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Motivation

- Climate change is likely to threaten livelihoods for many of **2 billion smallholder farmers** around the world
- Climate information sources** have mixed results in promoting farmer climate adaptation
- Various theories hold different implications for how farmers make **decisions under rising climate stress**



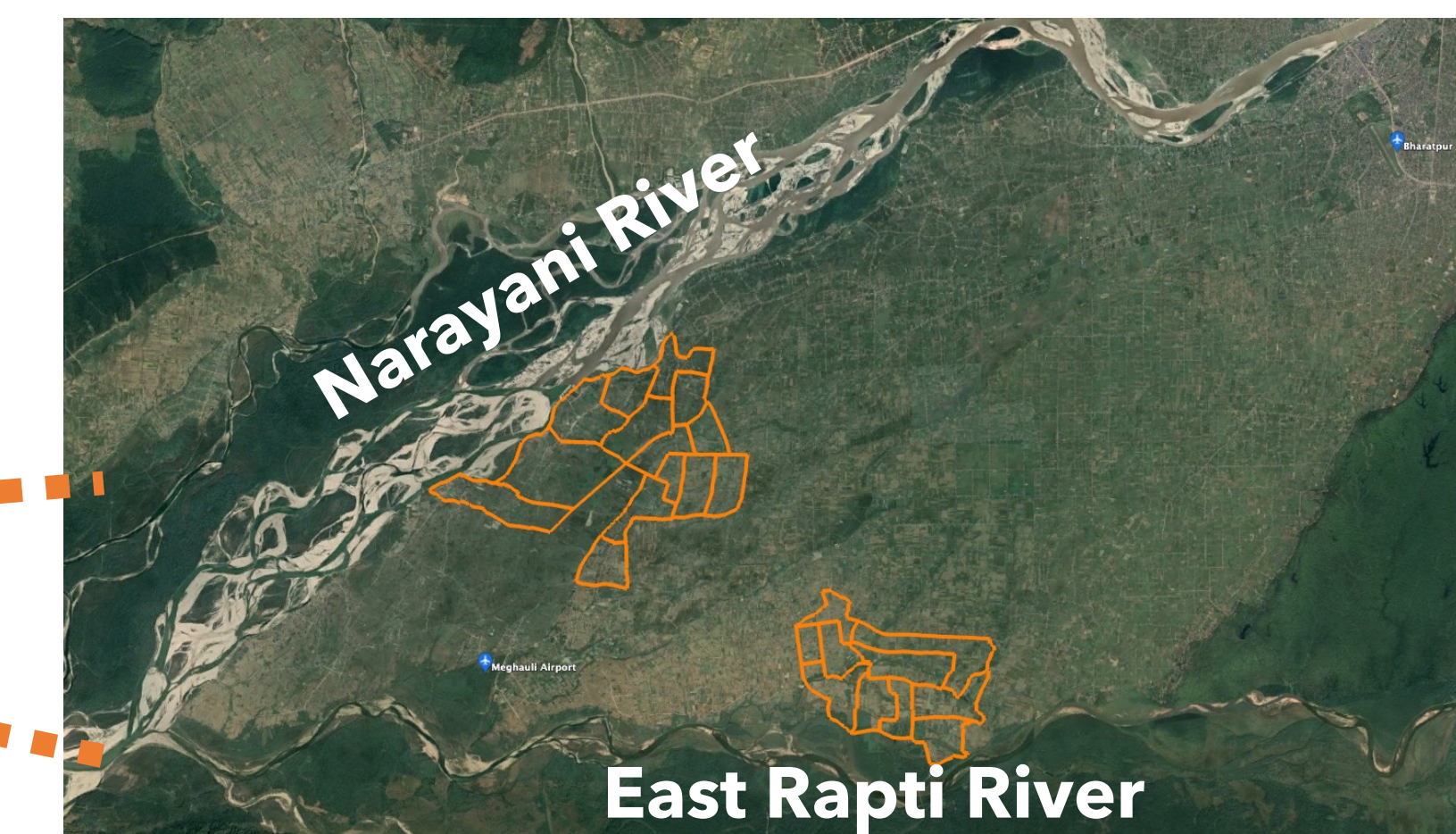
Study Context and Survey Design

Nepal as a climate adaptation bellwether

- High vulnerability to climate risks
- Strong reliance on subsistence agriculture (60% of population, 24% of GDP)
- High dependence on migration remittances (27% of GDP)



Study Region: Chitwan District



Total Sample = 500 households in orange wards

- Panel data on livelihood choices and exposure to climate hazards (2015-2021)
- Closed-form questions on information sources and social networks
- Likert-scale questions on perceptions of livelihood risks and key stressors

Research Questions

- How **salient is climate** to farmers' perceptions of livelihood risks?
- How do **diverse information sources** shape perceived climate risk?
- How do risk perceptions affect **income diversification** strategies, including migration?

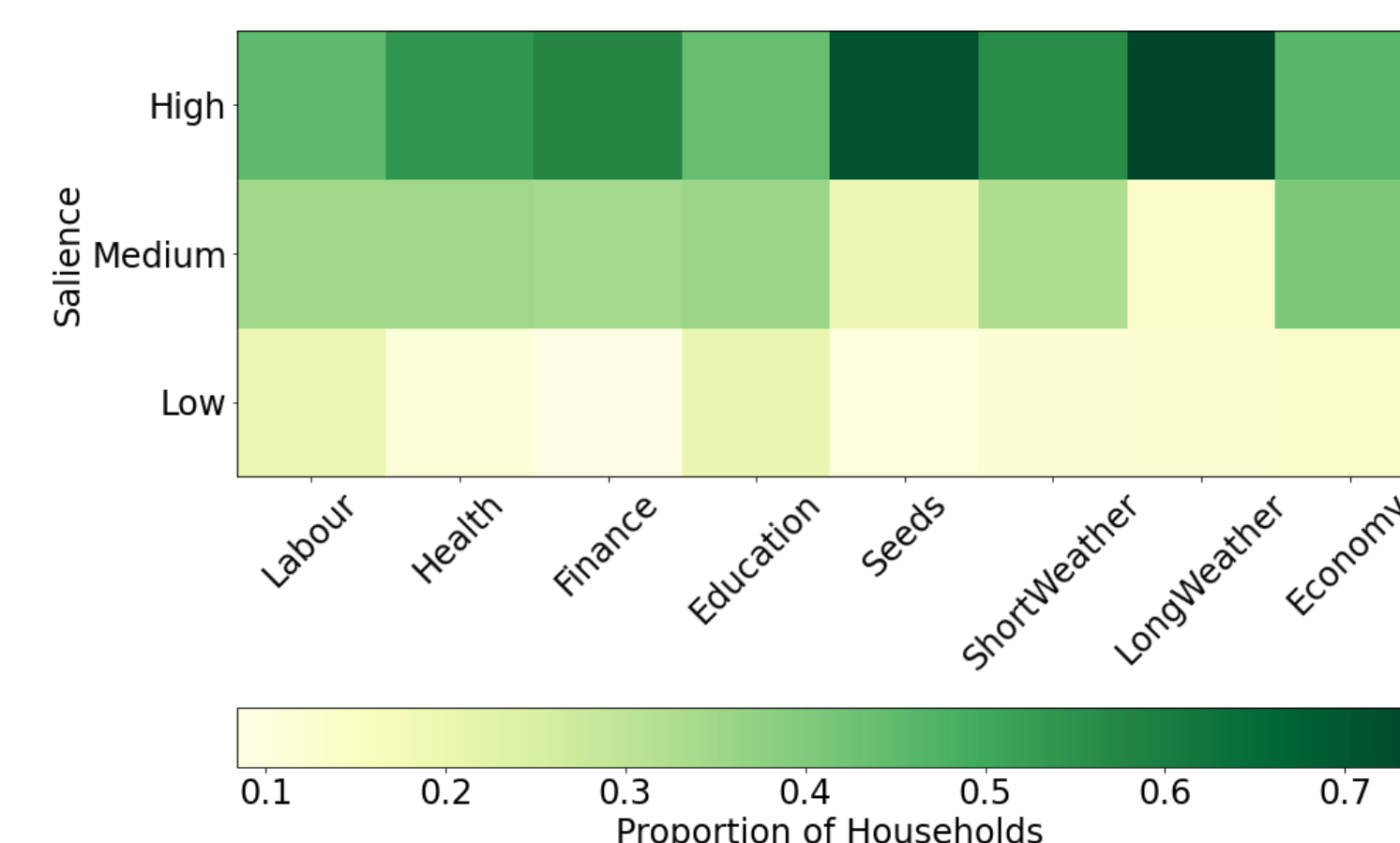
Key Results

Theoretical Framework

Theory	Main Objectives	Hypotheses
New Economics of Labor Migration (NELM) (Stark and Bloom 1985)	Minimize risks to livelihood; Overcome credit constraints	Higher perceived climate risk drives more income diversification
Protection Motivation Theory (PMT) (Rogers and Prentice-Dunn 1987)	Mitigate risk of perceived threats	Access to scientific information leads to higher salience of climate risks
Security Potential/Aspiration (SP/A) (Lopes and Olden 1999)	Meet a basic aspiration level; then maximize potential outcome	Farmers deploy riskier strategies when faced with climate shocks to income

1. Climate perceived as salient risk

a) "How important is X to your economic success?"



b) "Over next 5 years, how will risk of Y change?"

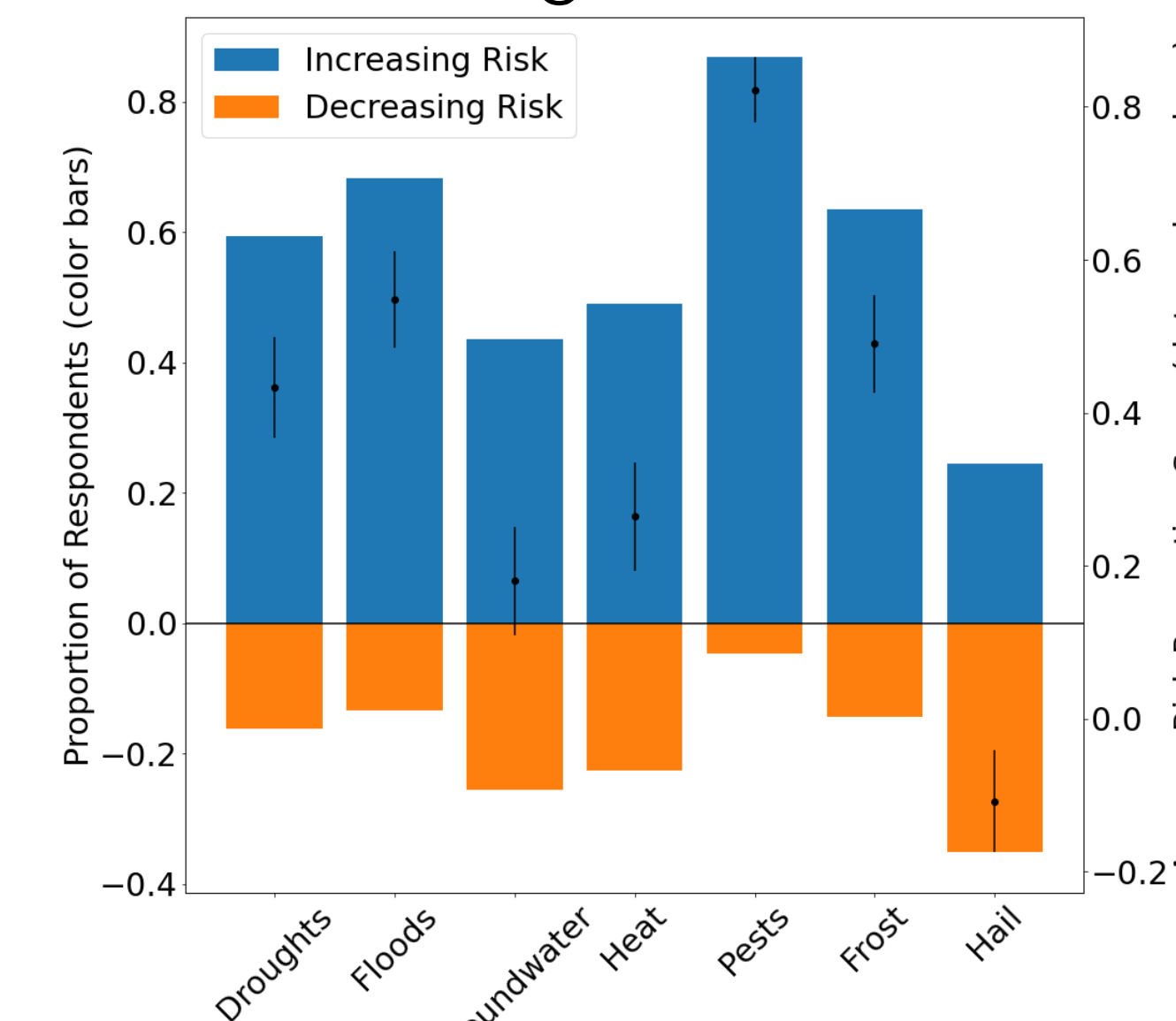


Fig. 1. Respondents (a) rate **climate ("long-term weather")** as most salient factor to success, and (b) expect risk of most hazards to **increase** in coming years.

2. Information source affects perceived climate risk

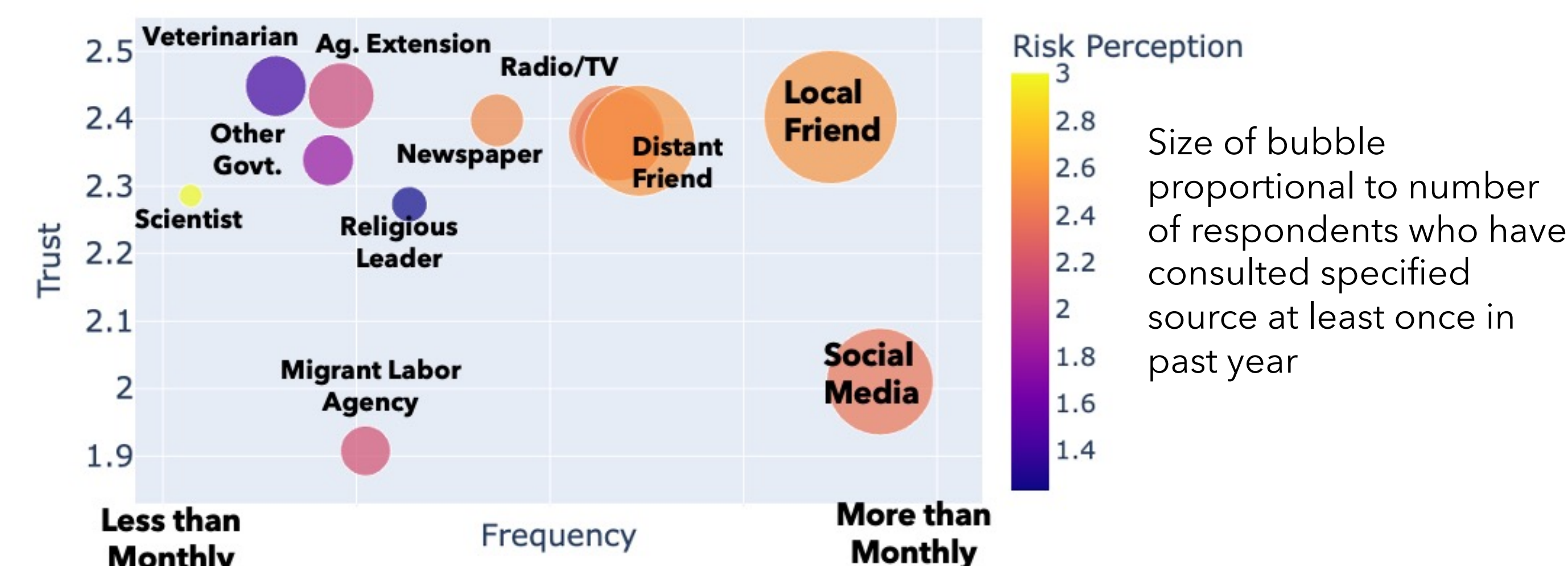
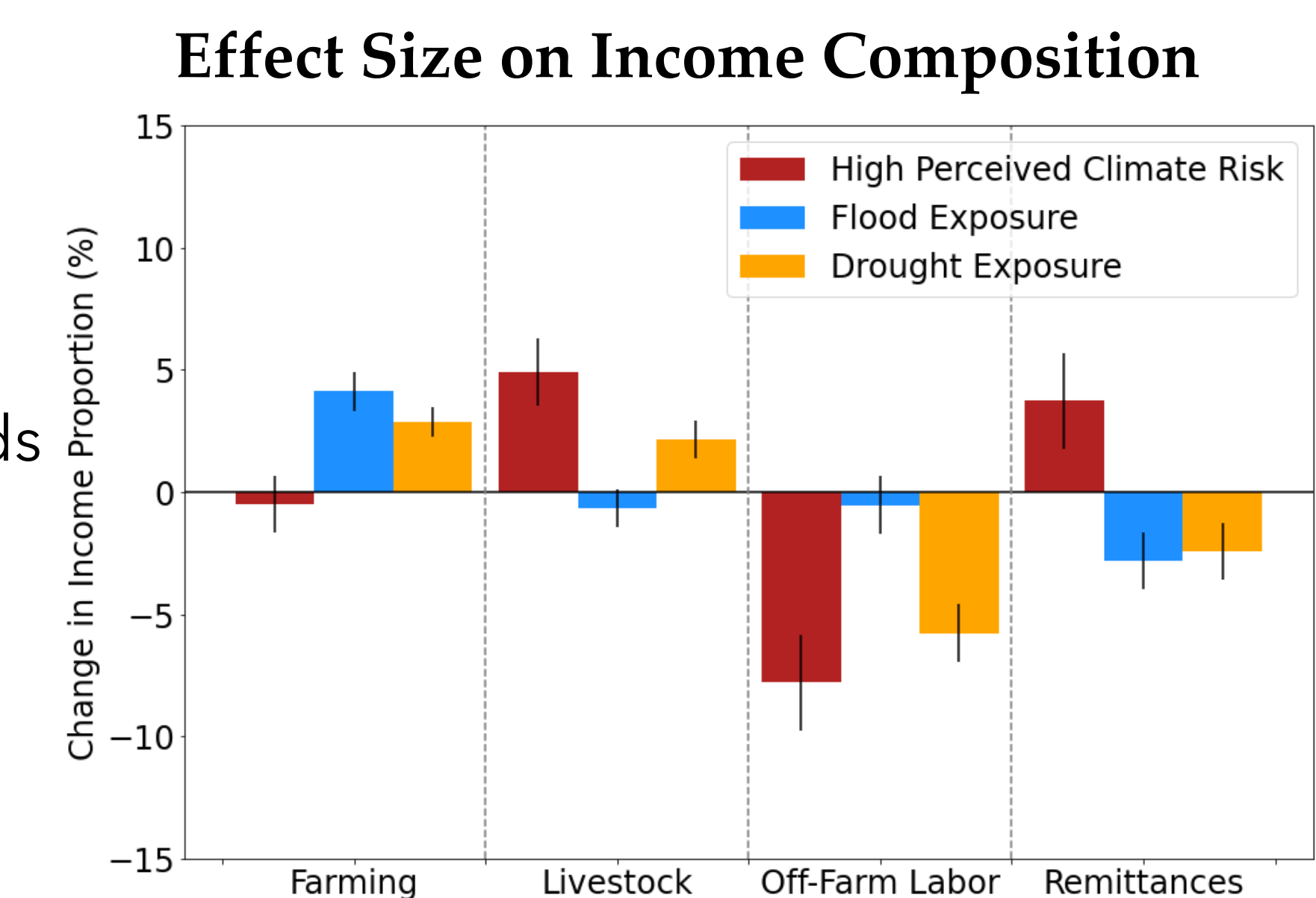


Fig. 2. Informal sources of information (e.g. friends, social media) tend to be more frequently consulted than official sources (e.g. government). Farmers who consult official sources tend to perceive **lower overall climate risk**, with exception of the few farmers consulting scientists.

3. Increased climate risk perceptions linked to diversified income portfolios, except during shocks

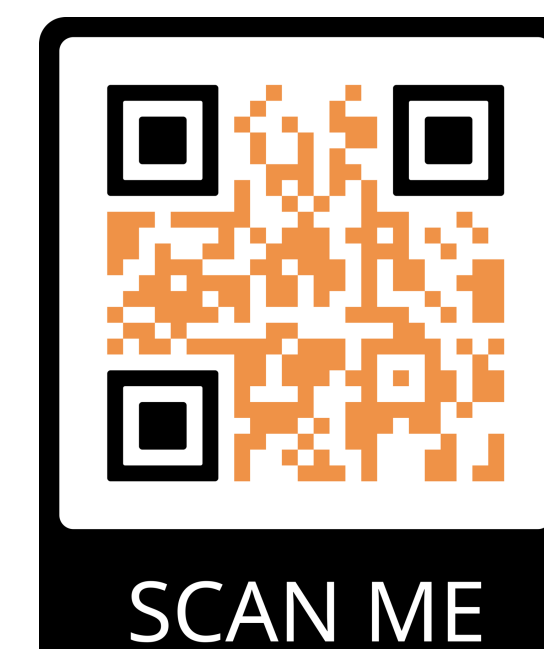
Fig. 3. Farmers that **perceive higher climate risks** generally rely more on income from livestock and migration remittances. However, households rely more on farming income during **floods** and **droughts**, suggesting barriers to diversification during income shocks.



Discussion and Next Steps

Theoretical Insights	<ul style="list-style-type: none"> Households perceiving higher climate risk generally increase income diversification (supports NELM), except for climate shocks (potentially supports SP/A). Access to more information does not necessarily increase salience of climate threats (qualifies PMT).
Policy Insights	<ul style="list-style-type: none"> Climate information sources may be providing false sense of security by suggesting that governments can manage climate risks. De-risking diversification strategies (e.g. migration, off-farm labor) may facilitate further adaptation.
Next Steps	<ul style="list-style-type: none"> Survey other regions of Nepal, including different agroecological regions (mid-Hills, Himalaya) Integrate survey data with agent-based model to simulate effects of potential adaptation policies

For more information!



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