# Negotiating Forest Rights Debates : A Game-Theoretic Analysis of Stakeholder Behavior in the Western Himalayas

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INTRODUCTION

Western Himalayan forests are crucial for tribal livelihoods and biodiversity. Multiple stakeholders engage in complex negotiations affecting forest access, governance, and benefits. This study uses game theory to analyze these negotiations.
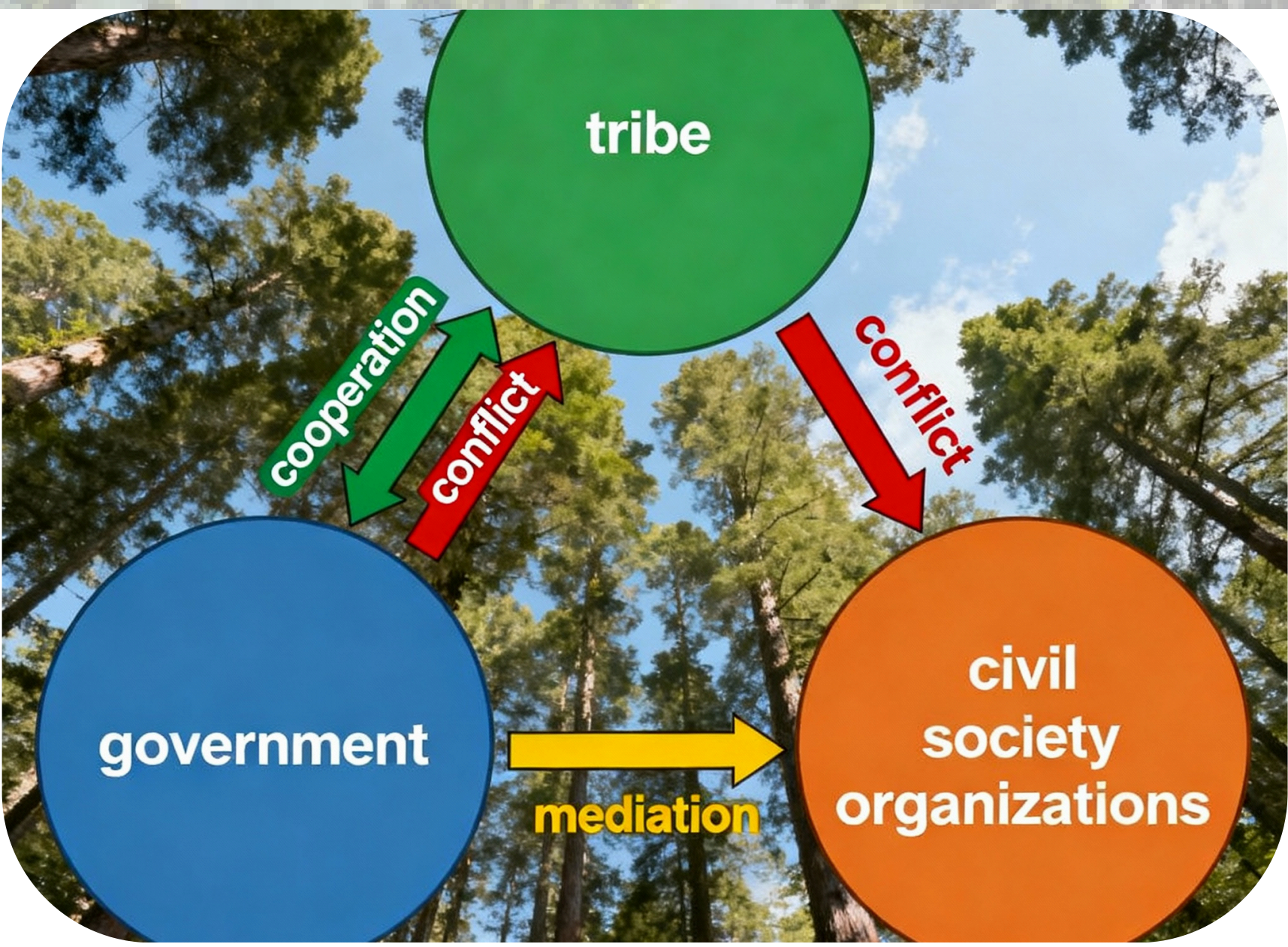
RESEARCH QUESTIONS

1. How do stakeholders form alliances and negotiate forest rights?
2. What role do cognitive biases and cultural values play?
3. How can policy improve cooperation and sustainability?

tribe
cooperation
conflict
government
mediation
civil society organizations
conflict
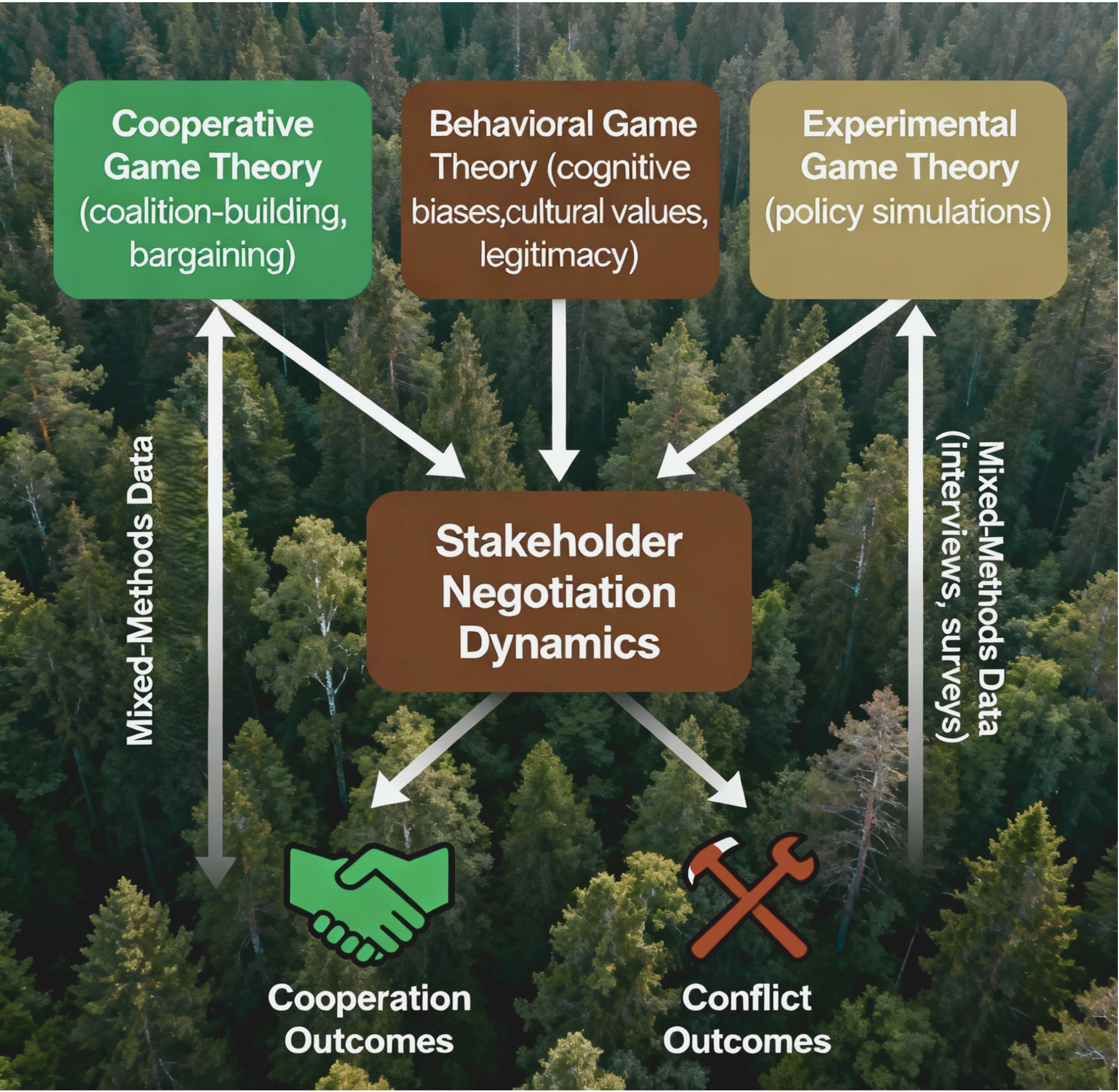
KEY FINDINGS

1. Integration of traditional knowledge enhances cooperation.
2. Cultural values shape negotiation outcomes.
3. Behavioral insights increase policy effectiveness.
4. Inclusive governance reduces conflicts and facilitates sustainable forest management.

Cooperative Game Theory (coalition-building, bargaining)

Behavioral Game Theory (cognitive biases,cultural values, legitimacy)

Experimental Game Theory (policy simulations)

Mixed-Methods Data

Mixed-Methods Data (interviews, surveys)

Stakeholder Negotiation Dynamics

Cooperation Outcomes

Conflict Outcomes

POLICY IMPLICATIONS & RECOMMENDATIONS

- Policy interventions that embrace inclusive governance, traditional knowledge integration, and behavioral insights can increase cooperation and reduce conflict among stakeholders.
- Recommendations include balancing ecological and livelihood needs and designing culturally sensitive governance frameworks.
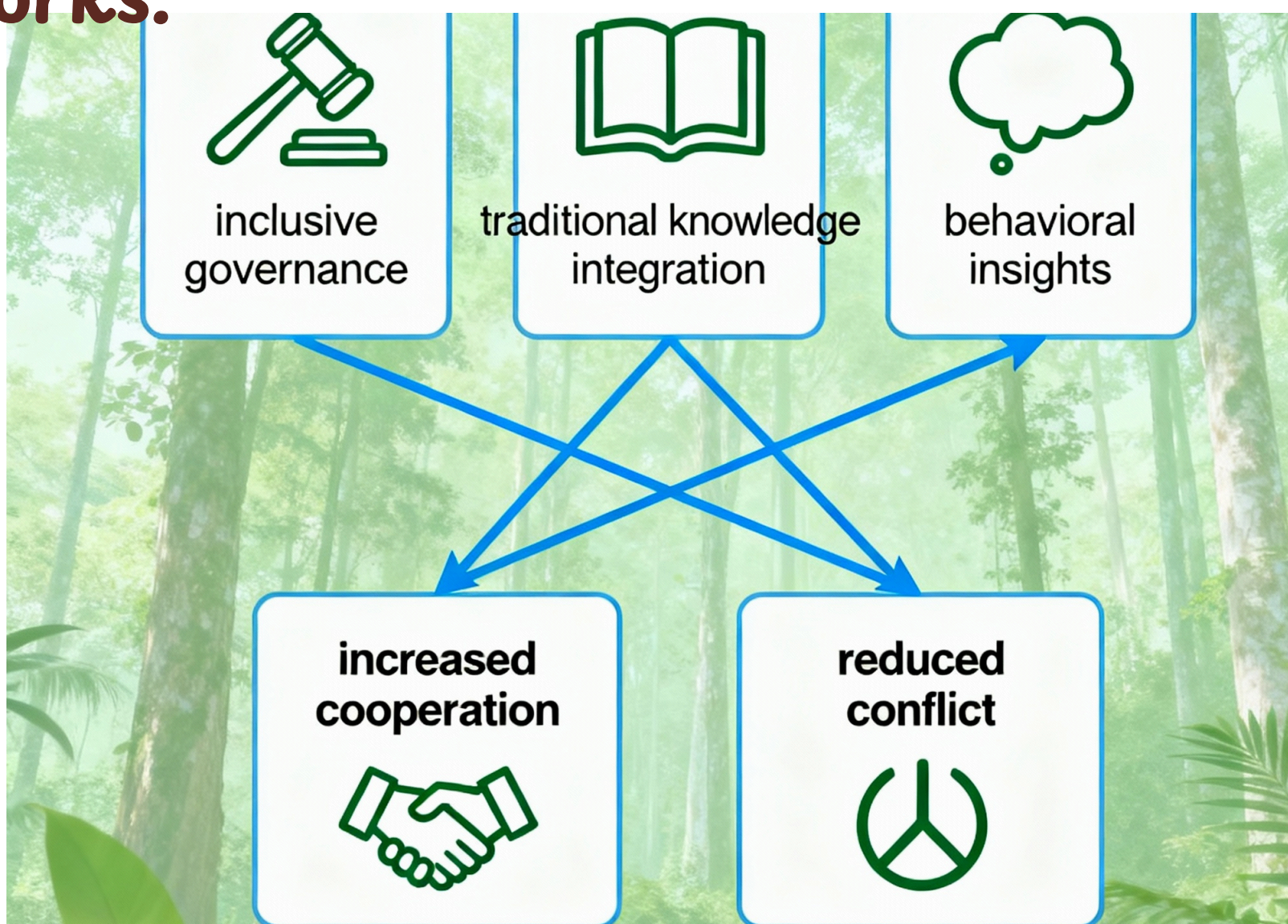
THEORETICAL FRAMEWORK & METHODS

This study applies three game theory models:

1. Cooperative :coalition-building
2. Behavioral:cognitive and cultural biases
3. Experimental :policy scenario simulations.

Mixed-methods research interviews,surveys, experimental games informs understanding of stakeholder negotiation dynamics.

inclusive governance

traditional knowledge integration

behavioral insights

increased cooperation

reduced conflict