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Marine Albert, Jacques-Eric Bergez, Stéphane Couture, Magali Willaume

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VACCARM !



Appraisal of adaptation strategies to reduce vulnerability to climate change of maize farming systems : farmers' viewpoint

Marine Albert, PhD student at INRAE UMR AGIR

Jacques-Eric Bergez, Stéphane Couture, Magali Willaume



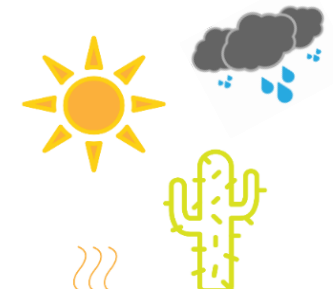
Maize farms in Southwestern France



High regional anchorage
(DRAAF Occitanie, 2017)



Impacts from climate change



Water scarcity
(Senthilkumar et al., 2015; Caubel et al., 2018)

Need adaptation strategies
(Howden et al., 2007)

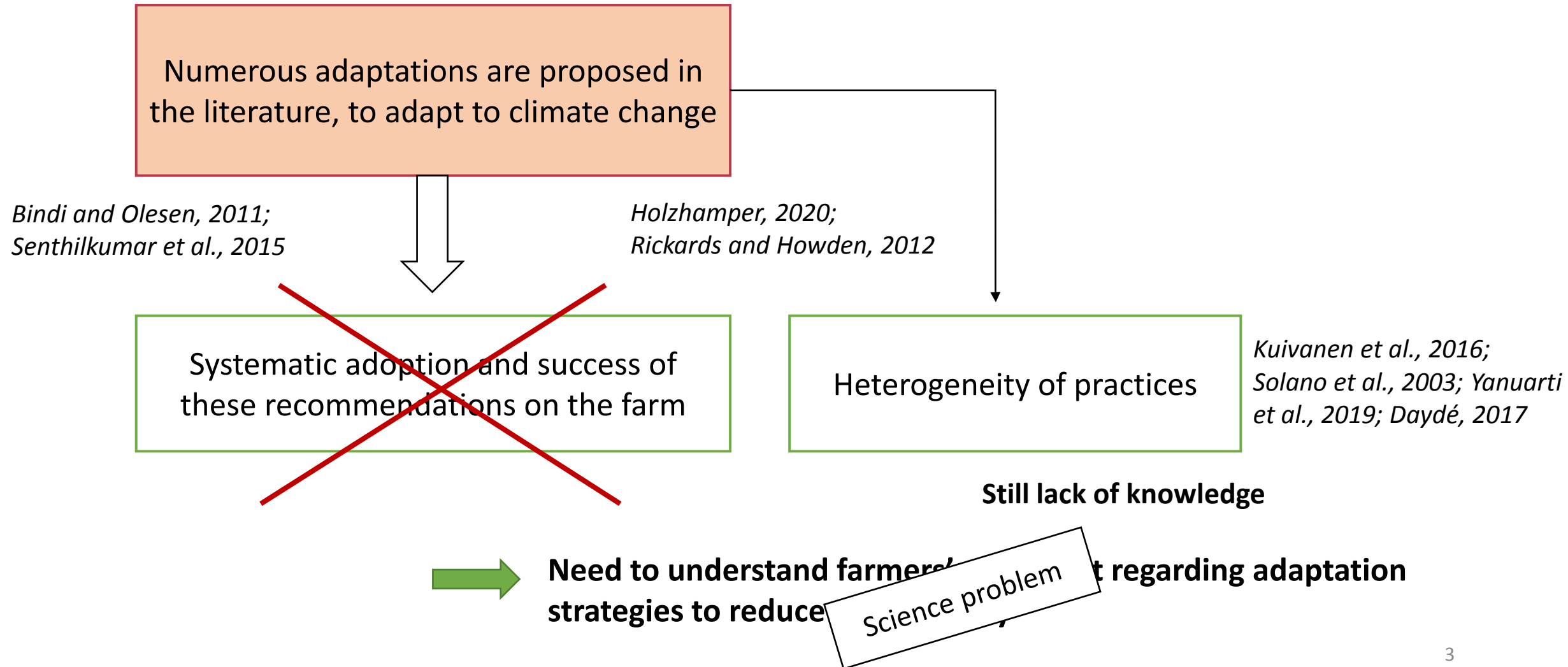
Dependency on irrigation
(DRAAF Occitanie, 2017)

X Without increasing dependency on irrigation

Need to enhance agricultural practices

Society problem

State of the art on adoption of practices



A two stages methodology

→ Surveys in irrigated maize farming systems in SW France

1. Qualitative stage

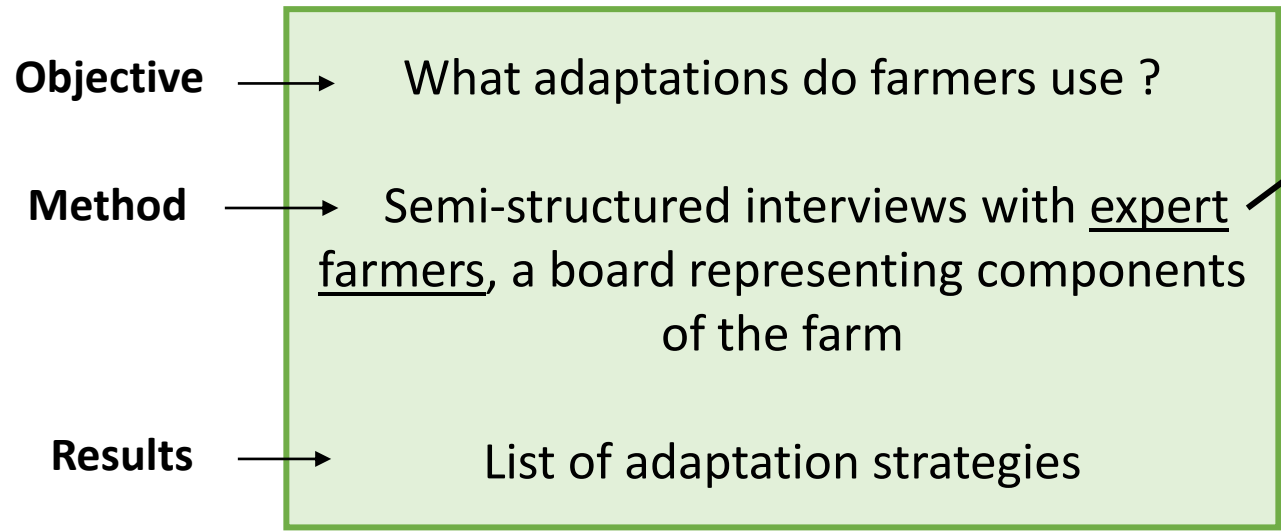
- Expert farmers
- Elicitation of adaptation strategies



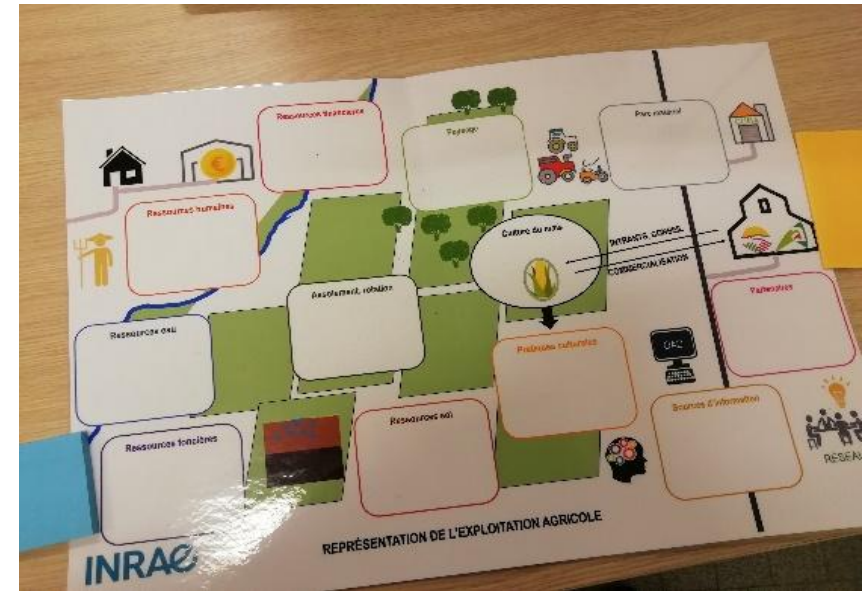
2. Quantitative stage

- Non-expert farmers
- Factors influencing choice of adaptation strategies

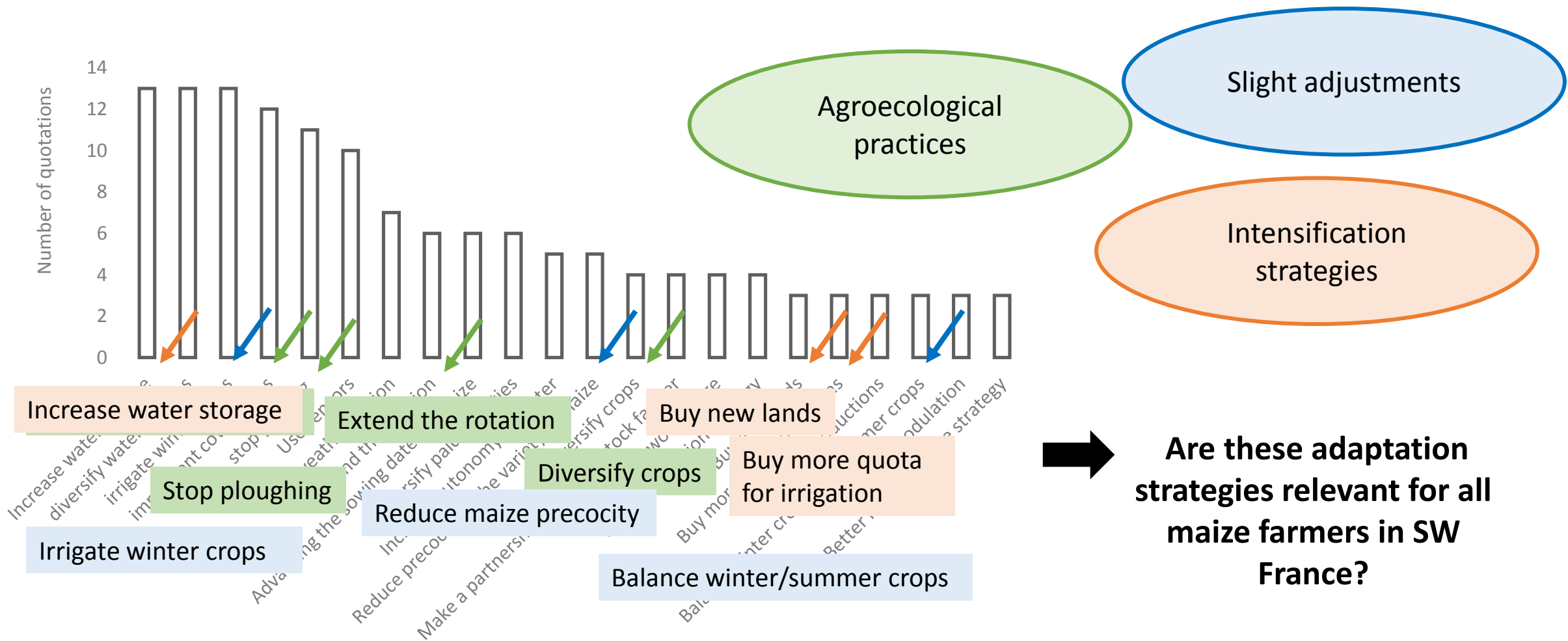
1. Qualitative approach



Farmers with awareness about climate change and agroecological practices



A diversity of adaptations



2. Quantitative approach

Objective

Farmers' appraisal of adaptation strategies

Factors influencing farmers' appraisal of adaptation strategies

Resistance to change; Interest for agroecology; Perception of climate change risks; Risk-aversion; Attachement to production system; Assistance; Reactivity



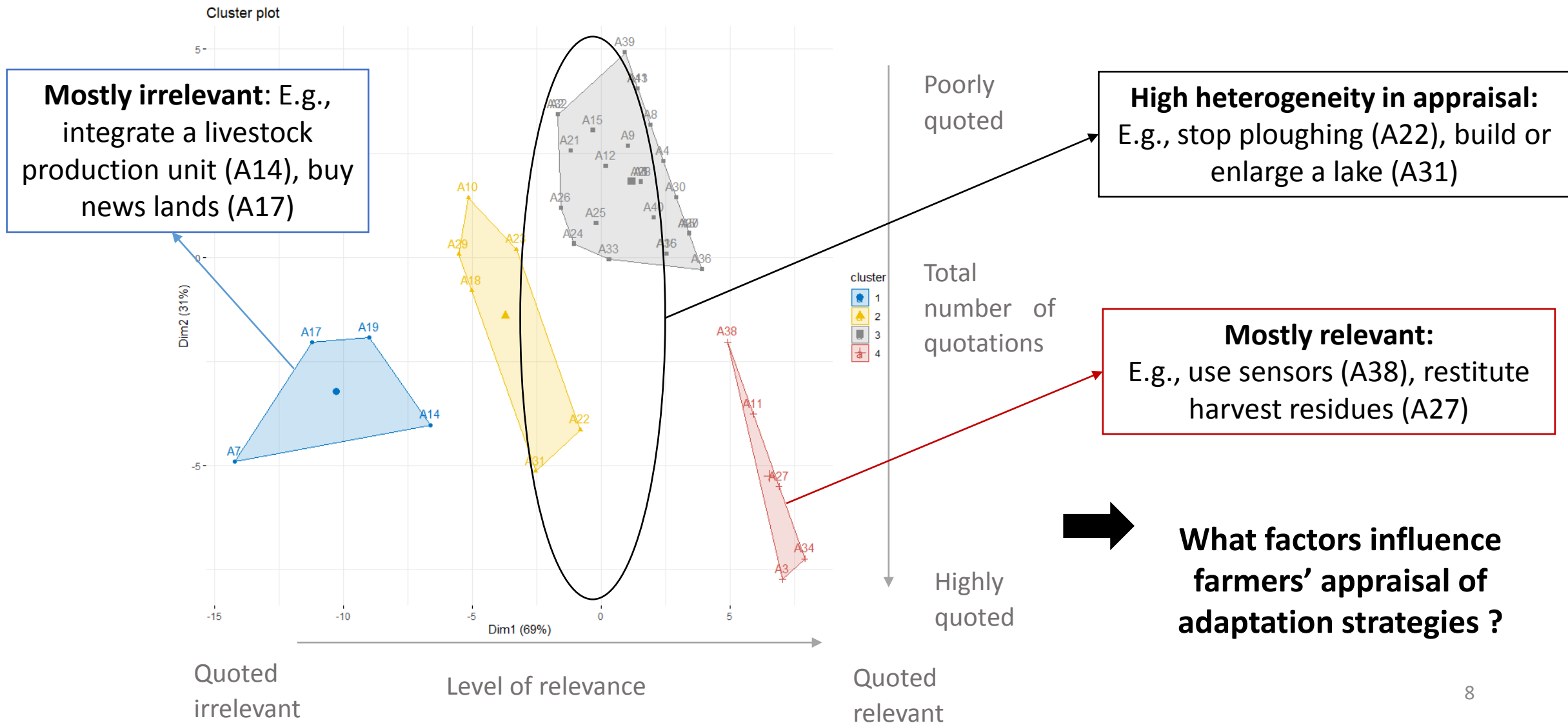
Statistical analysis

Factor analysis and hierarchical clustering

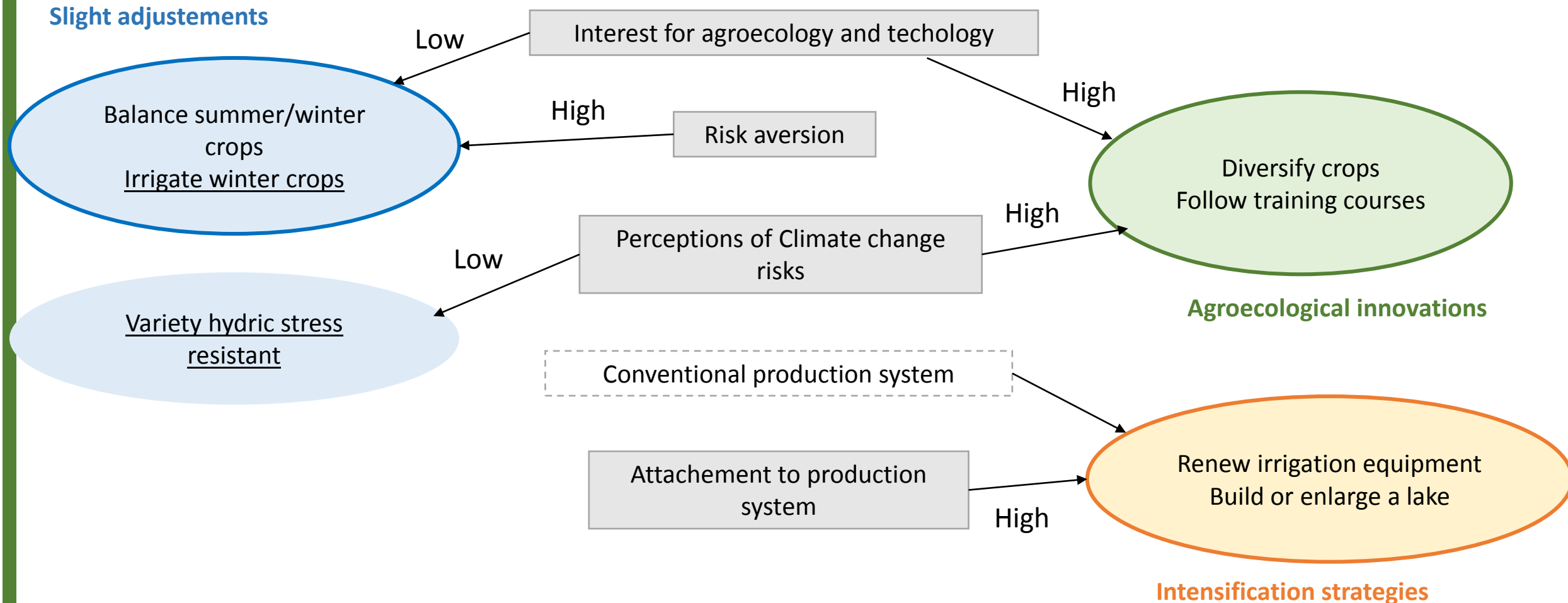
Regression trees and logistic regressions

Classification of farmers according their appraisal of adaptation criteria

Farmers' viewpoint differs regarding adaptations



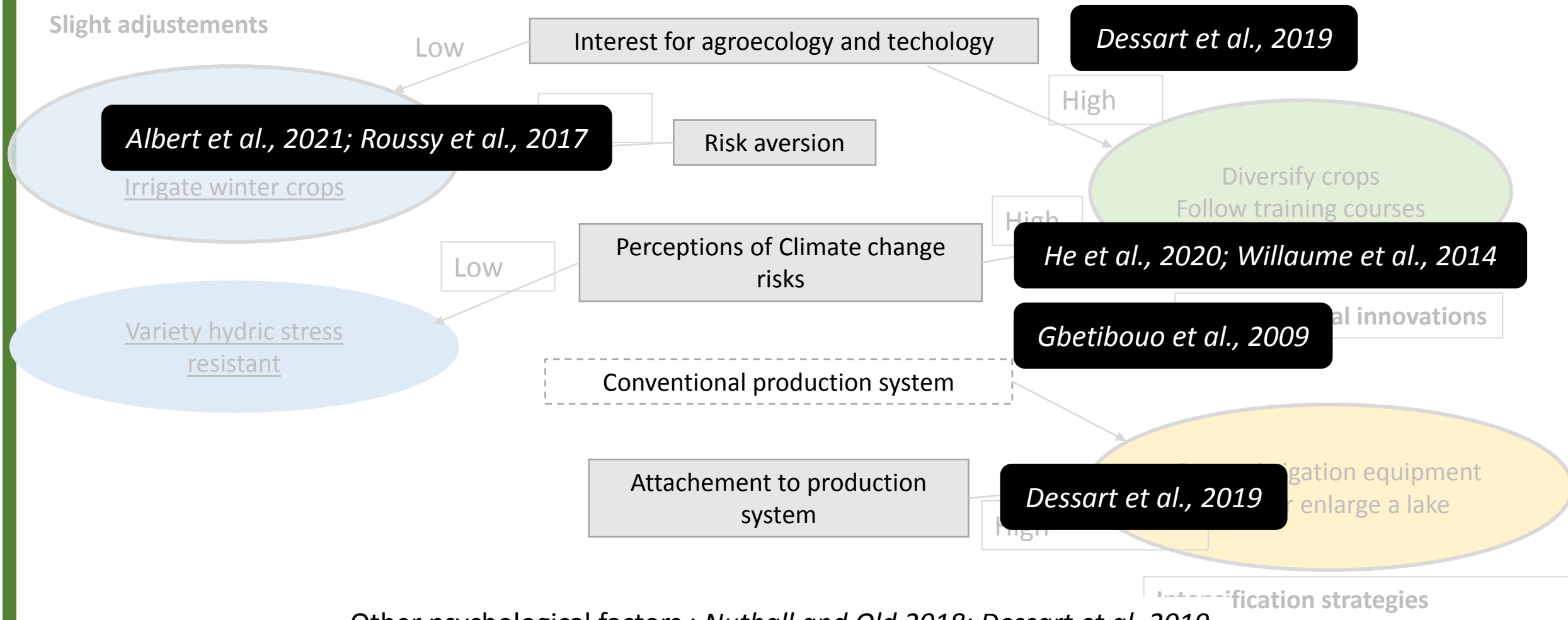
Psychological factors explain farmers' appraisal



— Results from regressions

○ Results from clustering

Psychological factors influence adaptation



Other psychological factors : *Nuthall and Old 2018; Dessart et al. 2019*

Implication for science and society

Choice of adaptation strategies is driven by farmer's psychological profile

Farmers' viewpoint differs regarding relevance of adaptations because of their psychological factors



The need to rethink advising and support strategies for farmers → more individual advising

Adoption of agroecological practices is influenced by interest for agroecology and perceptions of climate change risks



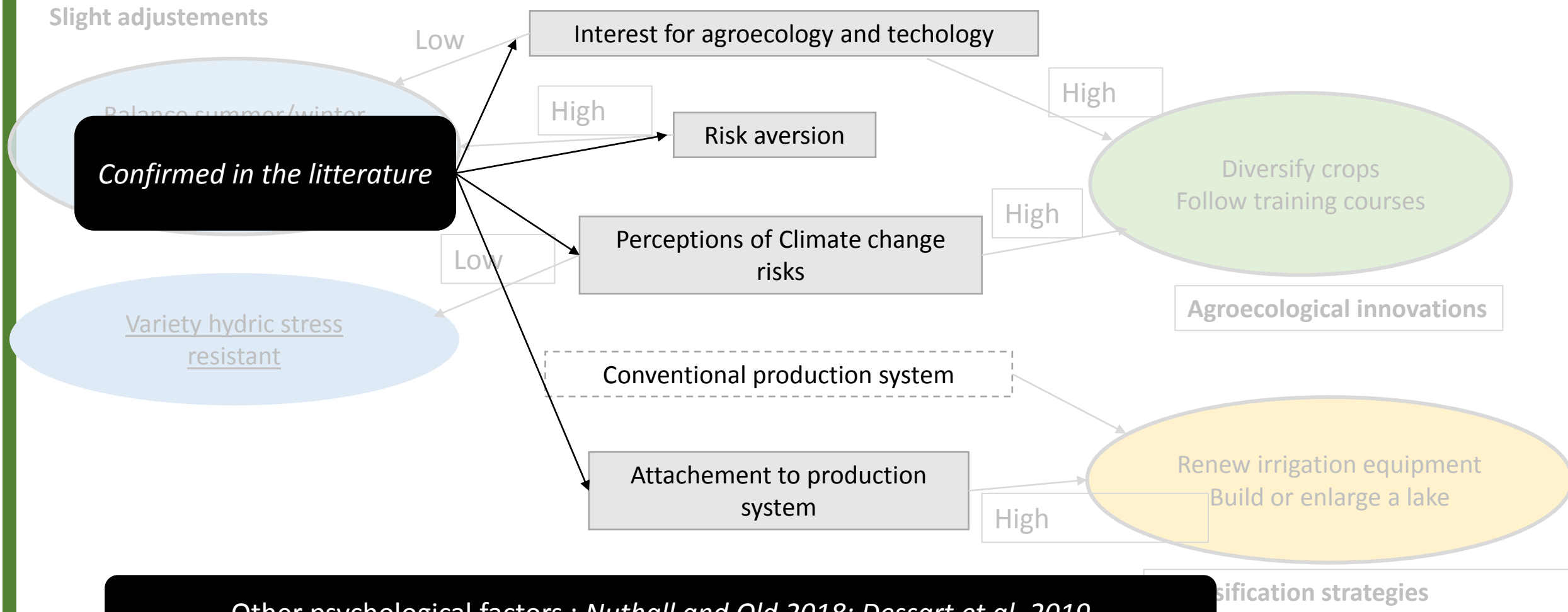
Public policies and agricultural advising could enhance agroecology through specific awareness and training campaigns



Thank you for your attention

Thanks to Pierre Busson who participated actively in this study as a trainee

Psychological factors influence adaptation



Other psychological factors : *Nuthall and Old 2018; Dessart et al. 2019*