


The case for a novel agroforestry system and cross-sector collaboration

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The case for a novel agroforestry system and cross-sector collaboration

Objective: *to increase the understanding of ways to progress a specific land use innovation and develop it into a next generation system*

Today's presentation

- About the agroforestry case
- Land manager values
- Analysis of the system
- Next steps

Agroforestry



Nut tree crops

- *Corylus avellana*
- *Gevuina avellana*
- Mix with pine forests, livestock



Three land managers

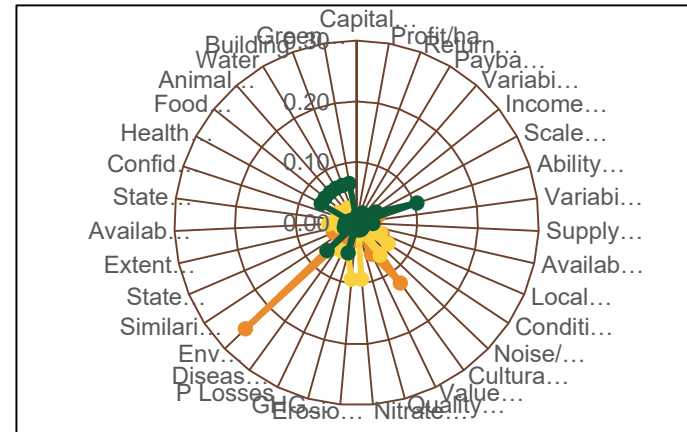
- 1200 ha forest
- 7 ha livestock/tree farm-lifestyle block
- 450 ha sheep/beef/chickens/pine farm

*Photo of Corylus avellana (top left and right)
supplied from Murray Redpath*

Land manager values

Two domains

- **Environment**
- **Social well-being**
 - *Regulation and market factors for Smallholder*



Analysis of the system

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Design thinking describes innovation as three overlapping, interconnected spaces that can loop back through each other. The first space is inspiration, second is ideation, third is implementation, being the path that leads to the market.

Brown & Katz, (2011)

Next generation systems are the redesign of enterprises and production systems, or new enterprises or technologies that break the lockstep relationship between profitability, production and environmental footprint.

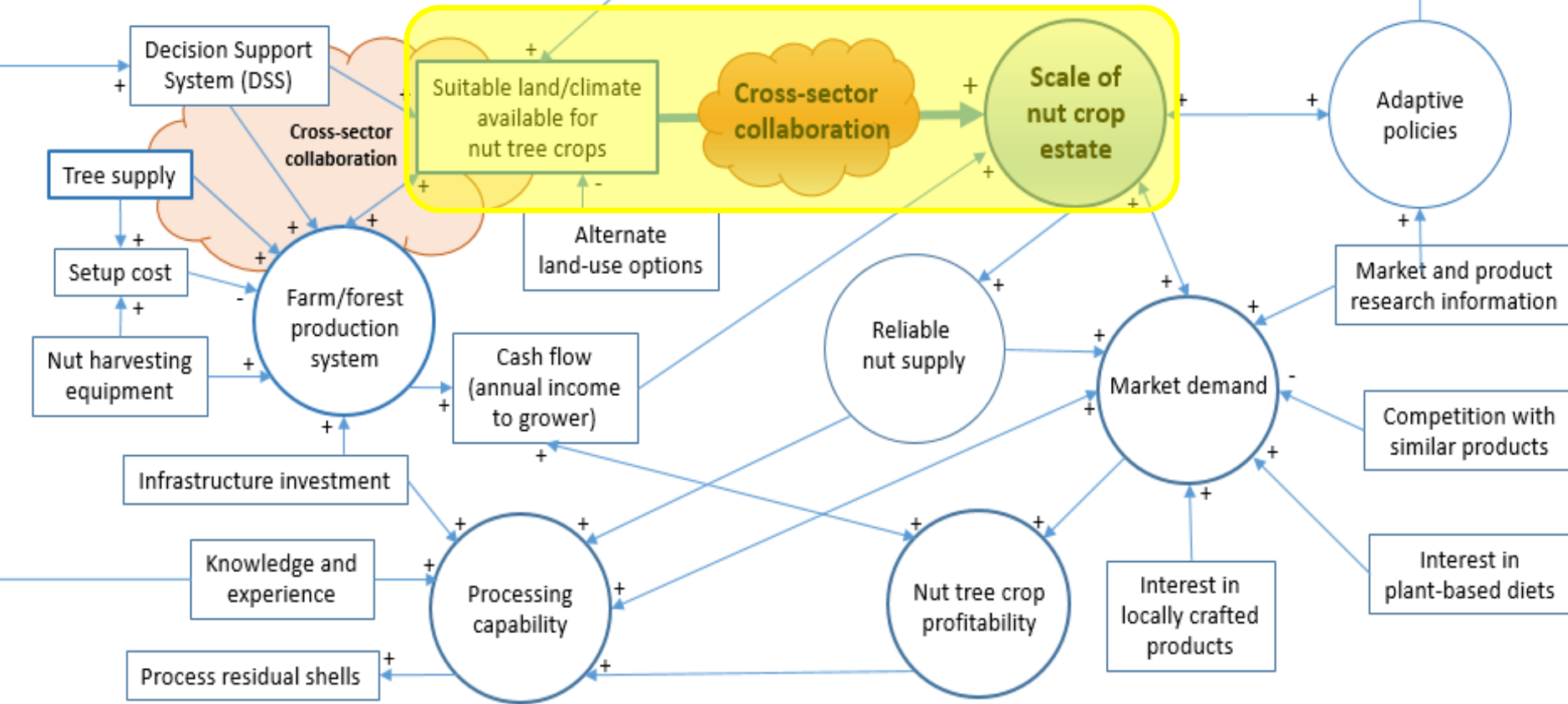
Renwick et al., (2017)

Causal loop diagram describing the transformation of farms & forests with hazel/gevuina nut tree crops

Environmental values, i.e.; carbon sequestration, water/soil quality (erosion/sedimentation, low nitrate leaching), insect friendly, richer species biodiversity, animal shelter, fit with regenerative or new sustainable practices, all encompassing environmental stewardship.

Socio-cultural values, i.e.; creating work opportunities, conditions of employment, resilience by locally producing more diverse products, value distribution (multiplier effects), timelier cash flows, being leaders in land use management, strengthening the connection between people and the land, all encompassing cultural values.

Looking for changes to existing systems



Analysis of the system

- **Scalability**
 - about availability
- **Cross-sector Collaboration**
 - radical



This study looks at the potential scale to grow and crop gevuina by forestry roads.

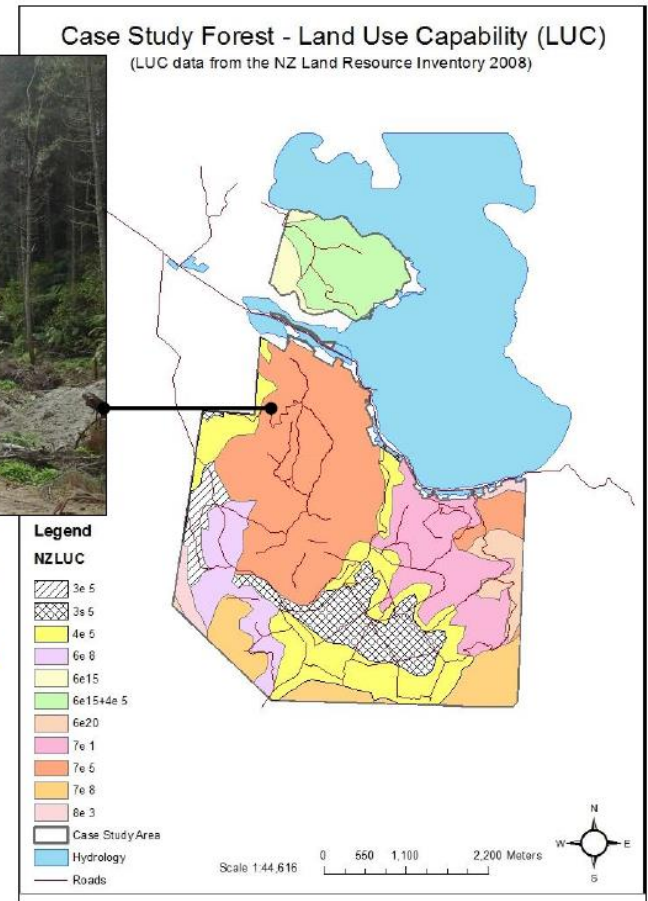


Figure 1: Photo shows a timber harvesting operation in the study forest, at the top of a road in land use capability (LUC) 7.

Next steps

For land managers

- Stakeholder engagement strategy – roles and responsibilities, identify a coalition of willing to scale up
- System development plan - coordinate/prioritise research and field activities, share knowledge and associated development costs

For us all

- Develop suite of new agroforestry system options for NZ
- Inform policy development and adaptation to enable these systems
- Develop research to fill gaps in knowledge required by land managers investing in NGS

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Challenges

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