

The MEDUSA project - Agriculture

Final meeting

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ALTERNet



Outline

- Objective and research questions
- Background
 - current situation of agriculture
 - introduction to stakeholder
- Methods
- Results – influence diagrams
- Impacts
- Adaptations
- Conflicts
- What does this mean for ‘the farmer’
- Conclusions

The logo for ALTERNet, featuring the word "ALTERNet" in a blue and yellow font, with a stylized blue and yellow graphic of a plant or leaf structure to the right.

ALTERNet

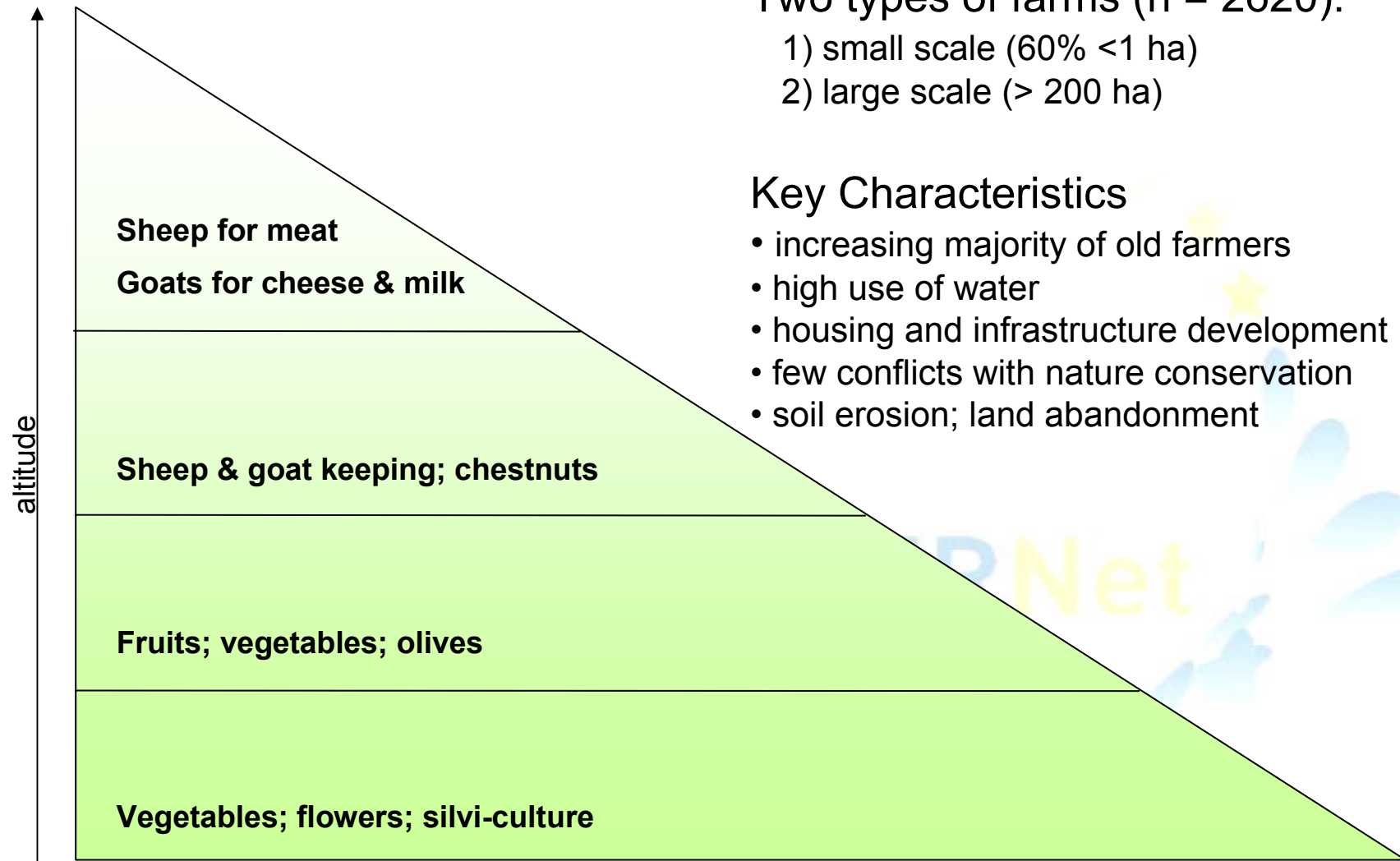
Objective

“...to develop adaptation strategies for the agricultural sector to maintain ecosystem services of the Var Catchment under future (MA*) scenarios.”

Research questions

- how will agriculture **develop** in the Var Catchment in the future?
- what will be the **challenges** this sector has to cope with?
- how can agriculture safeguard **local livelihoods** and **biodiversity** in a changing environment?

Background – current situation of farming in the Var catchment



Background - Stakeholder

Mr Duchamp, age 60

- 35ha farm, owner
 - olive trees
 - grape vines
- subsidies per unit area
- lone farmer
- irrigation – water from well & mains

- main concern: disappearance of farming in local area (~urbanisation, lack of young farmers)



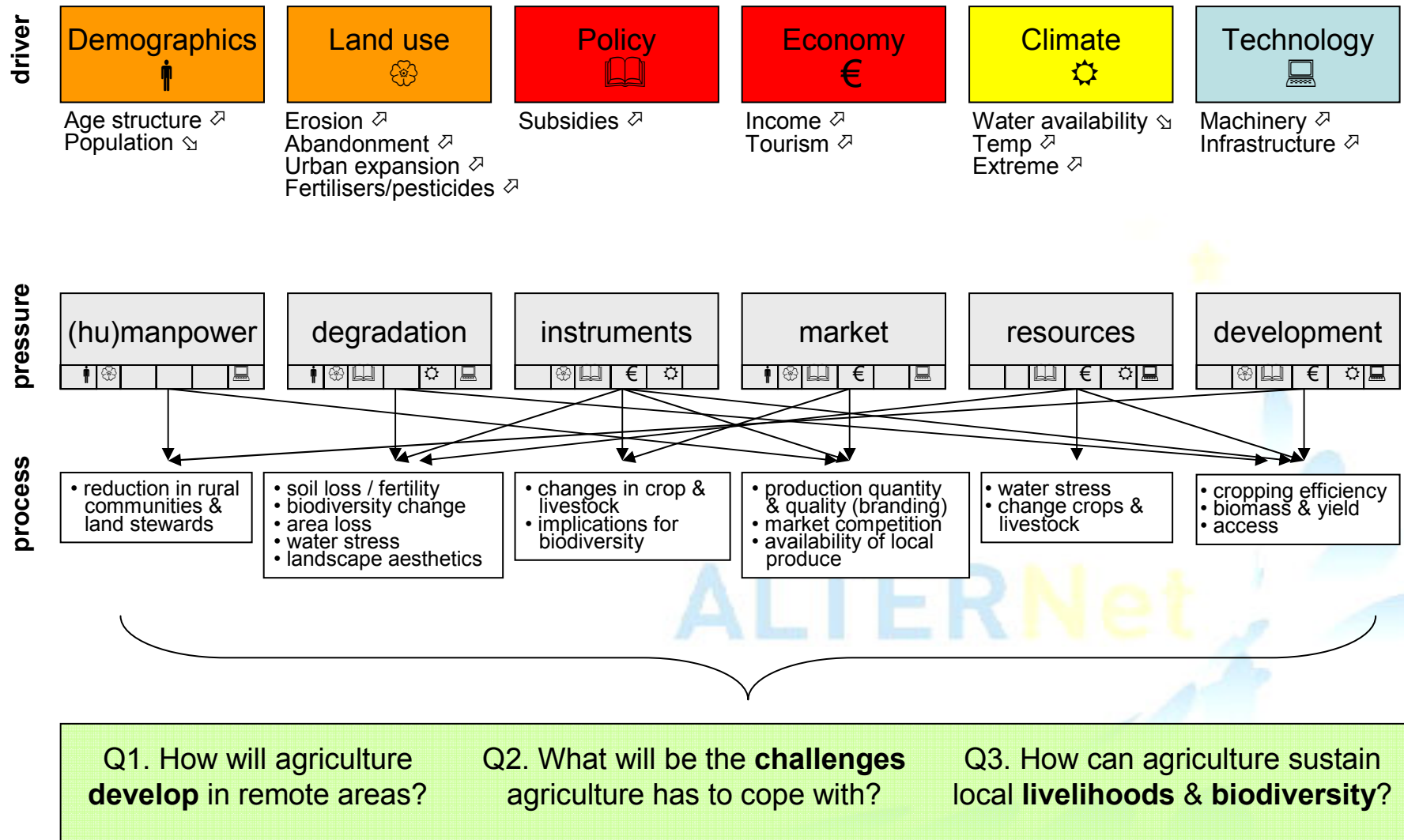
Methods

- interview stakeholder (current system, expected future, concerns)
- identify drivers and pressures (~influence diagram)
- (regionalize scenarios)
- determine major impacts of pressures on agriculture
- develop adaptation strategies
- consider interaction/conflicts with other sectors

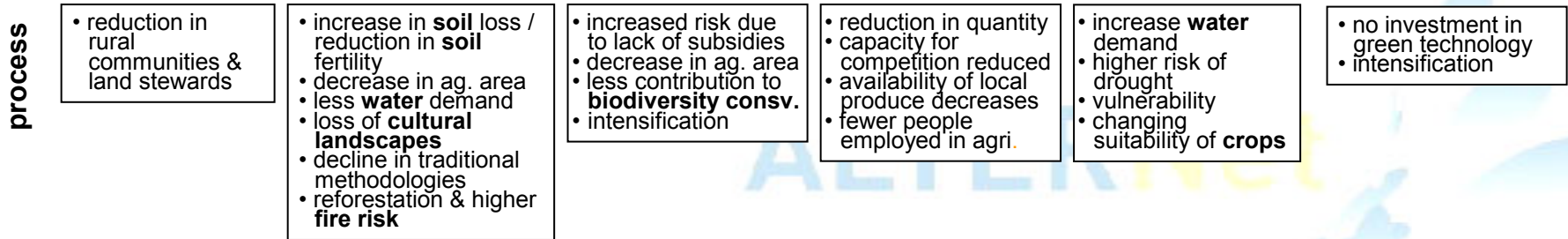
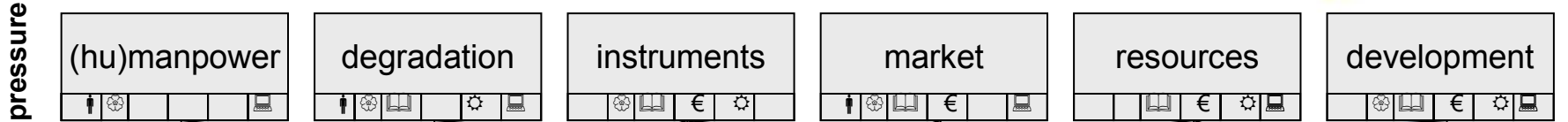
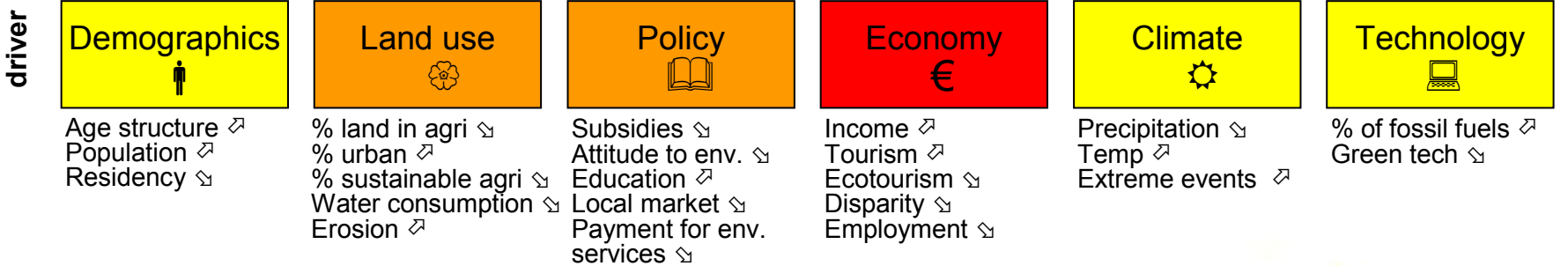
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Results – influence diagram (current)



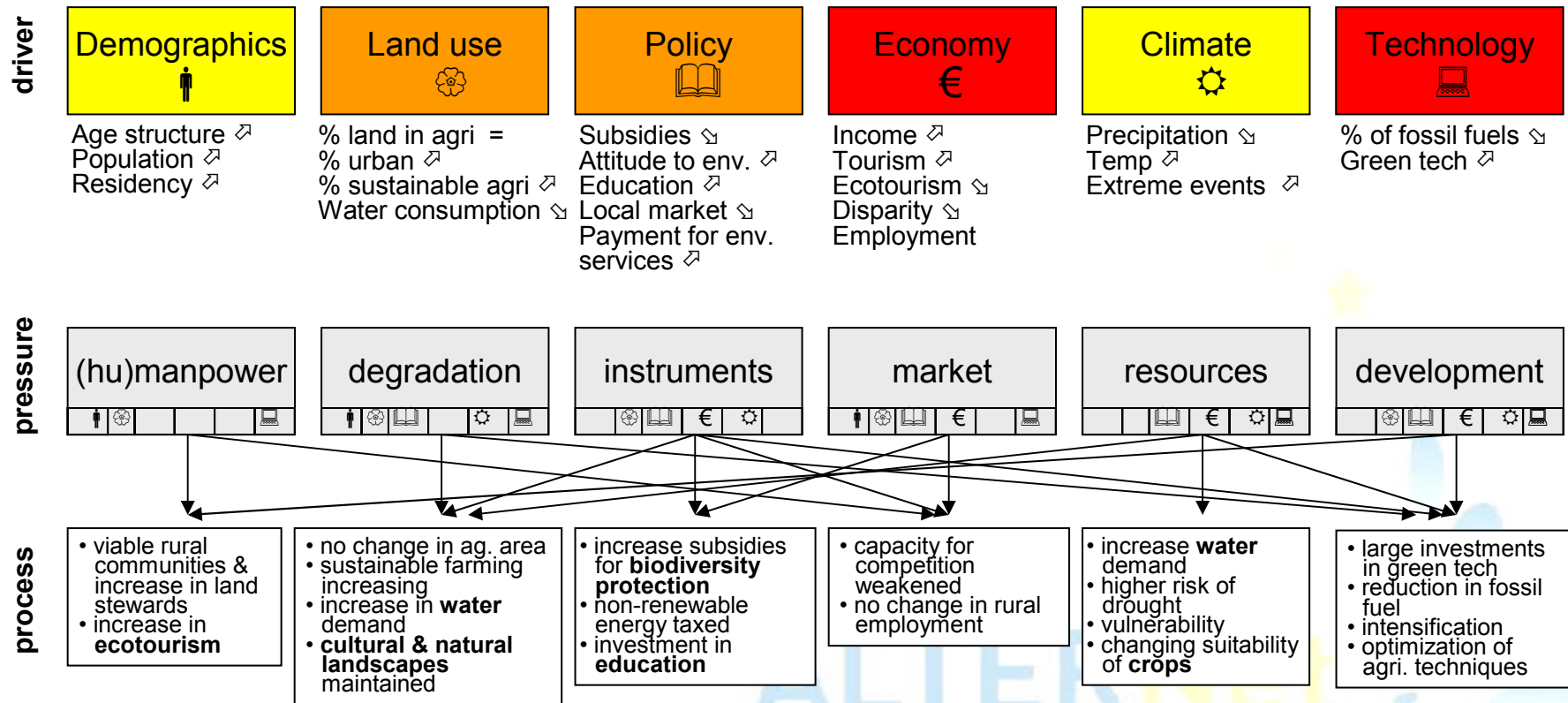
Results – influence diagram (GO)



- adaptation**
- ✓ education opportunities for farmers to discover new markets and to make informed decisions under climate change
 - ✓ diversification of crops for higher flexibility towards markets and climate change
 - ✓ diversify activities to provide additional income (e.g. B&Bs, camping sites, education outings to farms)
 - ✓ increase quality (~ price) of local products to mitigate for a reduction in quantity
 - ✓ regional policies to maintain ES and avoid high risk of biodiversity loss, increased risk of fire, loss of cultural landscape



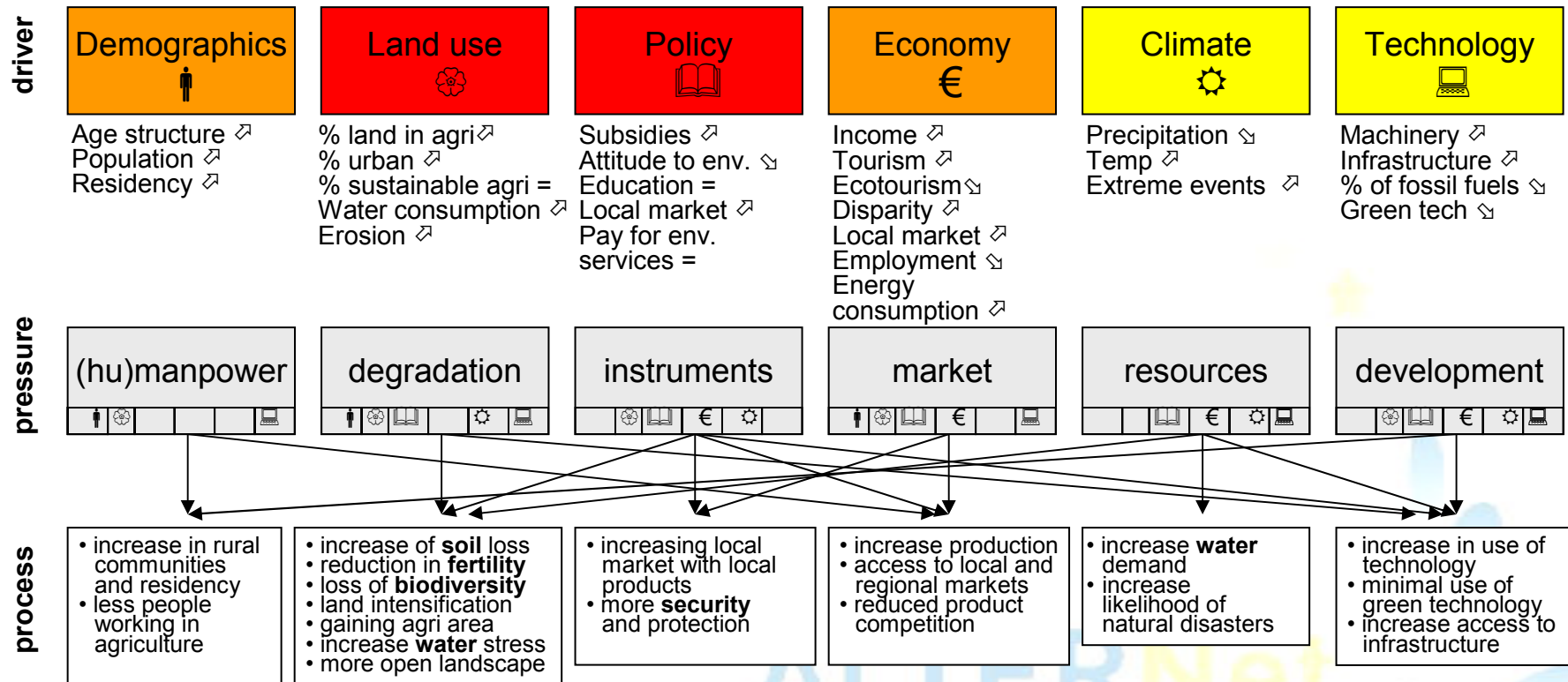
Results – influence diagram (TG)



- adaptation**
- ✓ education opportunities for farmers to make informed decisions under climate change
 - ✓ diversification of crops for higher flexibility towards markets and climate change
 - ✓ new technologies to reduce demands on water supply
 - ✓ promote local products with branding that promotes quality (~price)
 - ✓ increase infrastructure to sustain an increasing population of residents and tourists



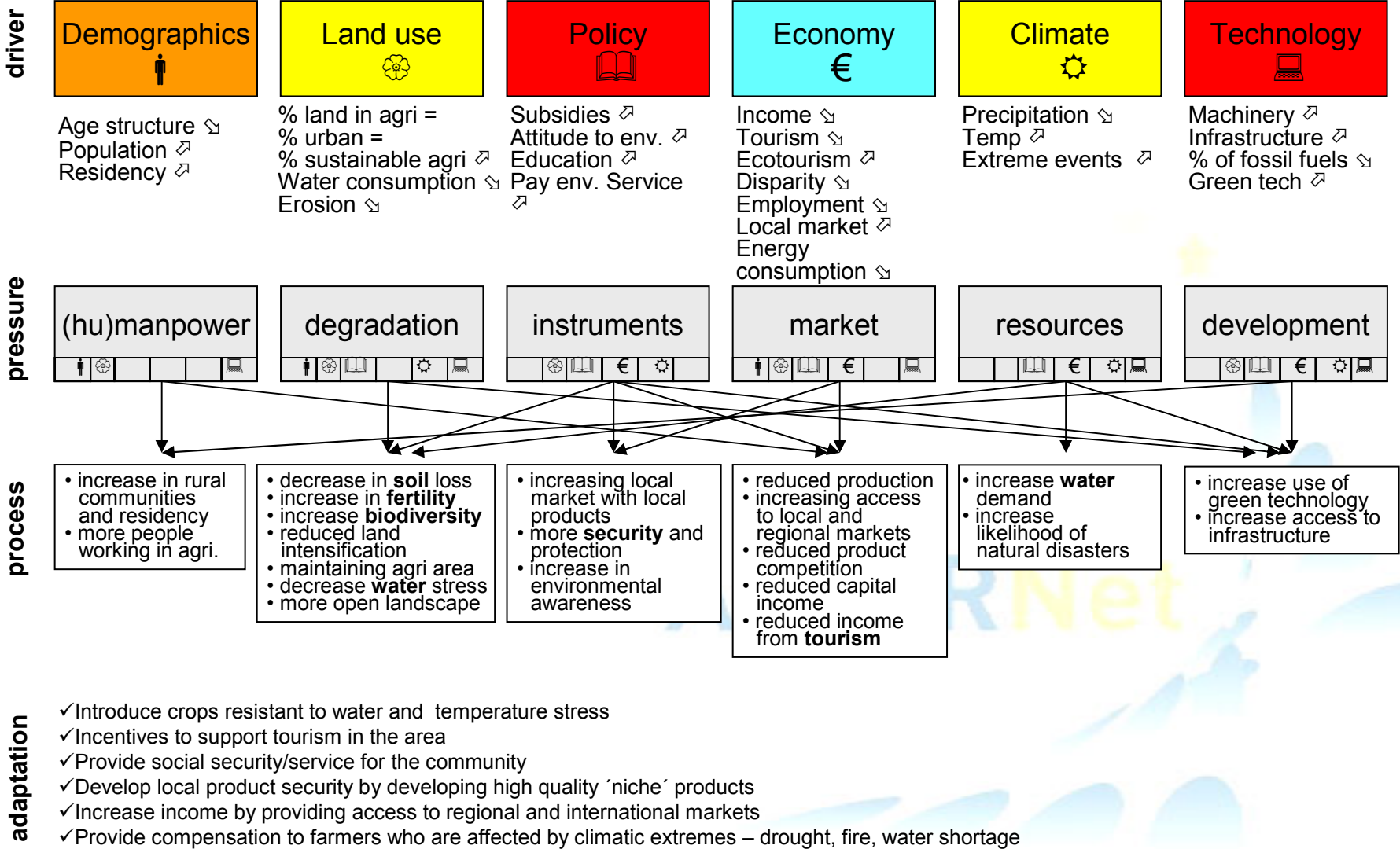
Results – influence diagram (OFS)



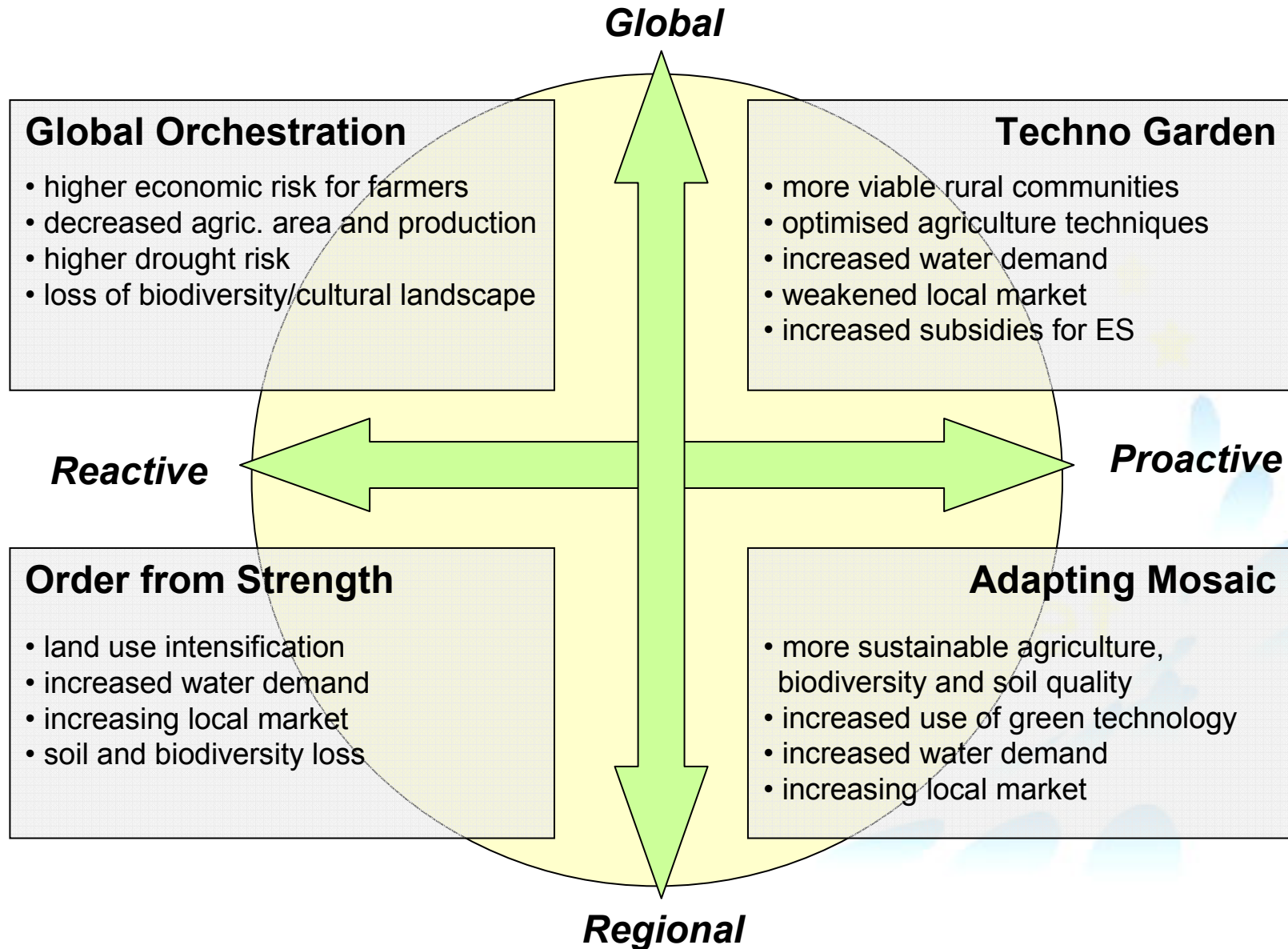
- adaptation**
- ✓ Provide incentives for people to stay in agriculture
 - ✓ Educate farmers to develop sustainable farming practices and promote organic agriculture
 - ✓ Introduce water saving technology and waste water recycling
 - ✓ Introduce crops resistant to water and temperature stress
 - ✓ Reduce energy consumption by increasing labour or develop technology
 - ✓ Develop local product security by developing high quality 'niche' products to appeal to ecotourists
 - ✓ Promote attitudes towards the environment at all levels – public, farmers, consumers, managers
 - ✓ Provide compensation to farmers who are affected by climatic extremes – drought, fire, water shortage



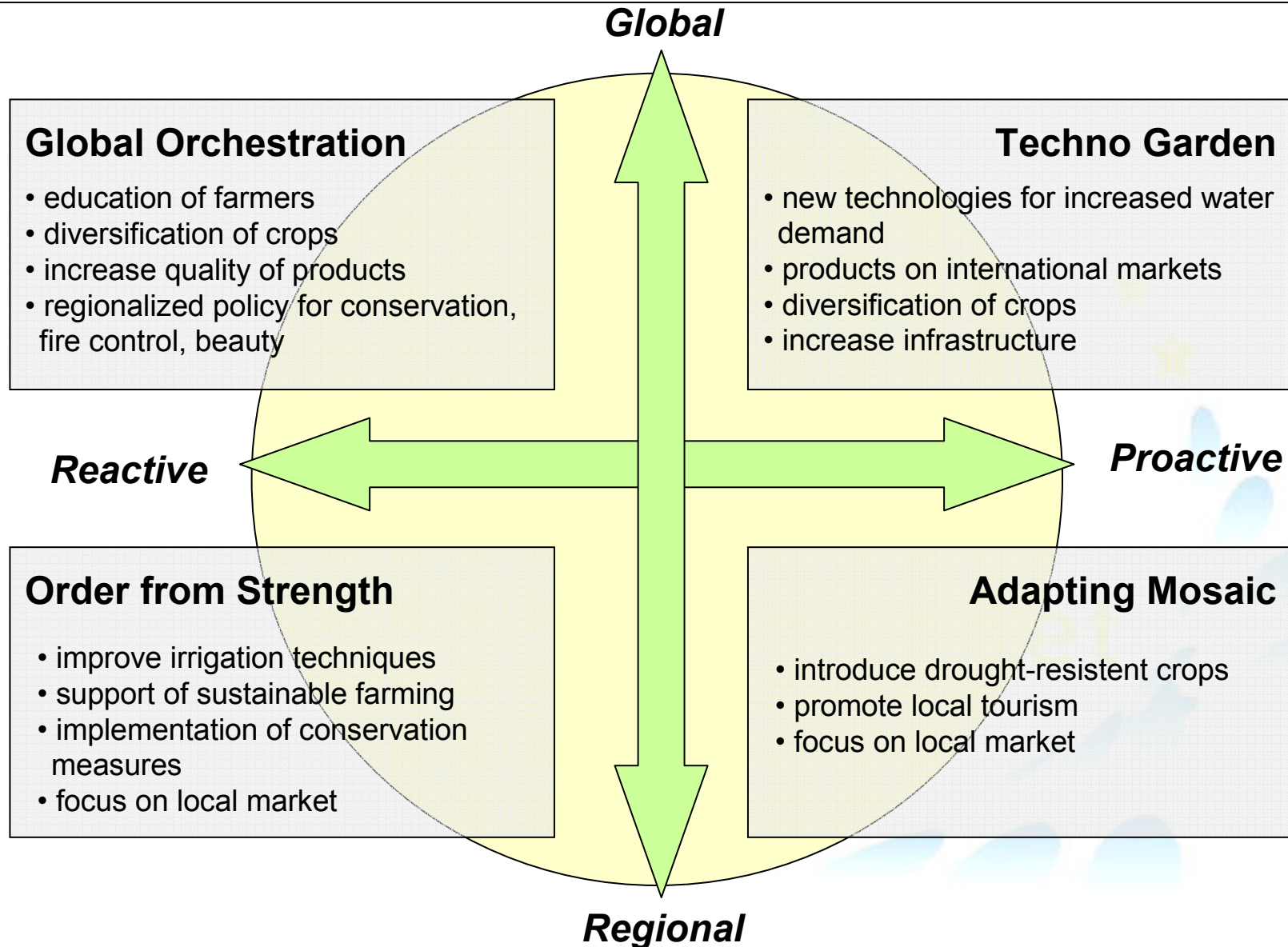
Results – influence diagram (AM)



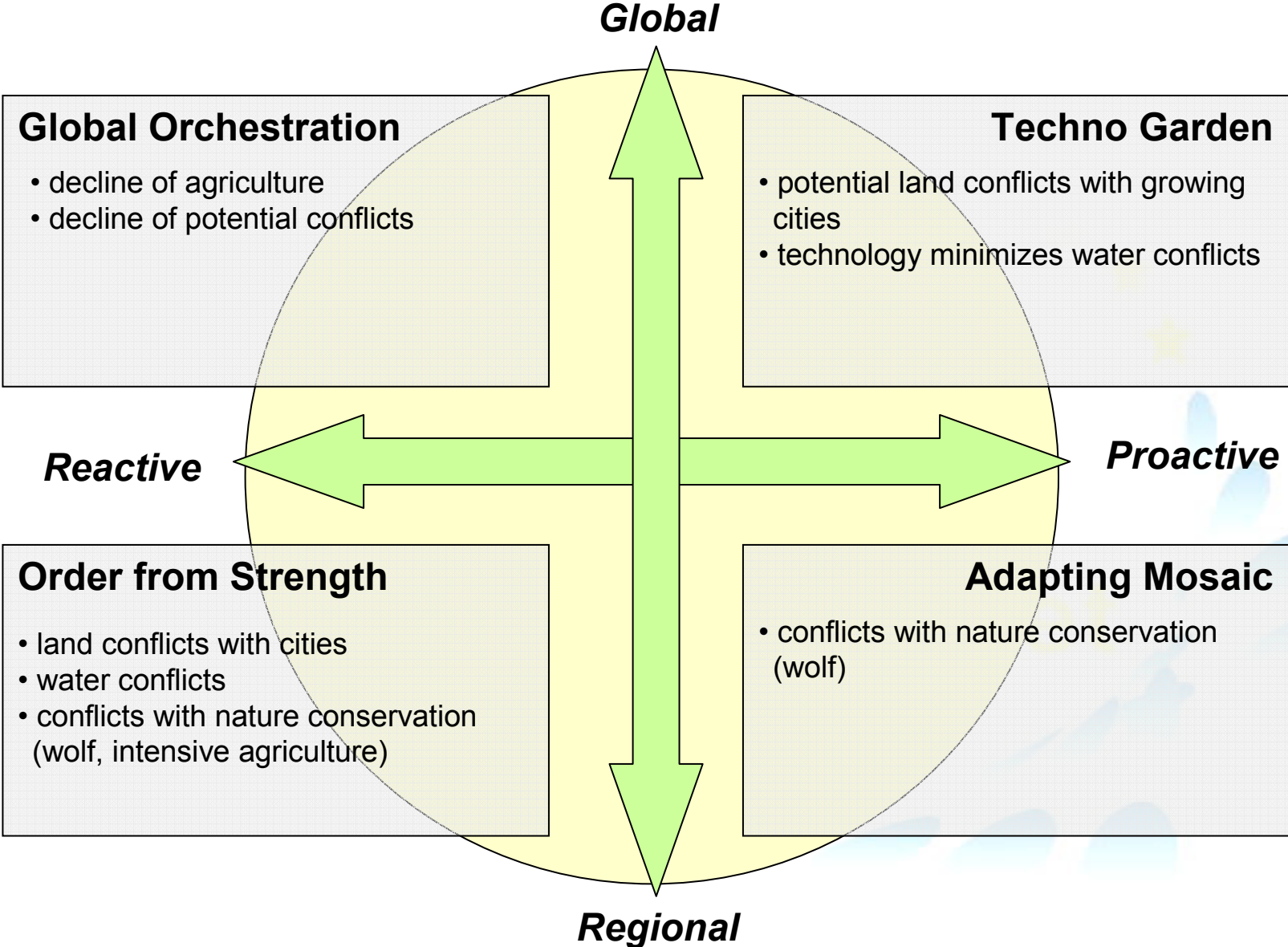
Results – impacts



Results – adaptation



Results – conflicts



Conclusions: What does this mean for 'the farmer'?

Upper catchment (high elevation)

- High dependence on sheep → high vulnerability
 - Working closely with nature conservation and ecotourism
 - High quality and revenue produce for 'niche' market

Lower catchment (low elevation)

- Diversification → flexibility
 - Crops adapted to warmer and drier climate
 - Education to increase awareness

ERNet

Conclusions: research questions

- how will agriculture **develop** in the Var Catchment in the future?
 - under the GO, agriculture will diminish, while in AM agriculture will prosper and become more sustainable
 - transition from traditional to increasingly mechanised agriculture
 - land use intensification and degradation of ES under the GO and OFS
 - what will be the **challenges** this sector has to cope with?
 - socio-economic conditions influence the stability of agriculture
 - land abandonment and land conversion
 - increasing vulnerability of agriculture in the upper catchment
 - how can agriculture safeguard **local livelihoods** and **biodiversity** in a changing environment?
 - diversification of agricultural activities
 - development of new and 'niche' markets
 - develop sustainable agricultural practices that integrate conservation and reduce conflict with other sectors
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