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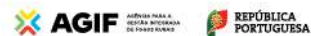
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# Wildfire Occurrence in Forest and Transition Landscapes of Ghana: Farmers' Perceptions, Attitude and Adaptation Behavior



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# Introduction

- Wildfires present a growing risk to many countries
- **Annual wildfire ranges:** 30% in the High Forest Zone (HFZ) and Transitional Zone (TZ) to over 90% in the drier Northern Savannah Zone (NSZ)



- Because of climate change, wildland fires will increase in frequency and intensity
- It is important to generate more knowledge about this phenomenon – both to **prevent its occurrence** and to **minimize its consequences**.



# Research questions and objective

- **Causes**- General understanding of the causes of wildfire
- **Consequences** -Understanding of the consequences of wildfire?
- **Organizational efforts** - Evaluations of the involved stakeholders' work during the fire
- **Future risk** - Beliefs about the future risk of forest/farm fires and possible factors underlying this development.



- **Objective:** Investigate farmers' perceptions, awareness, attitudes and adaptation behavior toward wildfires





# Justification for the study

- ***Perceiving the causes*** of wildfires is a fundamental precondition for **minimizing impact** and ***choosing adaptation strategies***.



- Significant for policy-makers when ***determining adaptation strategies***



- ***Consciousness, knowledge*** and ***risk perception*** of wildfire affects formation of favorable attitudes towards wildfire.



# Research framework

## Health Belief Model (HBM)

**PERSUS** = perceived susceptibility

**PERSEV** = perceived severity

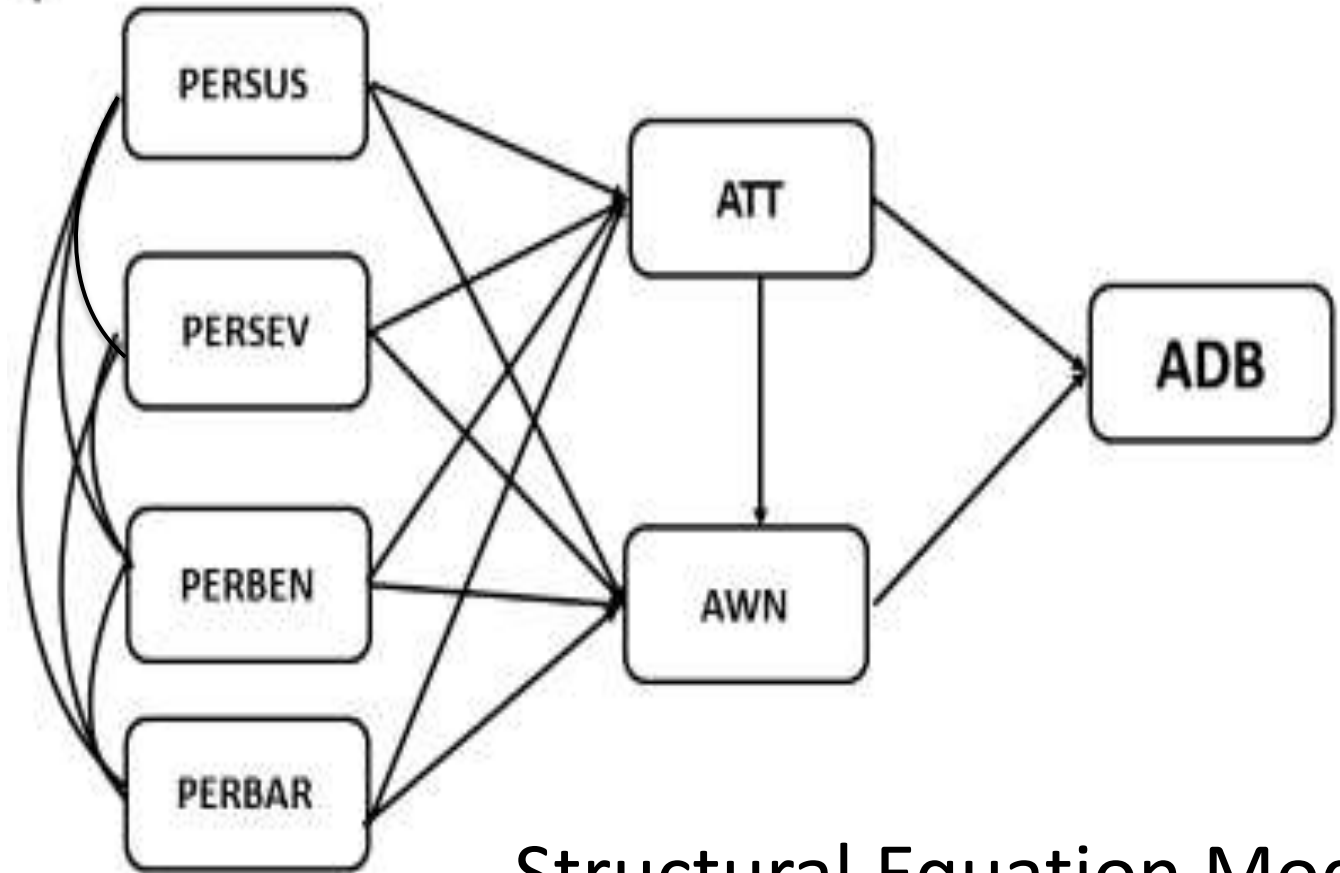
**PERBEN** = perceived benefit

**PERBAR** = perceived barrier

**ATT** = attitudes towards wildfire

**AWN** = awareness towards  
wildfire

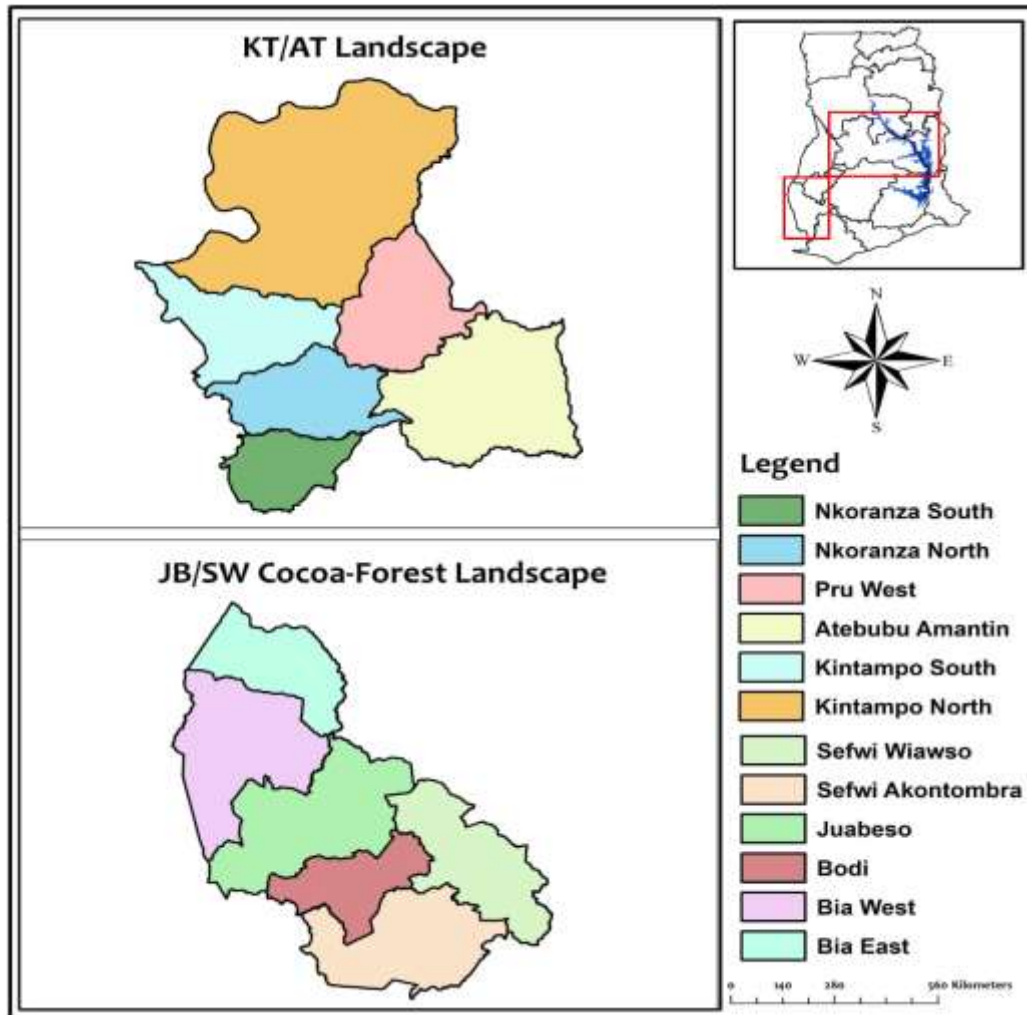
**ADB** = adaptation behavior  
towards wildfire



Structural Equation Model



# Methodology

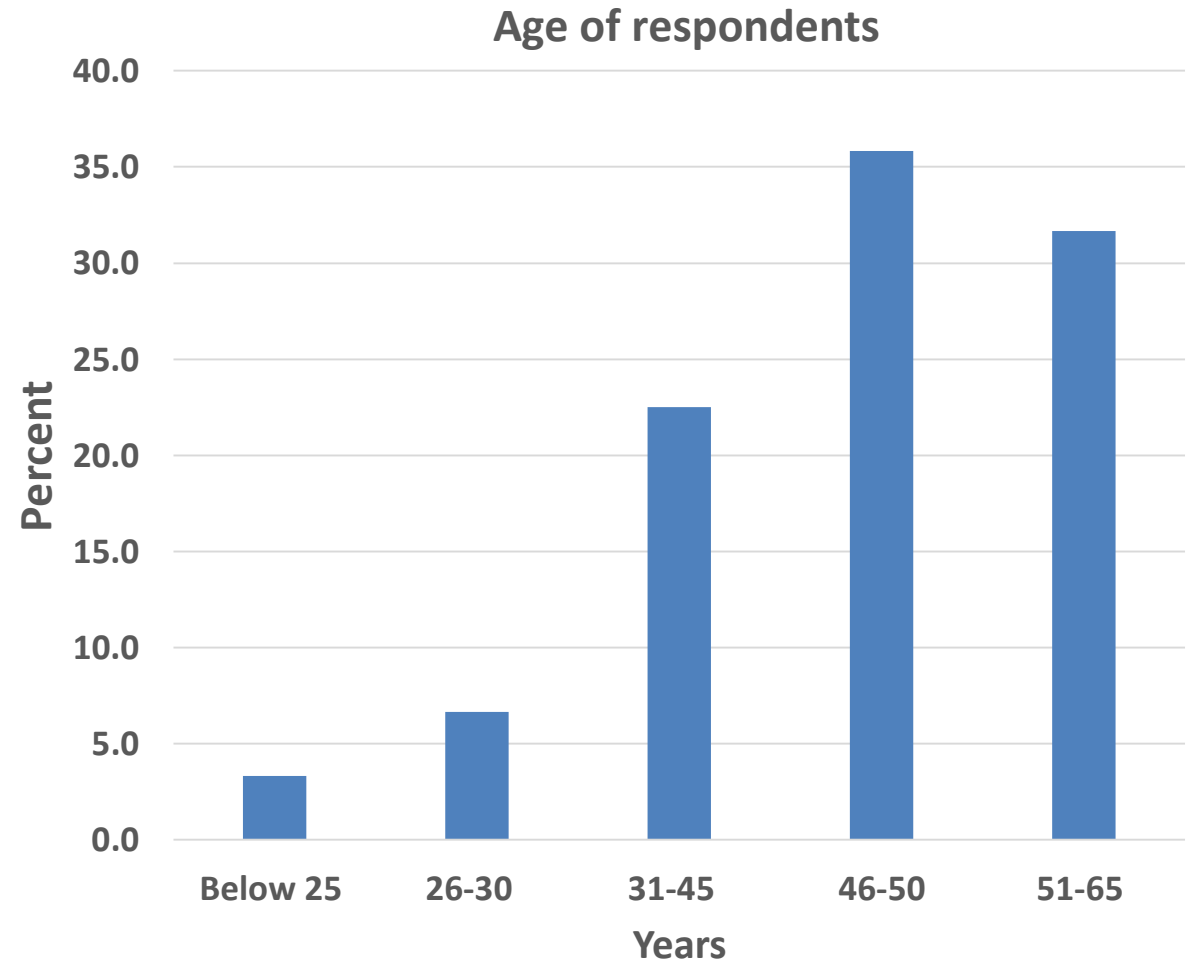
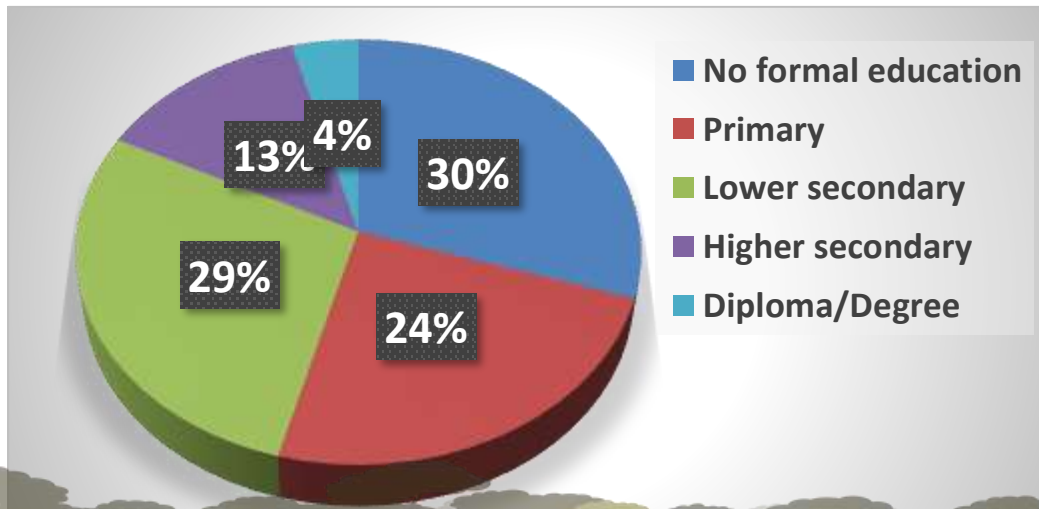
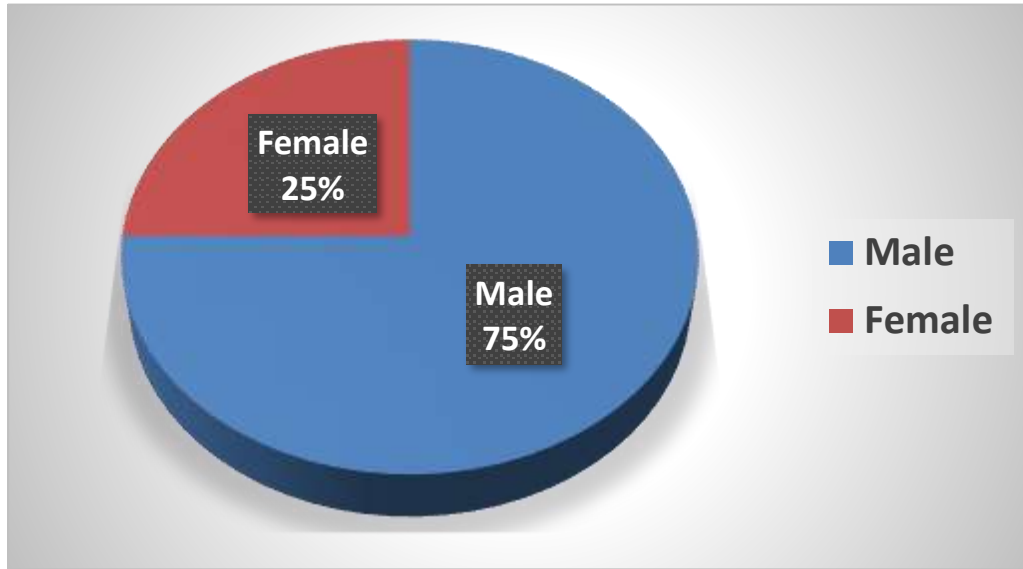


- **Study Area:** Kintampo-Atebubu (KT/AT) landscape and Juaboso-Bia/ Sefwi Wiawso cocoa landscape
- A ***multi-stage purposive*** sampling technique was used to select 300 respondents
- ***Face-to-face*** interviews using a semi-structured questionnaire.
- ***Data analysis*** descriptively and quantitatively. Differences in responses between sites were tested using a chi-square test of significance.
- A ***5-point scale*** ranging from “agree completely” to “completely disagree” to “don’t know” .

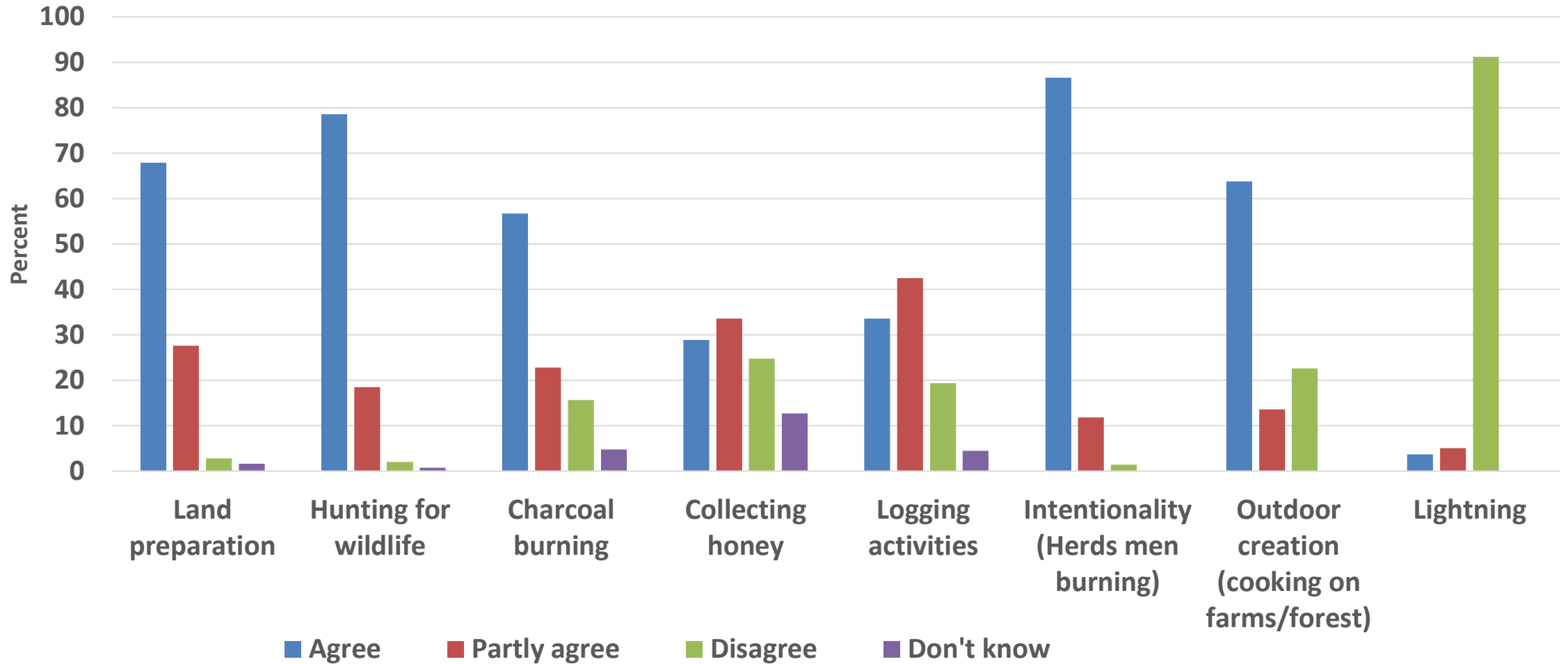




# Research results

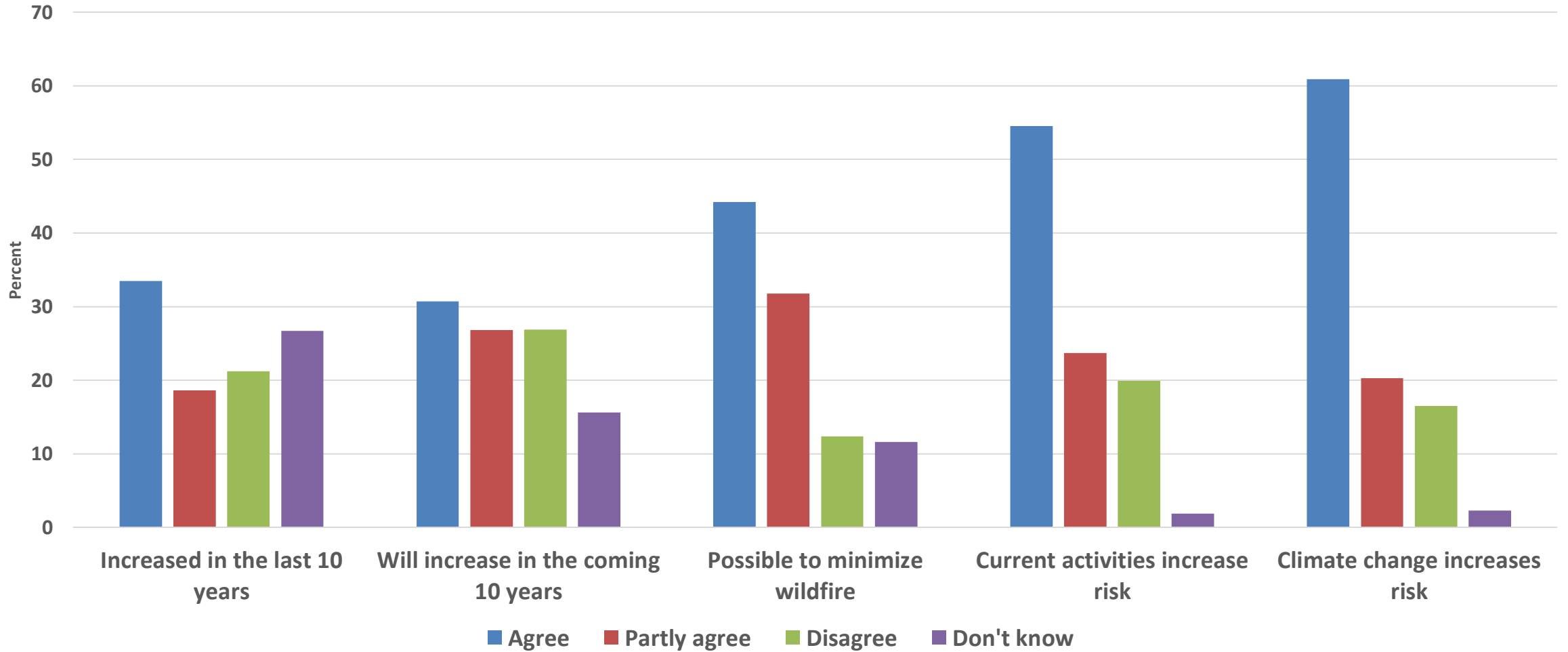


# Causes of the wildfire



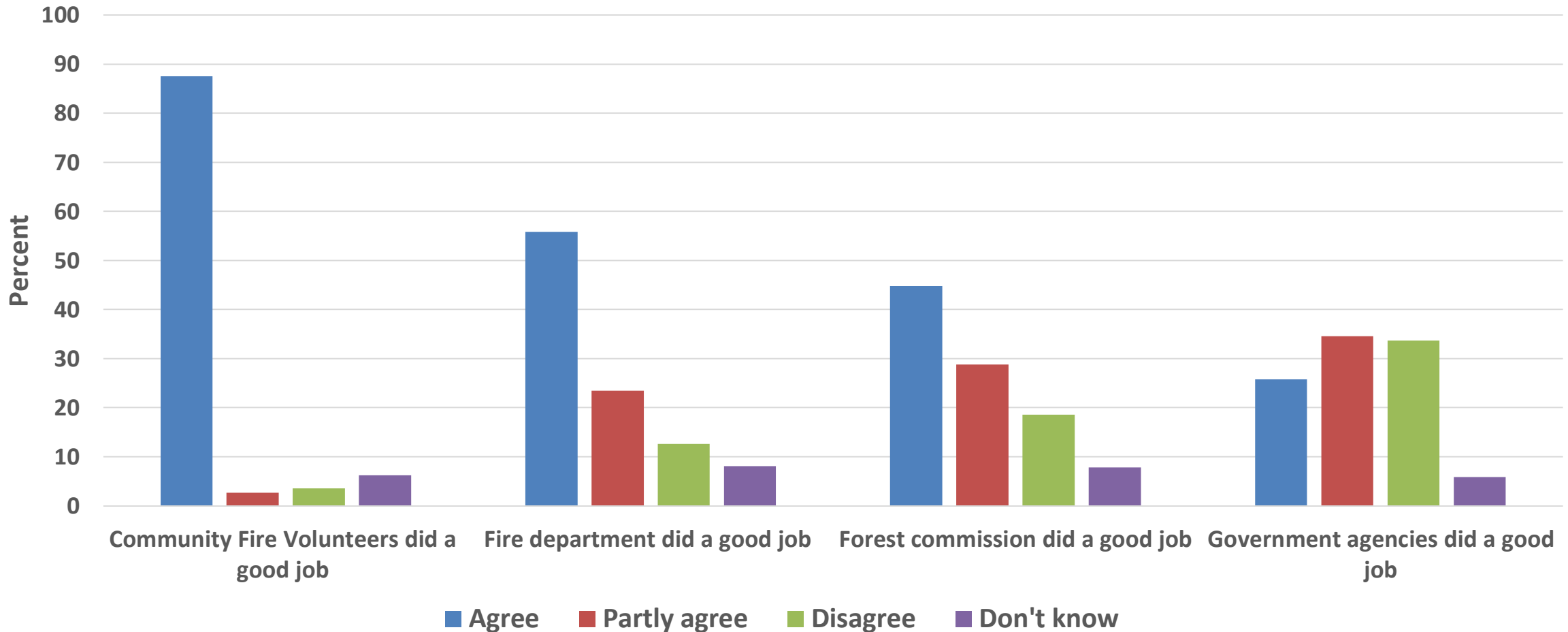


# Wildfire risks

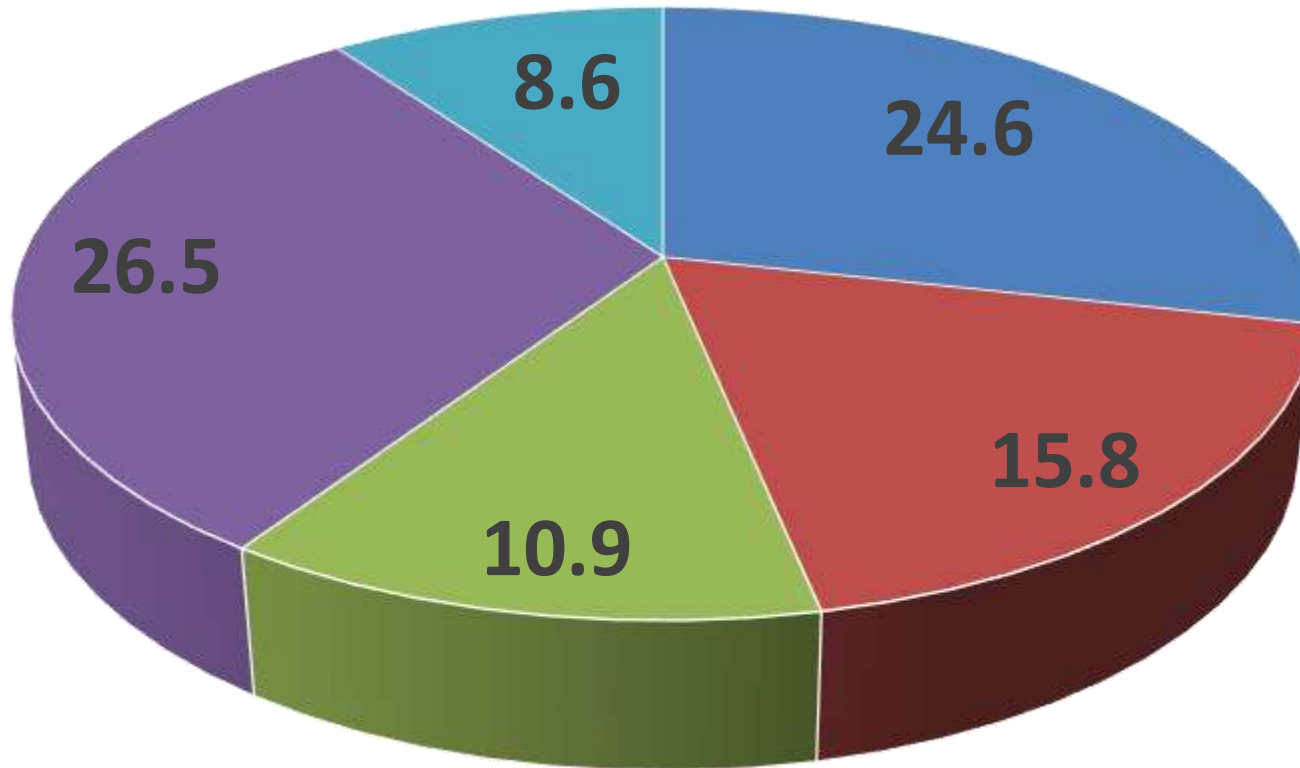




# Evaluations of efforts during wildfire



# Consequences of wildfire



- No loss of property
- Unavailability of NTFPs
- Horrible to view wildfire
- Worry about new wildfire
- Loss of economic assets



# Table 1 present the output of the complete structural model

	Hypotheses	Coefficient ( $\beta$ )	C.R	Remark
Awareness	Perceived <b>susceptibility</b> has influence on awareness of wildfire	0.383***	3.538	Supported
	Perceived <b>severity</b> has impacts on awareness of wildfire	0.212***	5.380	Supported
	Perceived <b>benefits</b> has influence on awareness of wildfire	0.293***	2.310	Supported
	Perceived <b>barriers</b> has influence on awareness of wildfire	-0.142	0.910	Supported
Attitudes	Perceived <b>susceptibility</b> has influence on attitudes towards wildfire	0.271***	3.076	Supported
	Perceived <b>severity</b> has influence on attitudes towards wildfire	0.223***	2.698	Supported
	Perceived <b>benefits</b> has influence on attitudes towards wildfire	0.385 ***	2.668	Supported
	Perceived <b>barriers</b> has influence on attitudes towards wildfire.	-0.071	0.815	Supported
Awareness & Attitudes	There is a significant <b>positive relationship between awareness of wildfire and attitudes</b> towards adaptation behavior.	0.302***	2.251	Supported
Awareness & Adaptation	There is a significant <b>positive relationship between awareness and adaptation behavior</b> towards wildfire.	0.231***	5.479	Supported
Attitudes & Adaptation	There is a significant <b>positive relationship between attitudes and adaptation</b> behavior towards wildfire.	0.254***	4.691	Supported
<i>Note: ***, ** and * indicate 1%, 5% and 10% levels of significance, respectively.</i>				



# Conclusions and Recommendations

- Wildfires are causing negative impacts on human life, biodiversity, and ecosystem
- Human activities are responsible for causing most of the wildfires
- Relationships exist between knowledge of wildfires and adaptive behavior



- Championing the course of wildfires is a collective responsibility of stakeholders
- Equipping and forming more community Fire Volunteers is a sure way



# Thank you

