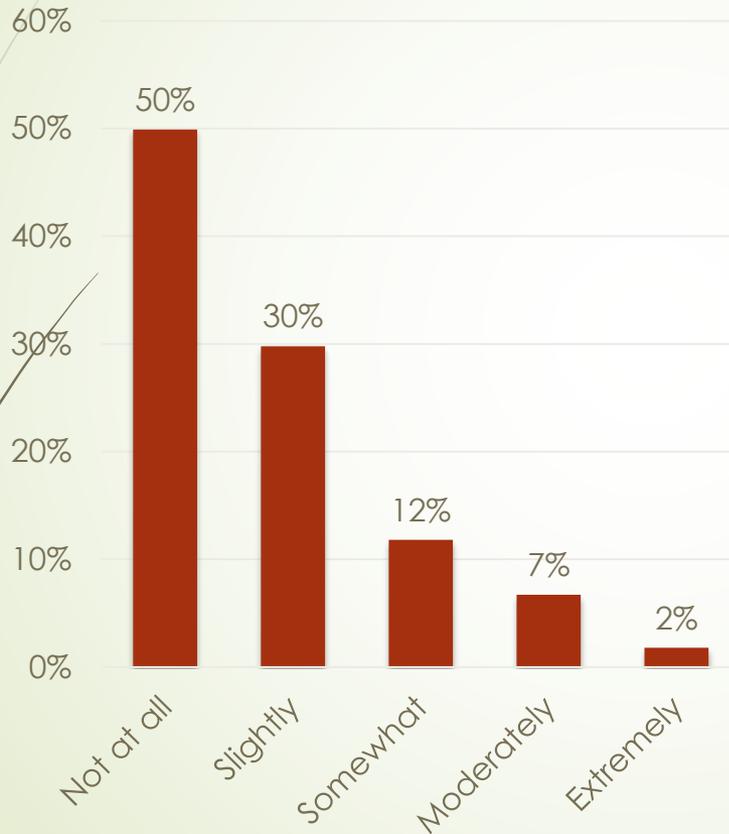
Flood risk - awareness



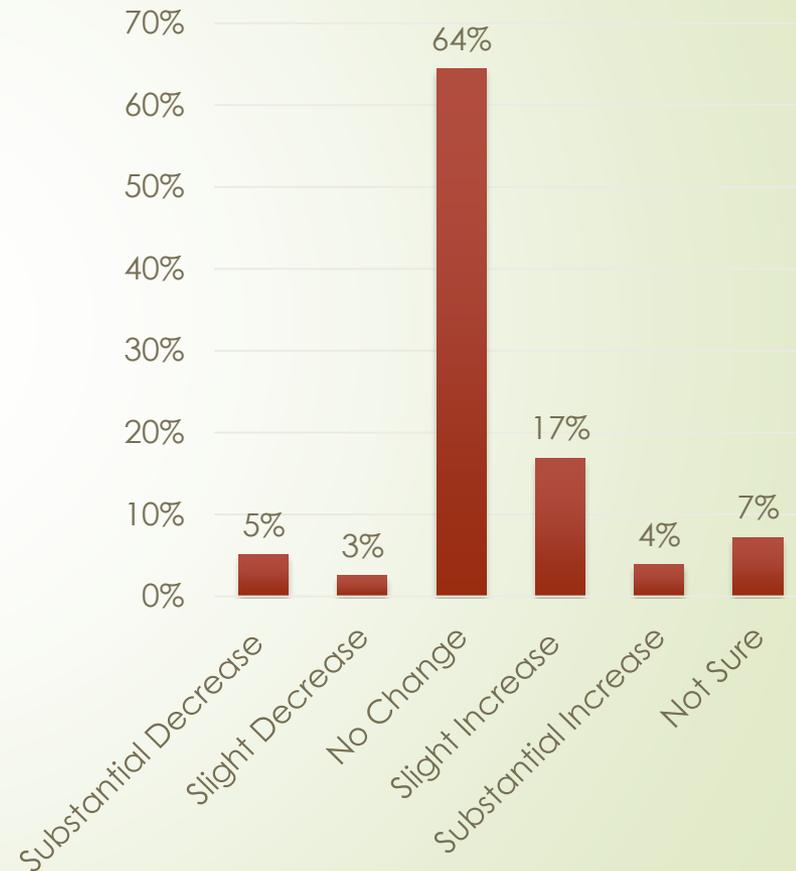
* All postal codes selected for the survey were identified by the Flood Damage Reduction Program as **high risk** ('area subject to recurrent and severe flooding')

Flood risk - awareness

Are you concerned about your risk?

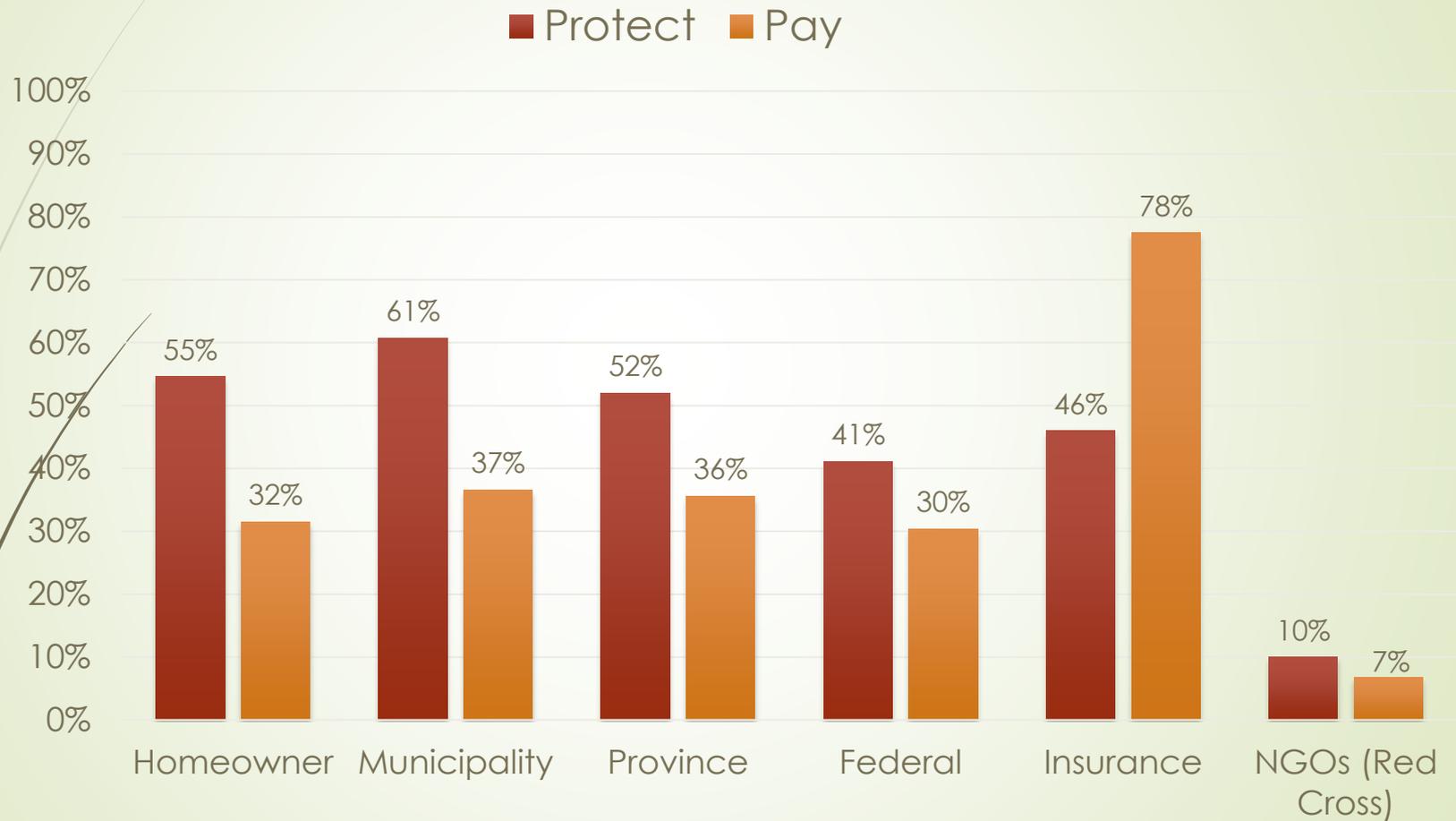


Will risk change in 25 years?



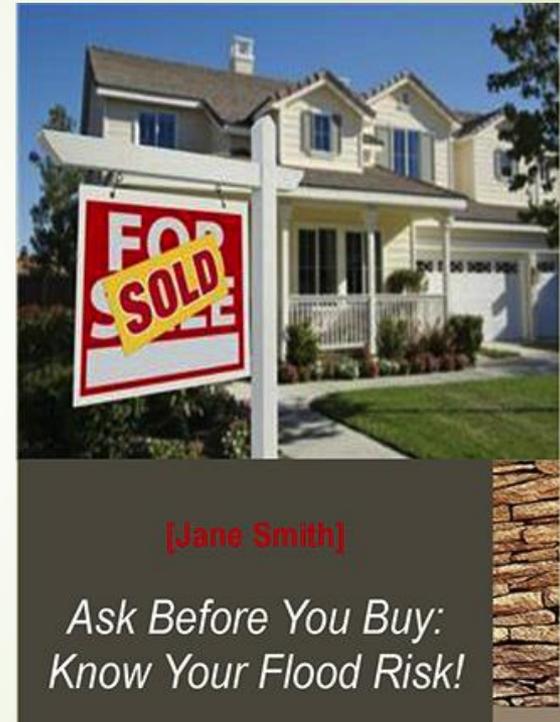
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Who is responsible to protect/assist?



Flood Risk Policy Opinions

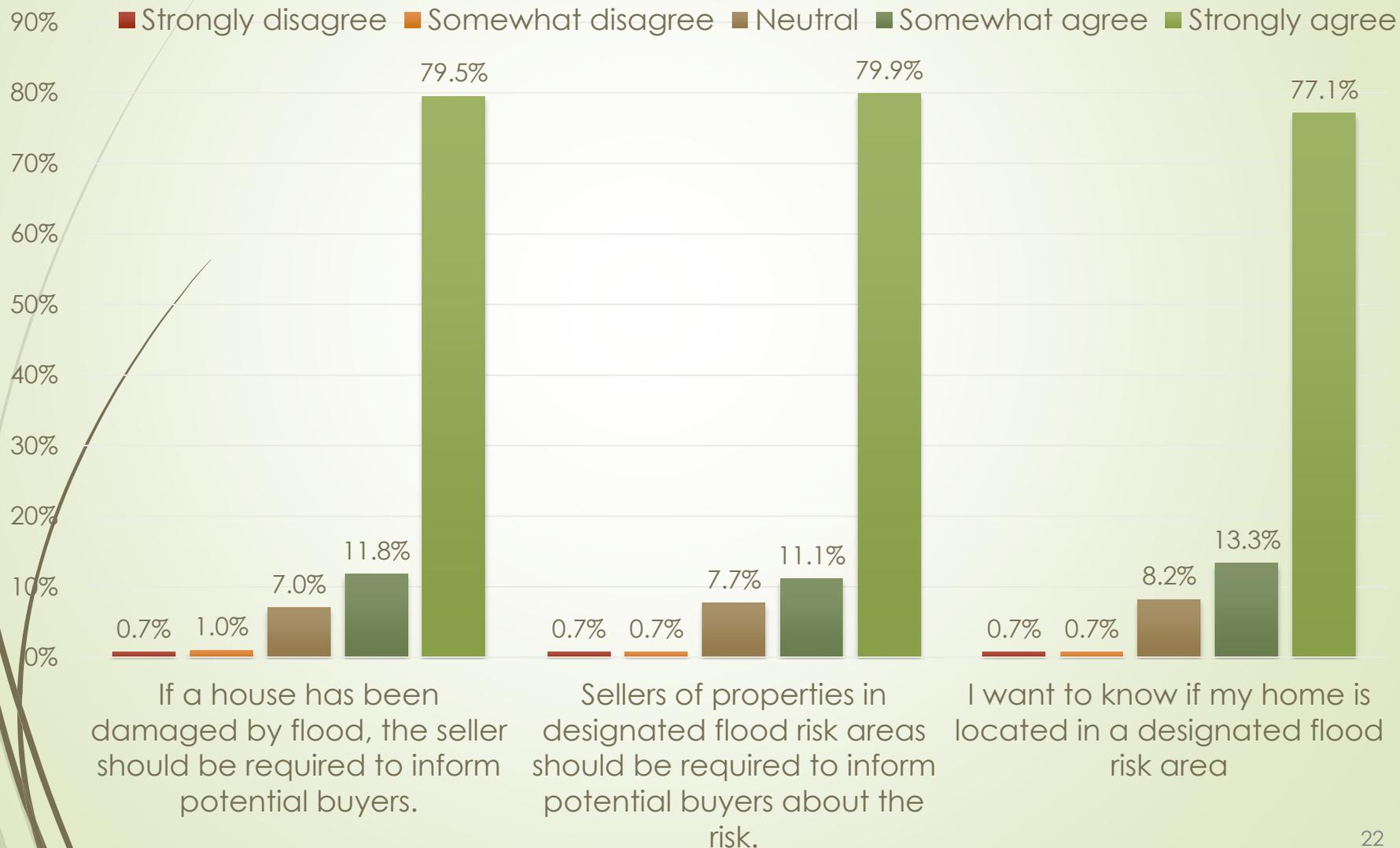
- Flood risk disclosure (right to know)
- Expectations for government flood assistance
- Withdrawal of government flood assistance
- Mandatory flood insurance requirements
- Subsidized flood insurance



Asymmetrical flood risk information does not support risk-based decision-making

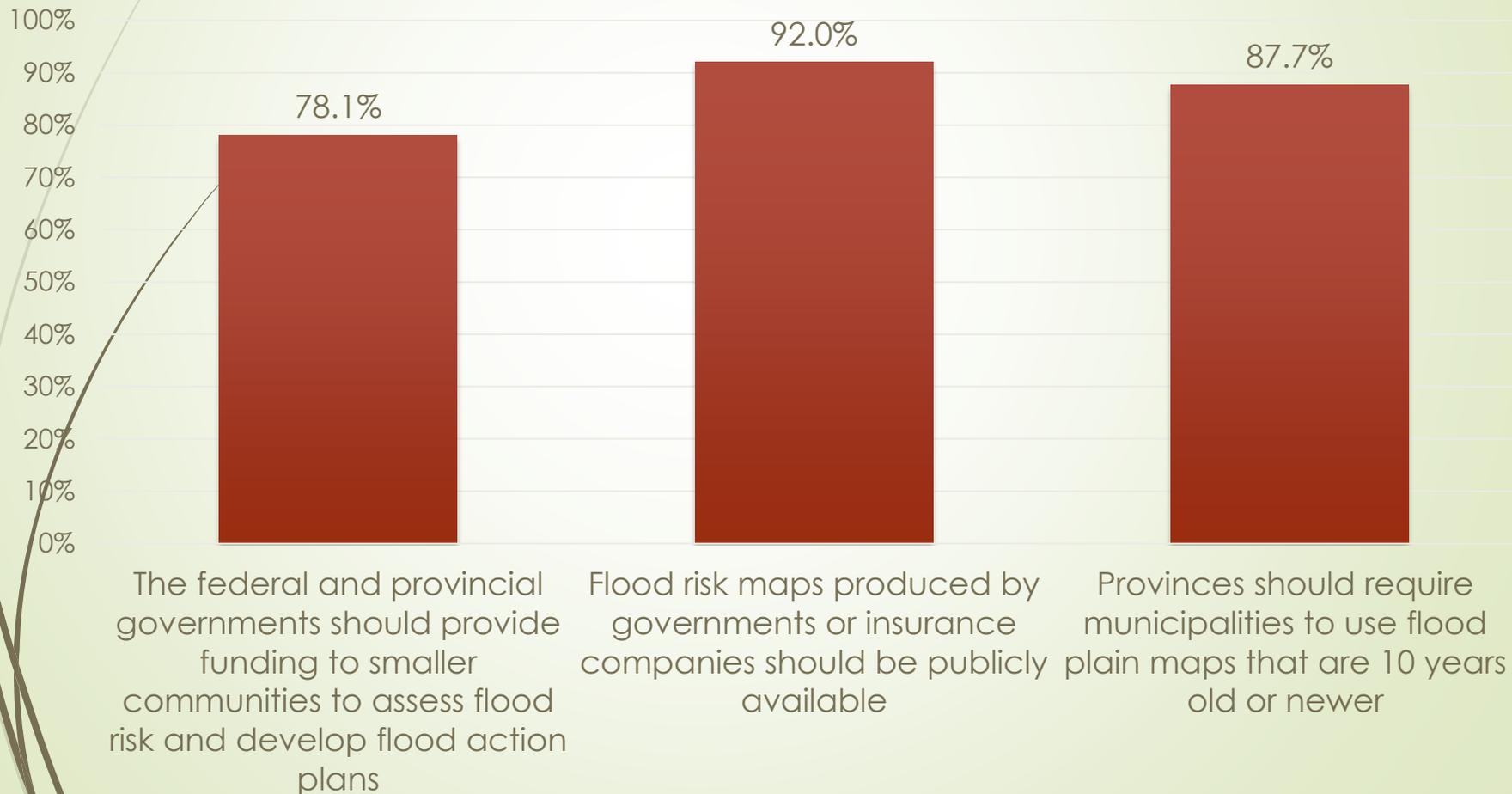
Flood Disclosure:

Over 90% support the right to know flood risk



Flood Risk Information:

Over 90% support the right to know flood risk



Personal Protection Measures

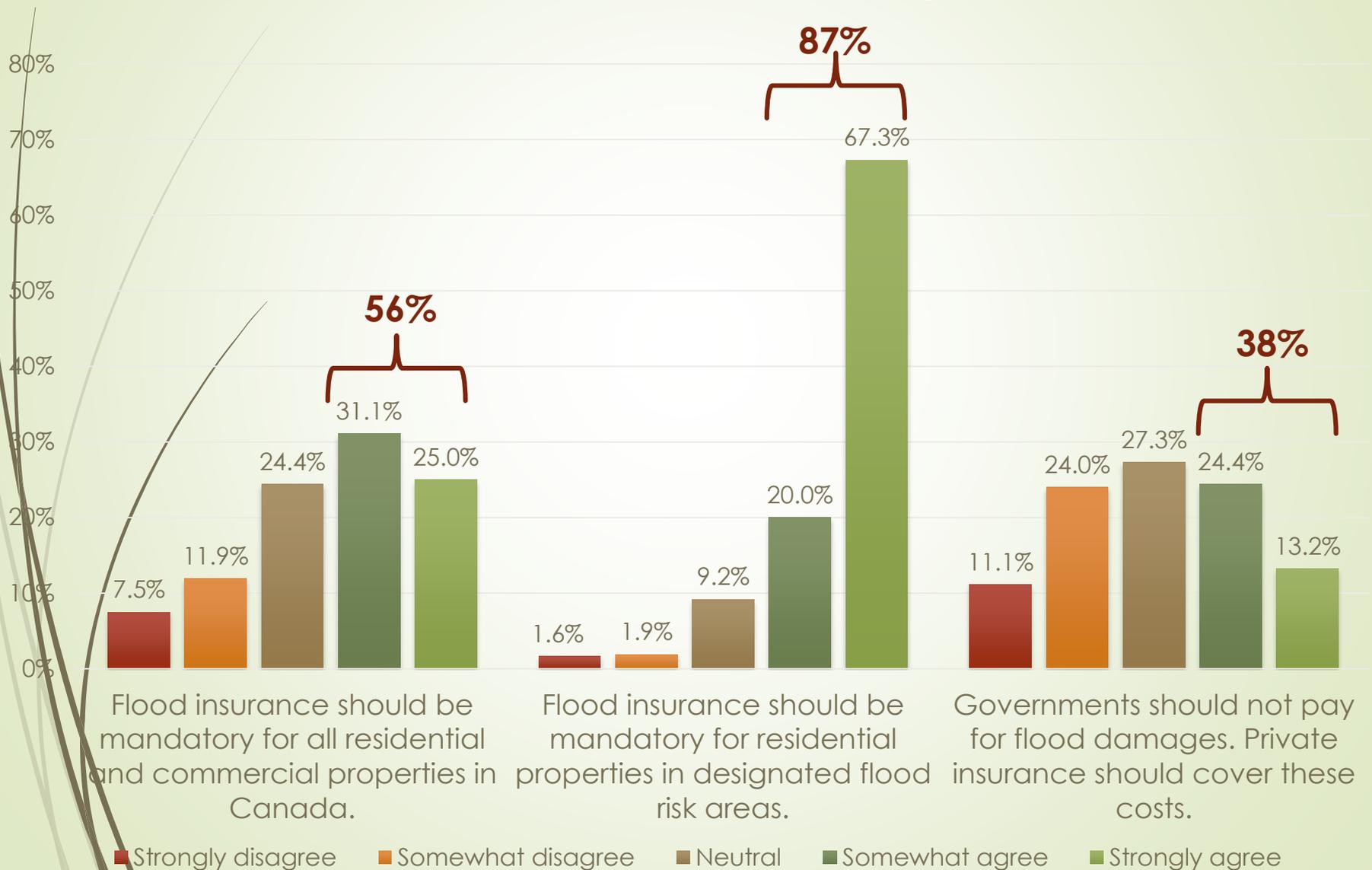
83% believe homeowners are responsible for protection

- ▶ More than 50%
 - ▶ grade away from house
- ▶ Less than 50%
 - ▶ backwater valve, sump pump (but most don't have backup power)
 - ▶ moved/elevated electrical systems in basement
 - ▶ moved personal or expensive items from basement
 - ▶ rain barrel
 - ▶ water-resistant building materials in basement

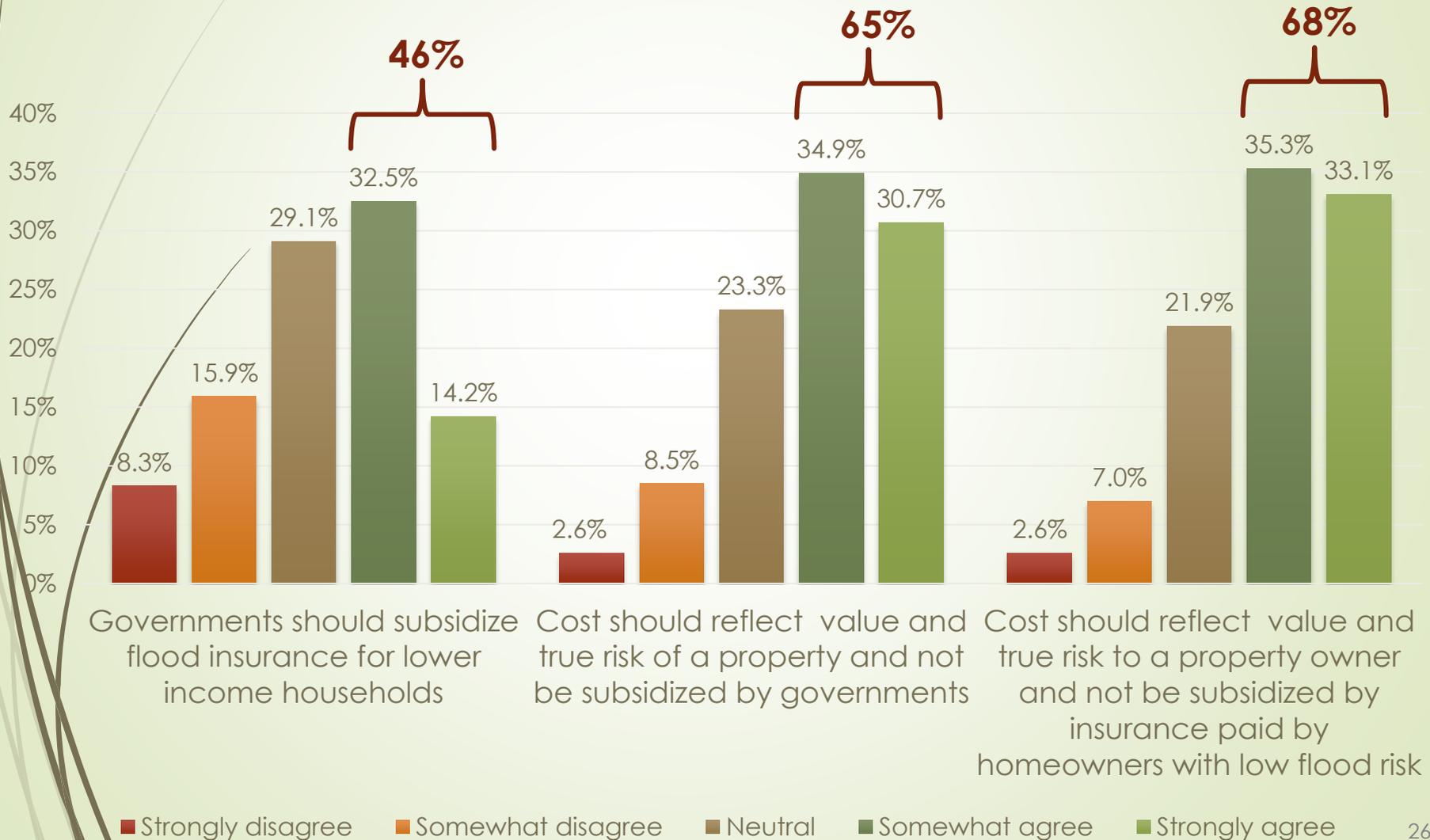
If you don't know that you're at risk, or that you can get subsidies or an insurance discount, why would you act?

Flood Insurance:

Support for mandatory insurance in high risk zones



Subsidized Flood Insurance: Support for market-based 'true risk' cost



Flood Insurance and Disaster Financial Assistance Eligibility



Emergency
Management BC

May 2016

- ▶ “EMBC is closely monitoring the availability of overland flood insurance in BC and will continue to deliver DFA in accordance with existing legislation. **If a flooding disaster occurs and DFA is authorized for a disaster event, an applicant who could reasonably and readily have purchased overland flood insurance would NOT be eligible for DFA.**” *(original emphasis)*
- ▶ “DFA may be denied if overland flood insurance was available on renewal (whether or not it was with the same insurance company they used last year) and they chose not to purchase it.”

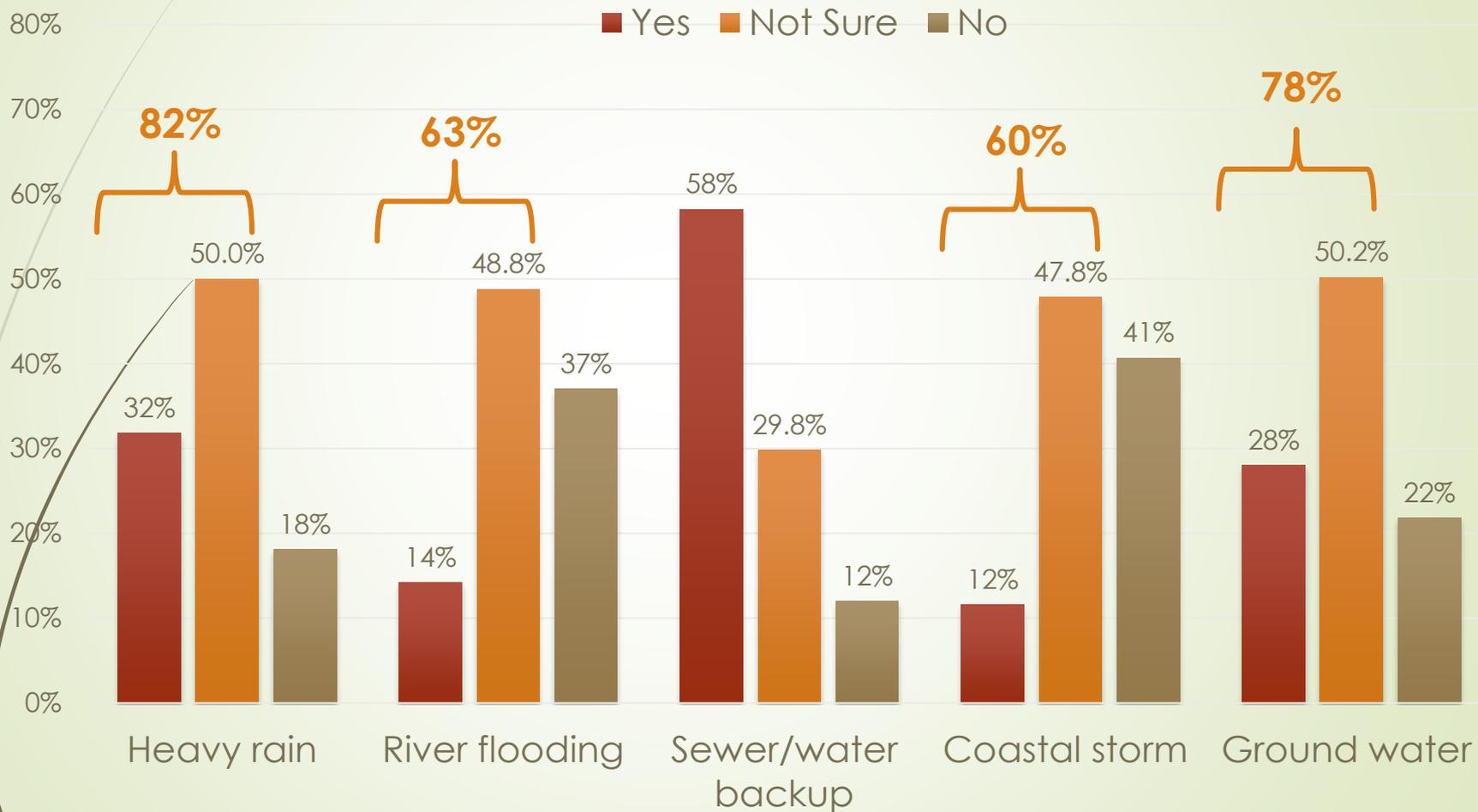
Knowledge of Flood Insurance and Intent to Buy

- Most misinformed about flood-related perils current insurance covers
- Few insurance agents have informed their clients about recent changes in flood insurance availability and the need to purchase where it is 'reasonably available'
- Limited flood insurance buying intentions
- Willingness to pay mismatch



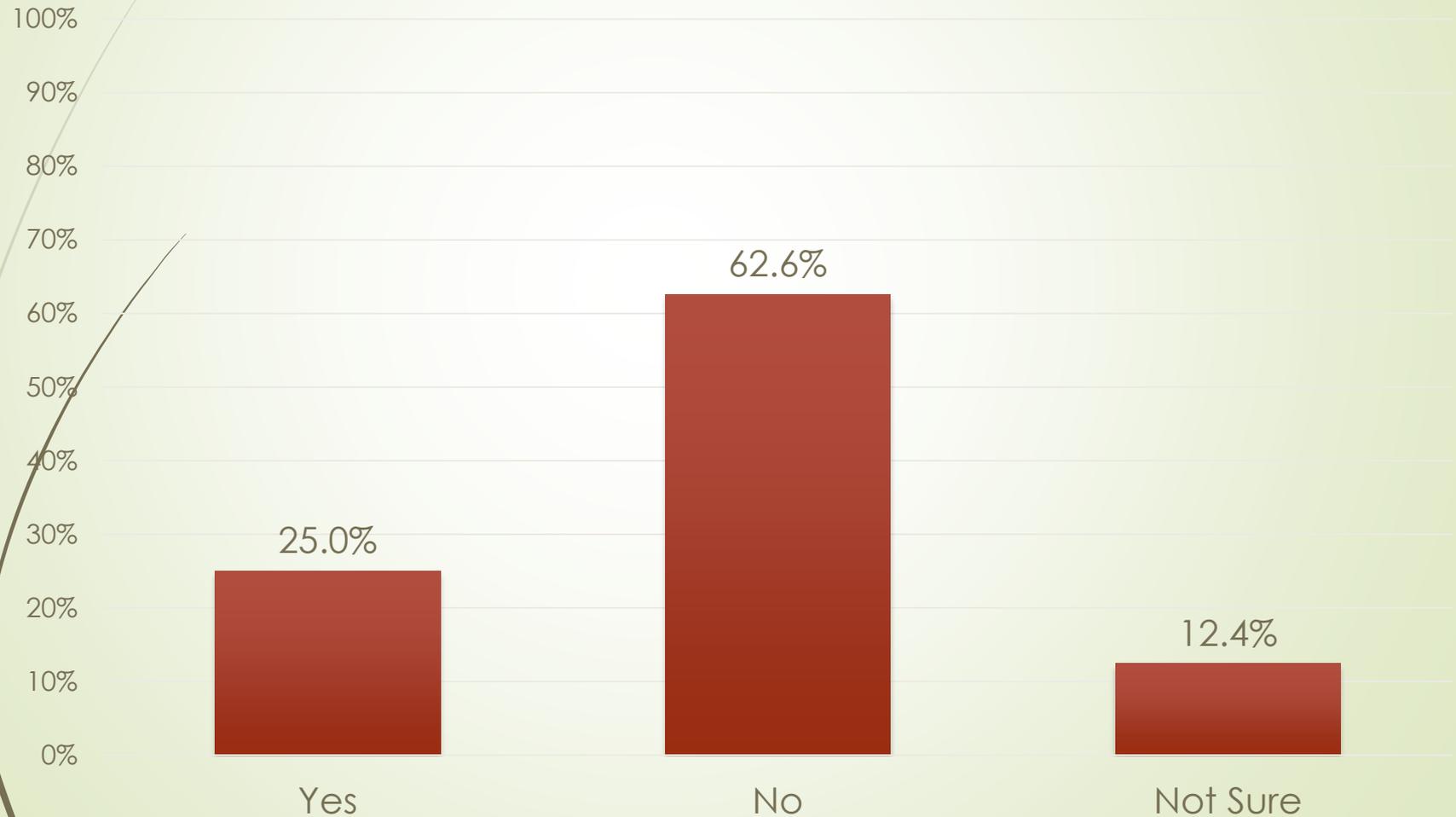
Flood Insurance Knowledge:

Most don't know what their policy covers

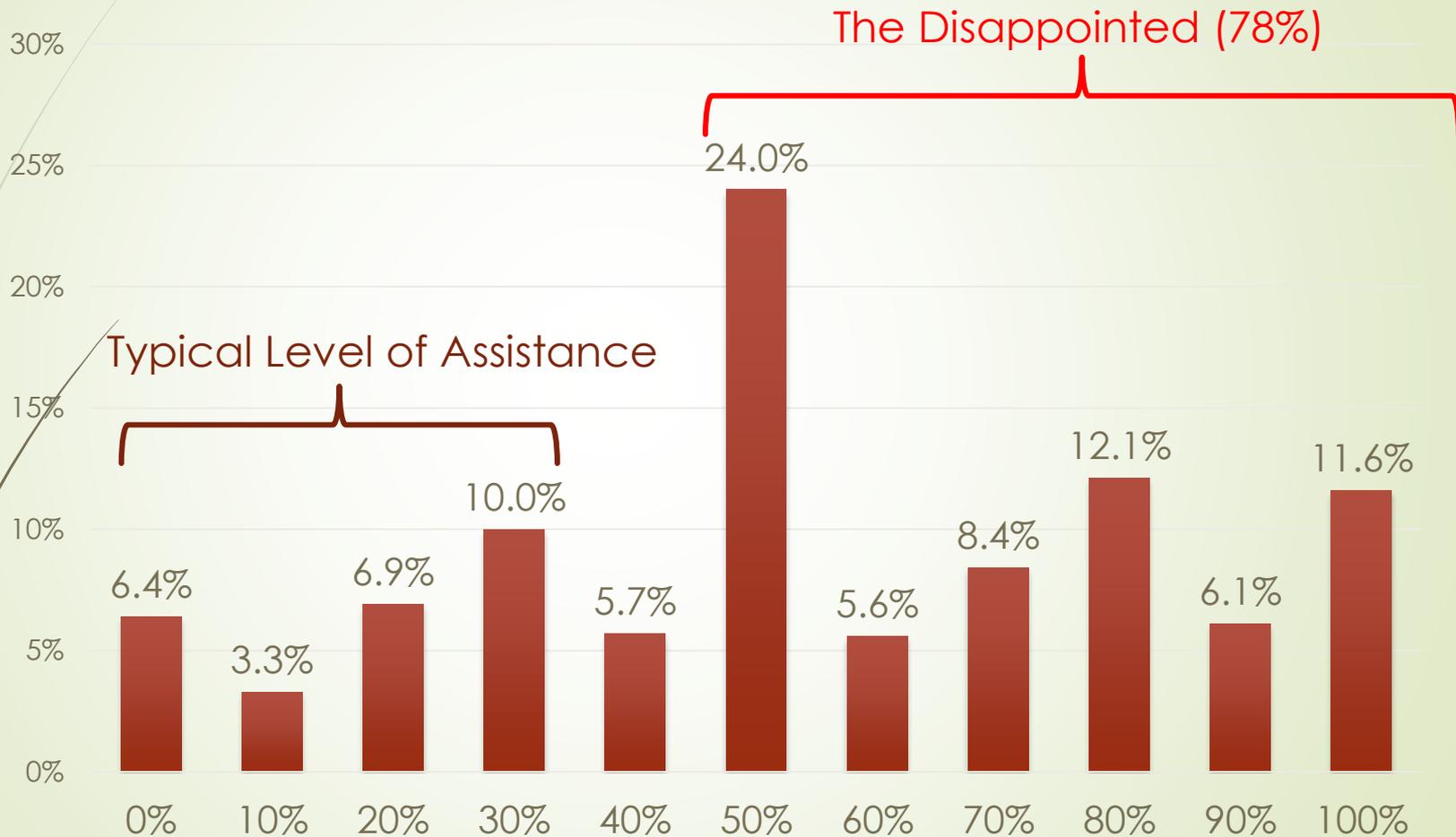


Flood Insurance Knowledge:

Has your insurance agent discussed home flood insurance?



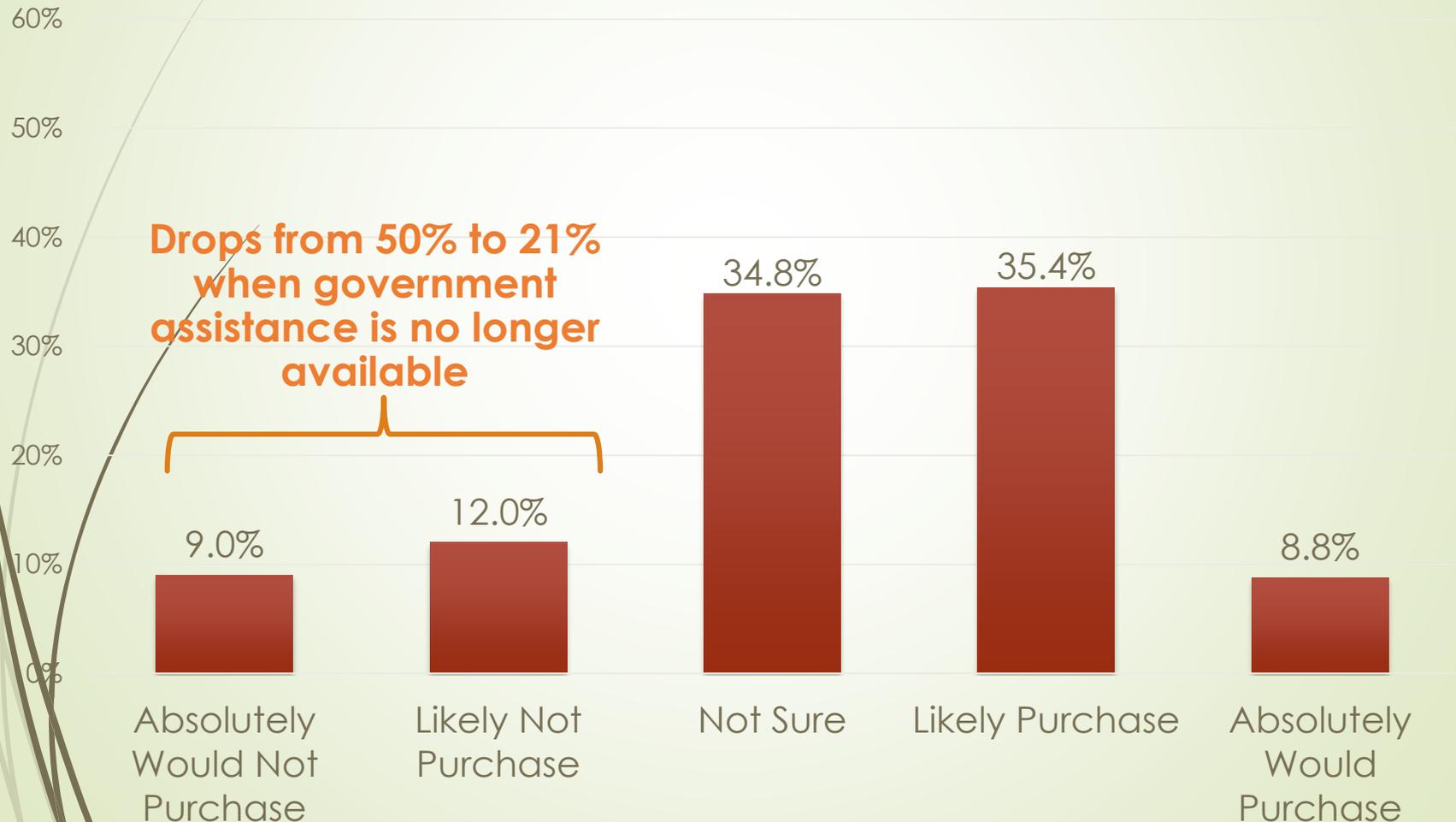
Flood Damage Assistance: Most expect the government to pay more



Combined assistance from municipal, provincial, federal

Flood Insurance Intentions:

If government disaster assistance was no longer available, would you purchase flood insurance?



Flood Insurance Willingness to Pay:

At what price would you consider purchasing flood insurance that covered your house for 100% of damages?



Public Survey Conclusions

Canadians...

- remain largely unaware of flood risk, types of flood, and relationship between climate change and future flood risk
- hold a strong sense of personal responsibility in flood prevention, but vastly underestimate their liability in recovery
- want to know their risk and make informed choices, support mandatory disclosure
- do not understand the role of insurance versus disaster assistance
- are supportive of risk-based, unsubsidized insurance costs
- are not aware of, or taking advantage of, options to reduce or transfer flood risk
- are not informed of flood insurance or their need to purchase it for DFAA eligibility, and have very low purchase intentions

Public Survey Conclusions

- Failure to effectively communicate risk negates the work being done by government and insurers – uptake of risk-based policy, insurance is low.
- Uninformed consumers and property owners cannot protect themselves against future financial ruin or support flood risk management at the property and community level.
- Public education on flood risk is needed to better inform decisions and raise consumer awareness about the nature of flood. We need:
 1. *Publicly available flood risk mapping and modelling information (from government/insurance industry) and mandatory risk disclosure.*
 2. *A national information campaign on natural disaster risk awareness and insurance availability/requirements (targeted to specific cultural, geographic, and community needs).*

For more information

Shawna Peddle

Director, Partners for Action

Faculty of Environment, University of Waterloo

519-888-4567, ext. 38938

shawna.peddle@uwaterloo.ca

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<https://uwaterloo.ca/partners-for-action/>

<http://www.FloodSmartCanada.ca>