

CAN REGENERATIVE AGRICULTURE PROMOTE ECOSYSTEM-BASED SOLUTIONS FOR CLIMATE CHANGE ADAPTATION?

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Ecosystem-based solutions for climate change solutions?

Nature's Contributions to Adaptation are the ecological properties and functions which people can manage and govern to regulate risks from climate change and related hazards and provide options for sustaining Nature's material and non-material benefits to their livelihoods (Lavorel et al. 2015, Colloff et al. 2020). These adaptation services are typically derived from ecosystems in good condition, including through their biodiversity.

Adaptation services can be considered across five categories. These are shown in Figure 1 as applicable to all systems, and in Figure 2, as applicable to regenerative multispecies pastures

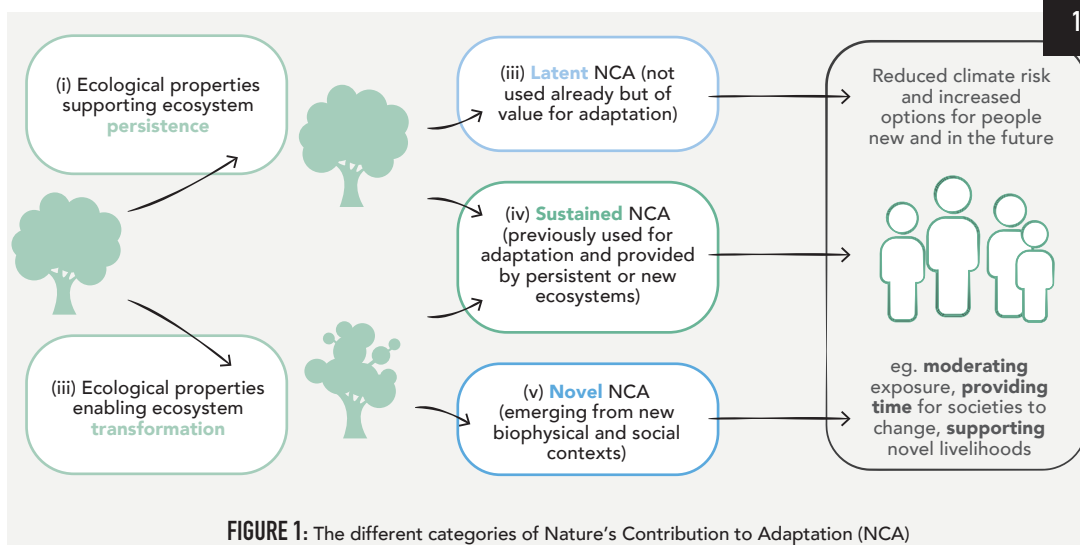


FIGURE 1: The different categories of Nature's Contribution to Adaptation (NCA)

Knowledge gaps:

- 1) Do RA farming system provide greater adaptation services compared to other farming systems in comparable biophysical context (climate, soil type, topography, business type, etc..)?
- 2) What novel ecosystem services, if any, might evolve in the near future from RA farming systems in New Zealand?
- 3) Can RA contribute to the understanding of both human-centric and eco-centric adaptation services in the context of New Zealand?

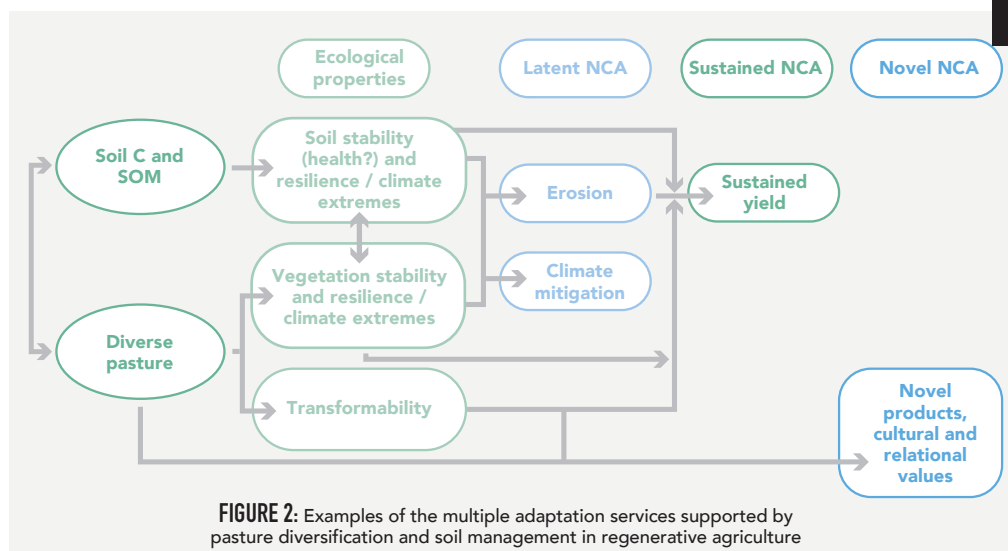


FIGURE 2: Examples of the multiple adaptation services supported by pasture diversification and soil management in regenerative agriculture

Eco-centric adaptation services

One of the opportunity for the AS framework in New Zealand is to extend its definition to AS by nature for nature, and by humans for nature. Indeed, RA practitioners, and Māori people, see themselves as a part of ecosystems / nature rather than separated from ecosystems / nature (Harmsworth & Awatere, 2013), and this worldview is conducive to acknowledging the rights of nature to its own social, economic and environmental wellbeing.

Source:

Lavorel S, Grelet GA 2021. Ecosystem-based solutions for climate change adaptation in rural landscapes of New Zealand. Manaaki Whenua – Landcare Research Contract Report LC3954-18 for Our Land and Water National Science Challenge & The NEXT Foundation.