

SUSTAINABILITY PATHWAYS: UNDERSTANDING THE TRANSITION TO A BIO-BASED ECONOMY

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ADAPTECON II



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Auvergne

THE BIO-BASED ECONOMY AND COMPLEXITY

Change in coupled social-ecological systems

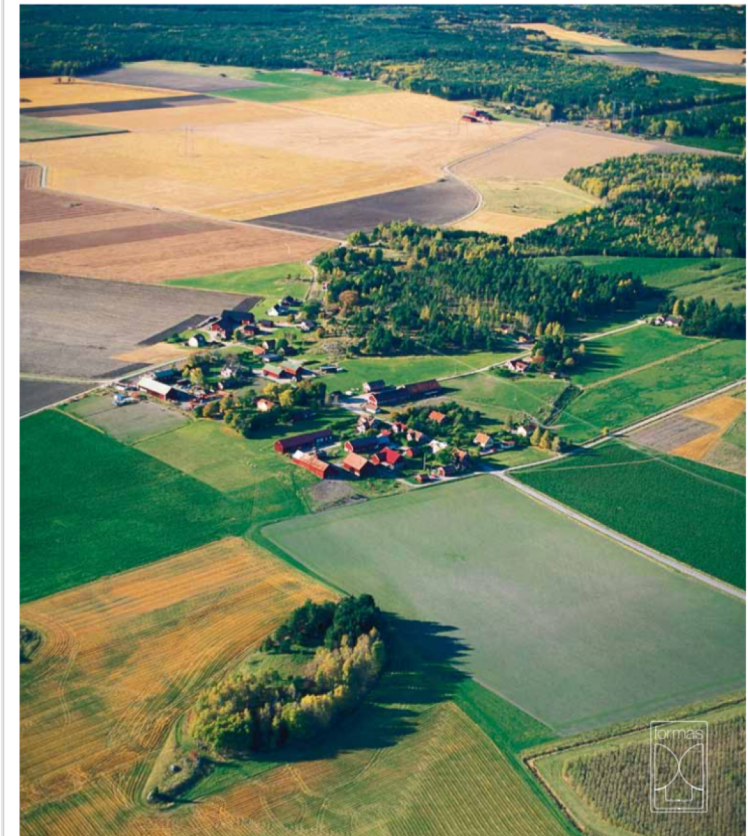
Across scales, sectors and knowledge domains

Multiple actors and understandings

The bio-based economy in practice: Policy resistance

Calls for interdisciplinary research

Swedish Research and Innovation
Strategy for a Bio-based Economy



RESEARCH PROCESS



PART I

Development of a general overview of the relationship between the bio-based economy and sustainability.

PART II

Create a conceptual frame to explore transition pathways in a Swedish context.

PART III

Develop formal simulation models that can be used to understand past developments as well as future scenarios on a regional and national scale.

RESEARCH PROCESS

PART I

Development of a general overview of the relationship between the bio-based economy and sustainability.

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Create a conceptual frame to explore transition pathways in a Swedish context.

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Develop formal simulation models that can be used to understand past developments as well as future scenarios on a regional and national scale.

A QUALITATIVE ANALYSIS OF TRANSITION PATHWAYS

EXPERT INTERVIEWS AND CAUSAL MAPPING

Forest and agriculture sector

Grounded theory

FOCUS:

Desired change processes

Key feedbacks

Proposed leverage points and interventions

Pathways analysis – “what-if” questions

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Open Access Article

Understanding the Transition to a Bio-Based Economy: Exploring Dynamics Linked to the Agricultural Sector in Sweden

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sustainability



Article

The Bio-Based Economy: Dynamics Governing Transition Pathways in the Swedish Forestry Sector

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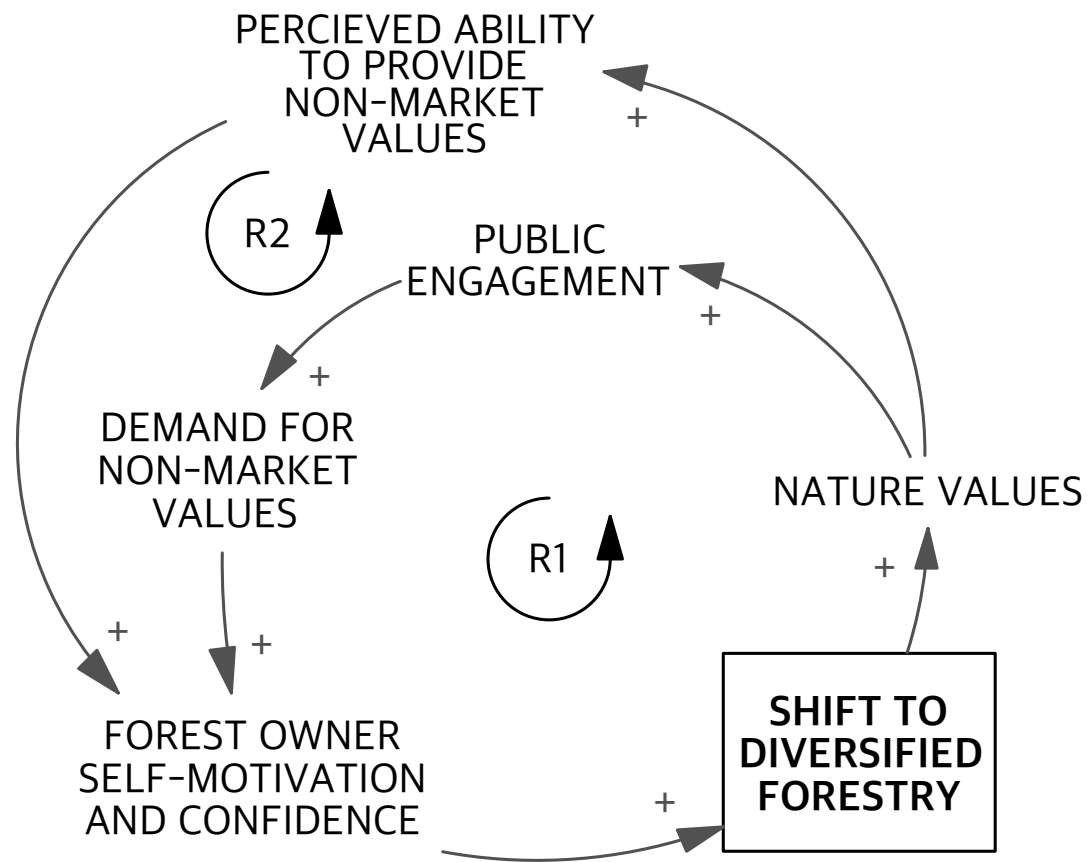
DESIRED CHANGE PROCESSES: A SHIFT TO DIVERSIFIED FORESTRY

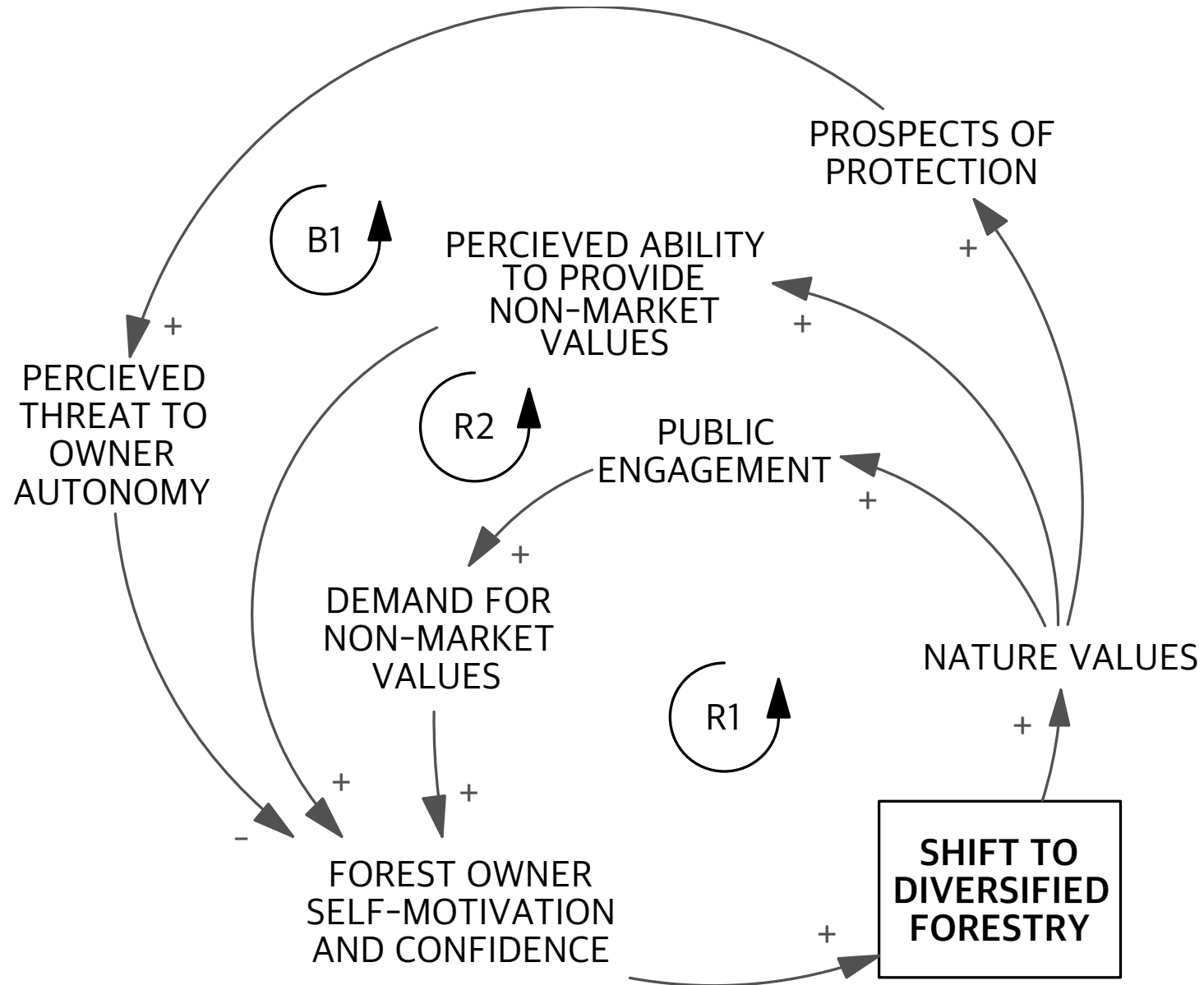
FOREST OWNER
SELF-MOTIVATION
AND CONFIDENCE

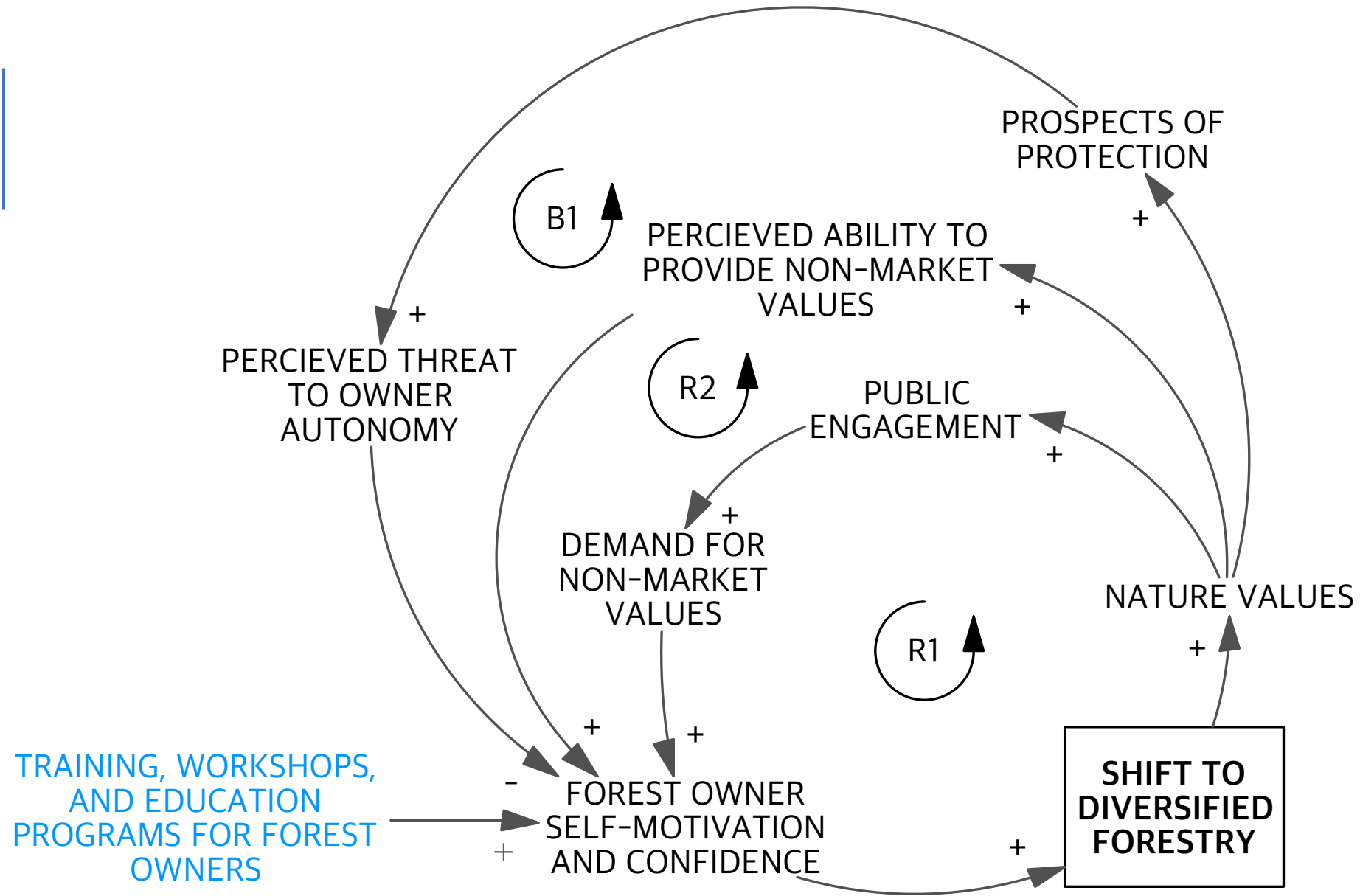
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SHIFT TO
DIVERSIFIED
FORESTRY









DESIRED CHANGE PROCESSES

LARGE ACTION SPACE – 7 DESIRED CHANGE PROCESSES, 15 SPECIFIC INTERVENTIONS

DESIRED CHANGE PROCESSES

LARGE ACTION SPACE – 7 DESIRED CHANGE PROCESSES, 15 SPECIFIC INTERVENTIONS

INNOVATION IN CONVENTIONAL INDUSTRIAL PRODUCTION

Resource-use efficiency

Collaboration across sectors and new markets

STRUCTURAL CHANGE FOR HIGH VALUE-ADDED PRODUCTION

Novel form of production, economies of scope rather than economies of scale

From theoretical potential to market realization? The shift drives demand

Trade-offs, lock-ins and whom to take the lead?

→ Implications for land-use change?

→ Study limitations

CONCLUDING REMARKS

TOWARDS CONSENSUS?

- Multiple understandings and perceptions still present in the Swedish debate

SYSTEMS ANALYSIS

- Opening up versus closing down on transition pathways
- Integration of actor perspectives
- Trade-offs, synergies, shared challenges
- Parallel policy agendas

THANK YOU

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