

Restoring Landscapes, Reshaping Livelihoods: Adoption Determinants and Welfare Effects of Forest Landscape Restoration Practices in Western Rwanda

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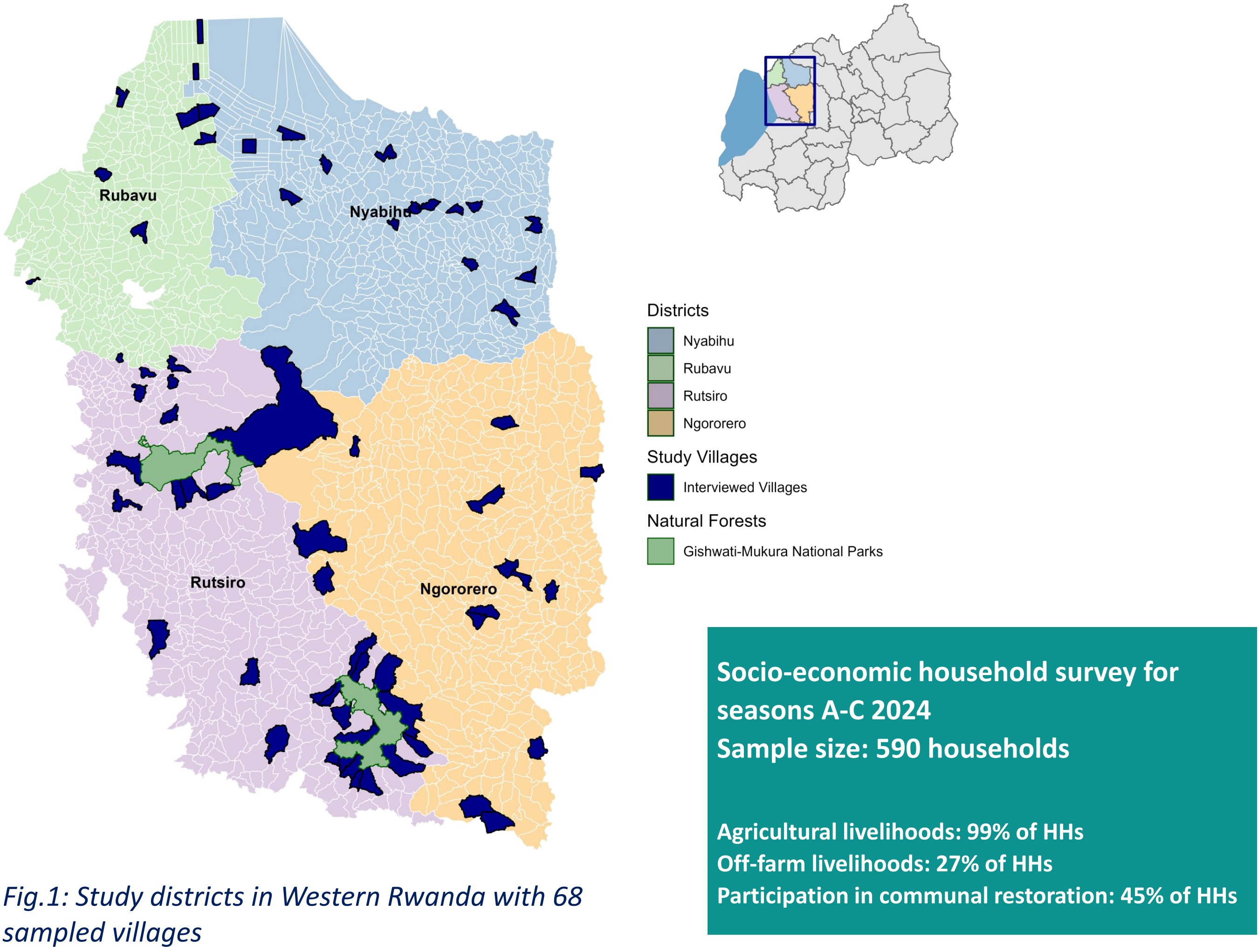
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1. INTRODUCTION

- The steep, hilly terrain of Rwanda's Western Province is highly prone to soil erosion and landslides
- Topsoil, nutrients, and water run off decrease agricultural production - the main source of income and subsistence for local households
- Restoration practices are promoted to counter degradation and support rural welfare, in Rwanda strongly driven by government and NGO action
- Rwanda has pledged to restore 2 million ha by 2030 (Bonn Challenge), pursued through policy, communal labor, and donor-supported projects amid severe land scarcity and smallholder-dependent livelihoods

→ Restoration adoption is rarely an individual/household decision alone
This study examines what drives household-level adoption of agroforestry, woodlots, and terracing, and whether it translates into improved welfare

2. STUDY AREA AND SAMPLE



3. CONCEPT AND ESTIMATION APPROACH

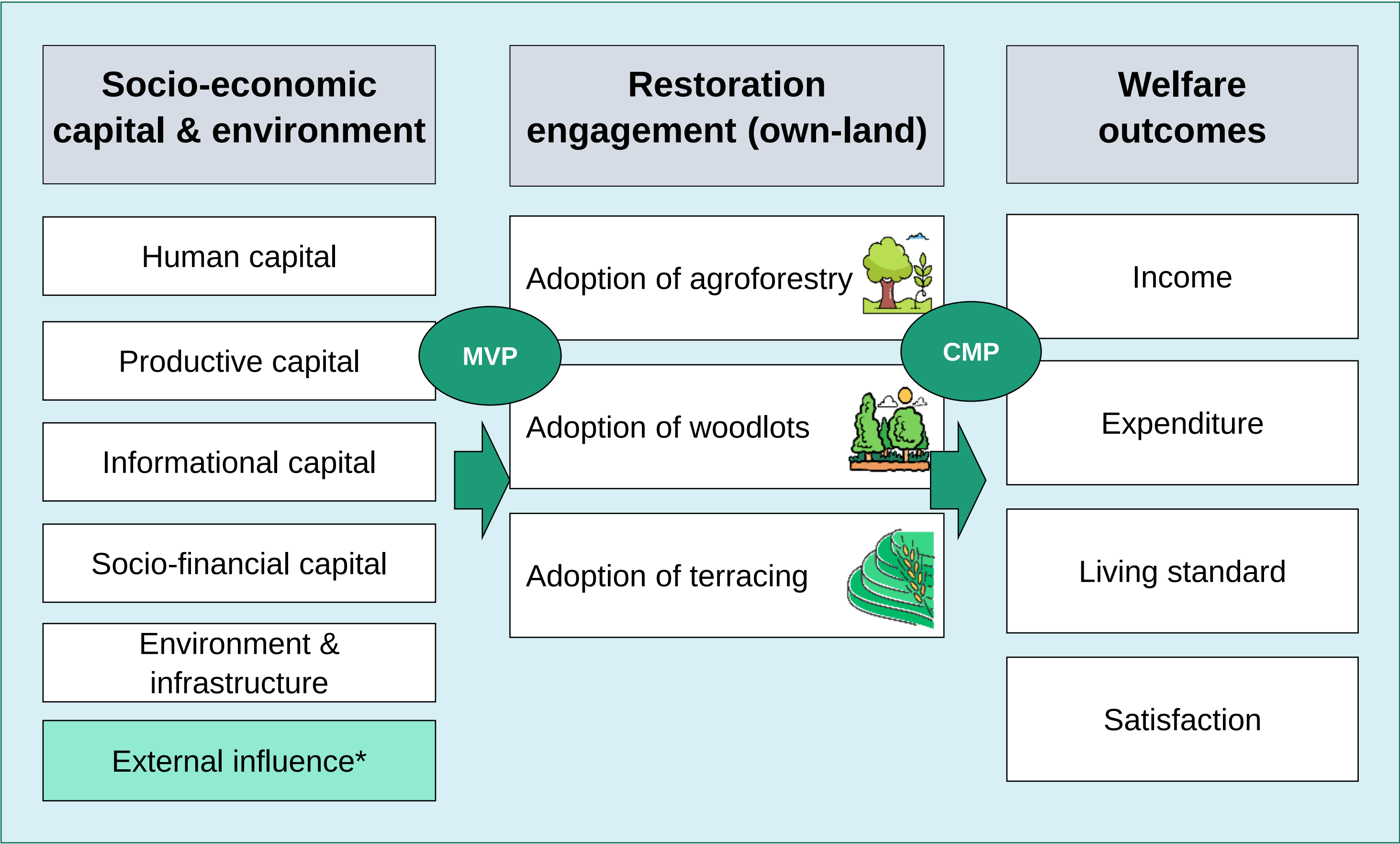
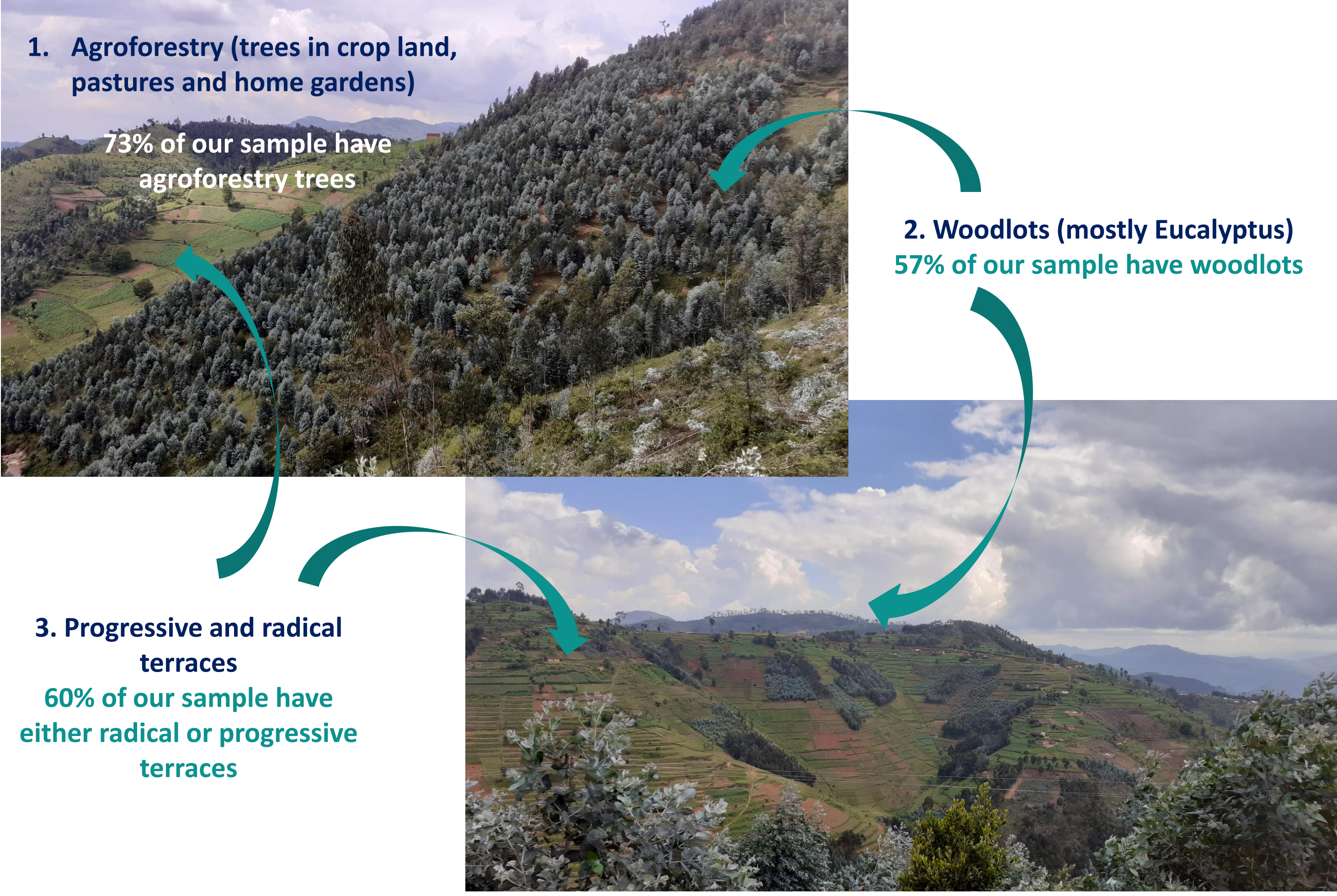


Fig. 2: Conceptual framework for hypothesized relationships between adoption determinants of restoration practices and welfare outcomes employing a 1) Multivariate Probit Model (MVP) and a 2) Conditional Mixed Process Model (CMP) using *(perceived) community and institutional influence as instruments in 2)



4. RESULTS

1) Adoption determinants

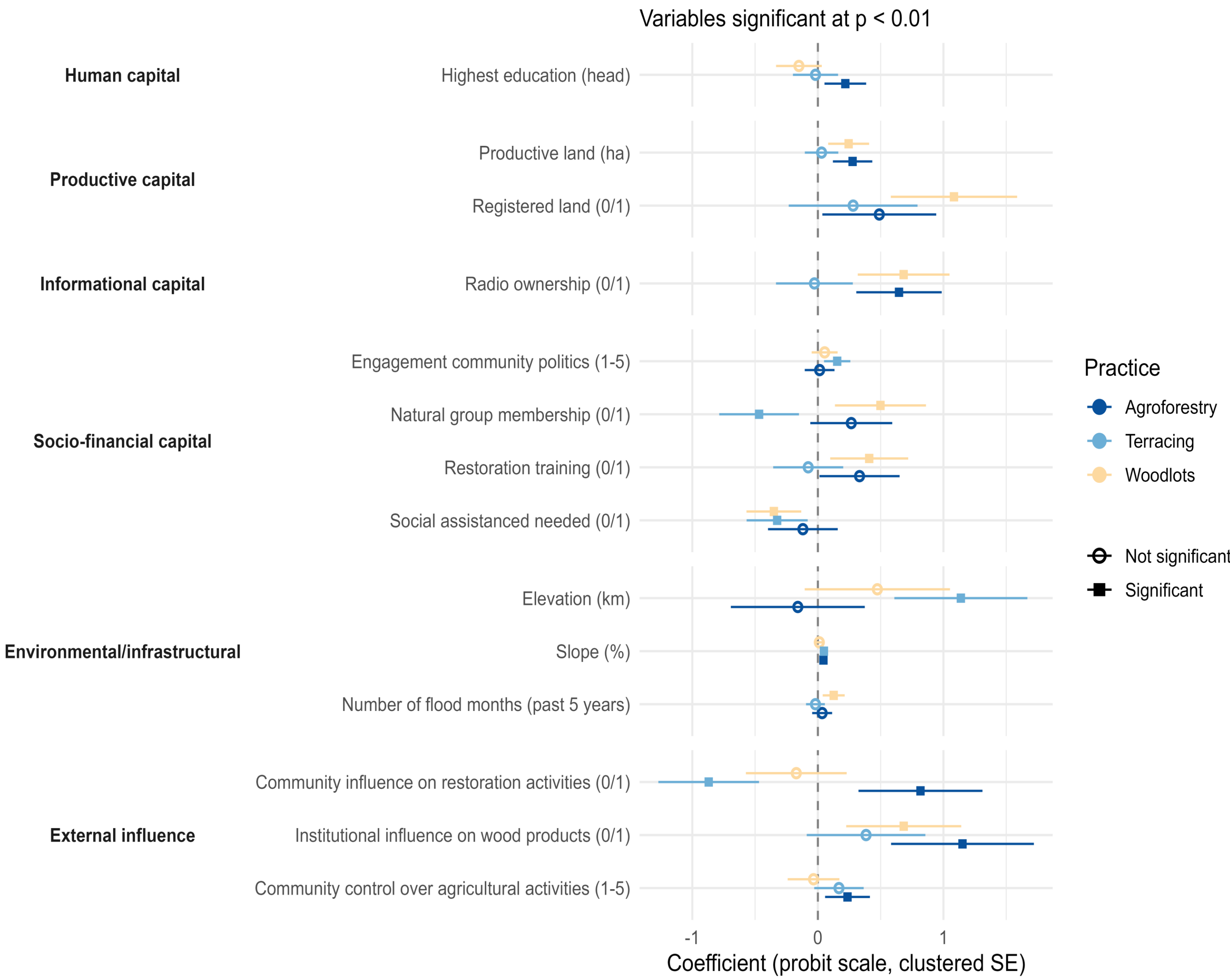


Table 1: Adoption determinants of restoration activities estimated via multivariate probit

2) Welfare effects

	Total income	Farm income (p.c.)	Total expenditure (PAE)	Regular expenditure (PAE)	Living standard index	Workload satisfaction
Agroforestry	0.40**	0.50**	0.73***	0.76***	0.25	0.25
Woodlots	-0.89***	0.10	-0.37	-0.32	0.03	0.22
Terracing	0.52	1.06***	-0.18	-0.21	1.11***	1.31***

* $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

Cell shading reflects effect size (turquoise = negative, white = ~0, blue = positive)

Table 2: Welfare effects of restoration activities estimated using a conditional mixed process model

