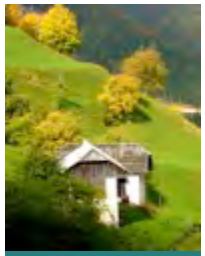
MERIT

Work Package 3: Impact on Regional Level

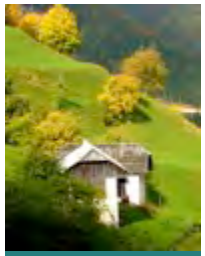
SEVENTH FRAMEWORK PROGRAMME

RURAGRI ERA-NET



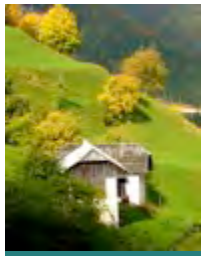
Overview – Work package 3

- Objective of WP3 is upscaling the impact of innovative outcome orientated measures **from farm level => regional/international level**
- Method: Using Sensitivity Analysis (F. Vester) to develop a network system model
  - **based on expert knowledge**
  - **based on semiquantitative data**
- Evaluating model results with expert interviews

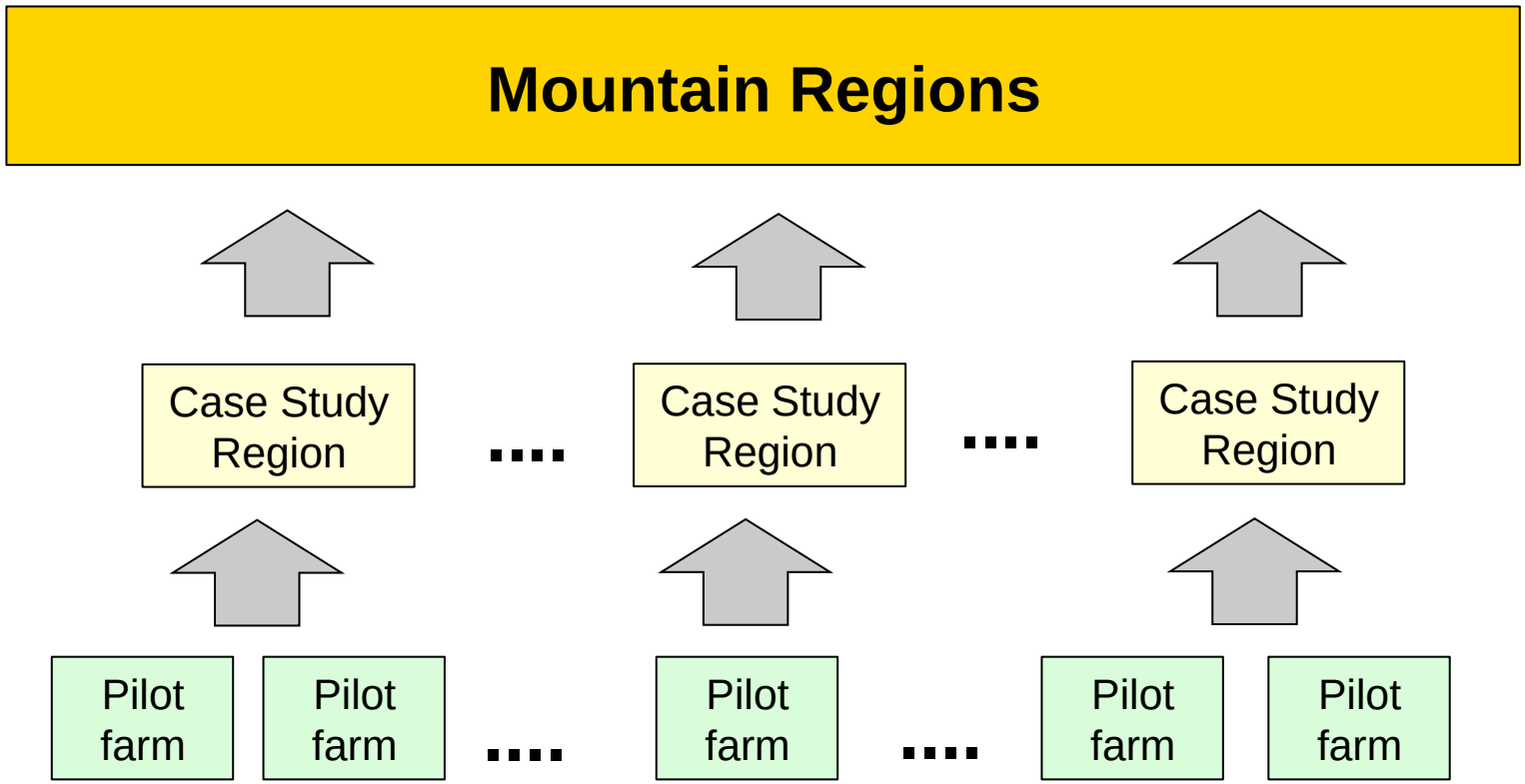


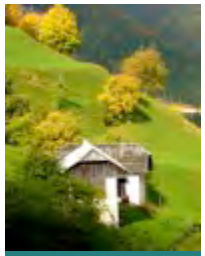
Freqently asked questions

- How will effects on species and Biodiversity be?
- How much will it cost?
- How will farmers react on result based schemes?
- How much training for farmers do we need?
- How much efforts do we need for administration and control?
- …



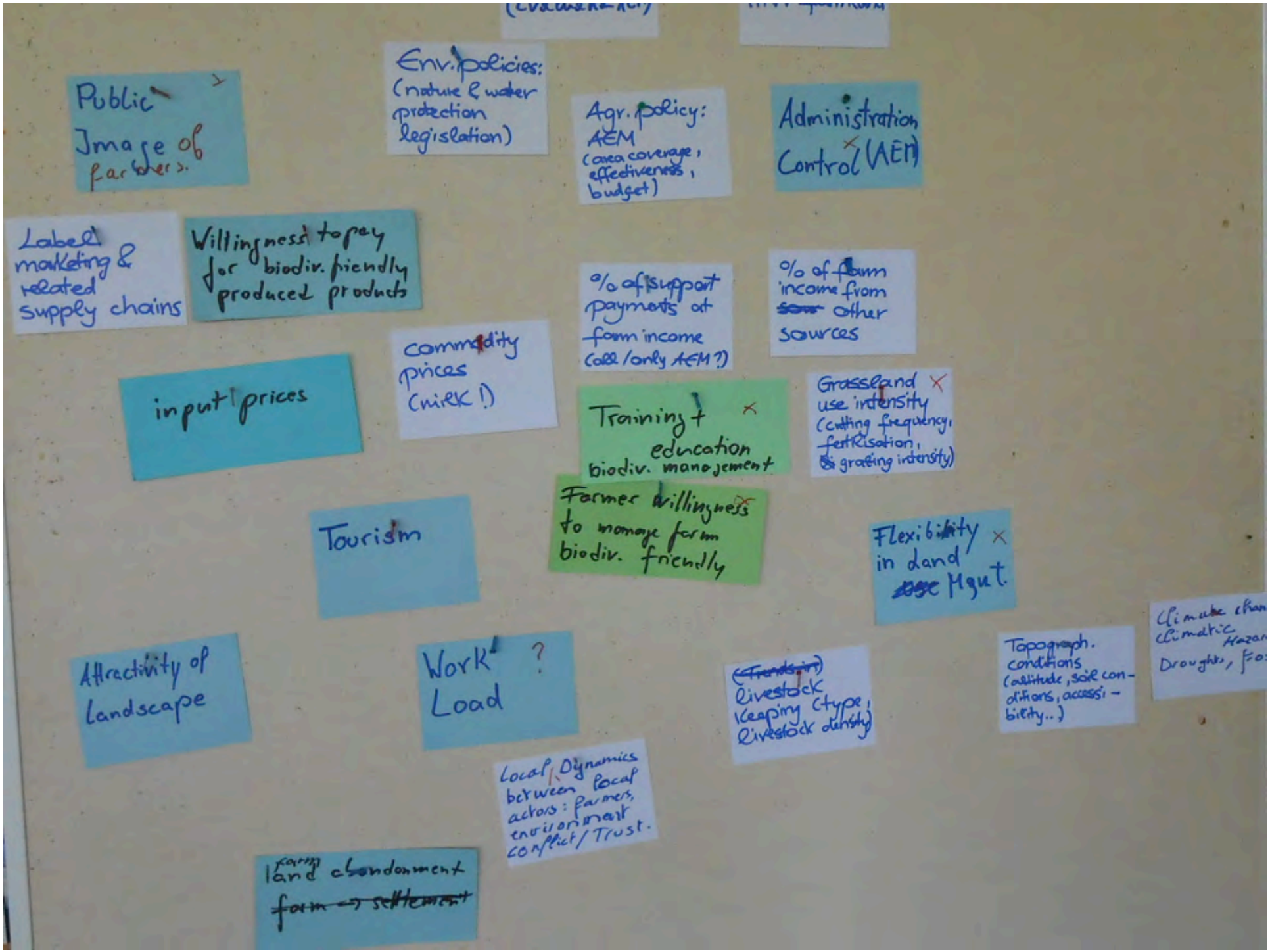
Upscaling

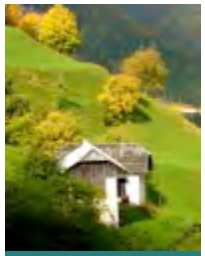

Mountain Regions
Case Study Region
Case Study Region
Case Study Region
Pilot farm
Pilot farm
Pilot farm
Pilot farm
Pilot farm



Working steps

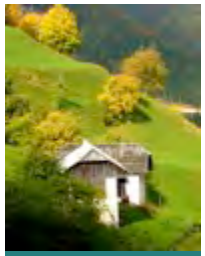
1. 20-25 parameters for system model defined
2. semiquanitative relations between parameters described
3. driving forces within parameters identified
4. szenarios based on driving forces elaborated
5. szenario results with expert survey evaluated


Public Image of farmers
Env. policies: (nature & water protection legislation)
Agr. policy: AEM (area coverage, effectiveness, budget)
Administration Control (AEM)
Label marketing & related supply chains
Willingness to pay for biodiv. friendly produced products
% of support payments of farm income (all / only AEM?)
% of farm income from other sources
input prices
commodity prices (milk!)
Training + education biodiv. management
Grassland use intensity (cutting frequency, fertilisation, grazing intensity)
Farmer willingness to manage farm biodiv. friendly
Tourism
Flexibility in land Mgmt.
Attractivity of landscape
Work Load ?
Livestock (keeping type, livestock density)
Topograph. conditions (altitude, soil conditions, accessibility..)
Local Dynamics between local actors: farmers, environment conflict / Trust.
farm land abandonment
farm → settlement



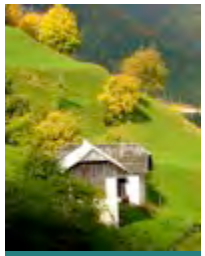
1a. Defining Parameters

Name of parameter	Field
Label Marketing/Supply Chains with environmental specifications	Economy
Input prices for farms	Economy
Prices for Biodiversity products	Economy
Percentage of farm income from public	Economy
Farm income	Economy
Income possibilities from tourism in the region	Economy
Diversity of landuse types	Environment
Grassland use intensity	Environment
Livestock density	Environment
Diversity of Livestock	Environment



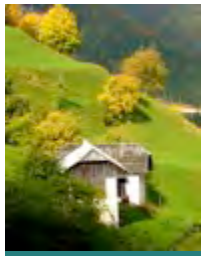
1b. Defining Parameters

Name of parameter	Field
Public Image of Farmers	Society
Willingness to pay for biodiversity products	Society
Farmer willingness/acceptance/motivation for biodiversity	Society
Attractiveness of Landscape	Society
Workload for farmers	Society
Farm land abandonment	Society
Cooperation between local actors	Society
Agri-Environmental Schemes	Administration
Research/Innovation/Evaluation	Administration
Mandatory environmental regulations	Administration
Administration/Control of AEM	Administration
Training and Education on Biodiversity	Administration
Result based agro-environmental schemes (RBAES)	Administration



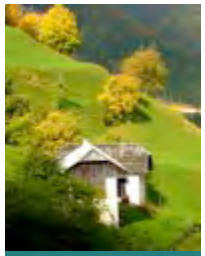
2. Relations between Parameters

- Scale
  - -3 overproportional contradictory / negative
  - -2
  - -1 / 0 / 1 2 3



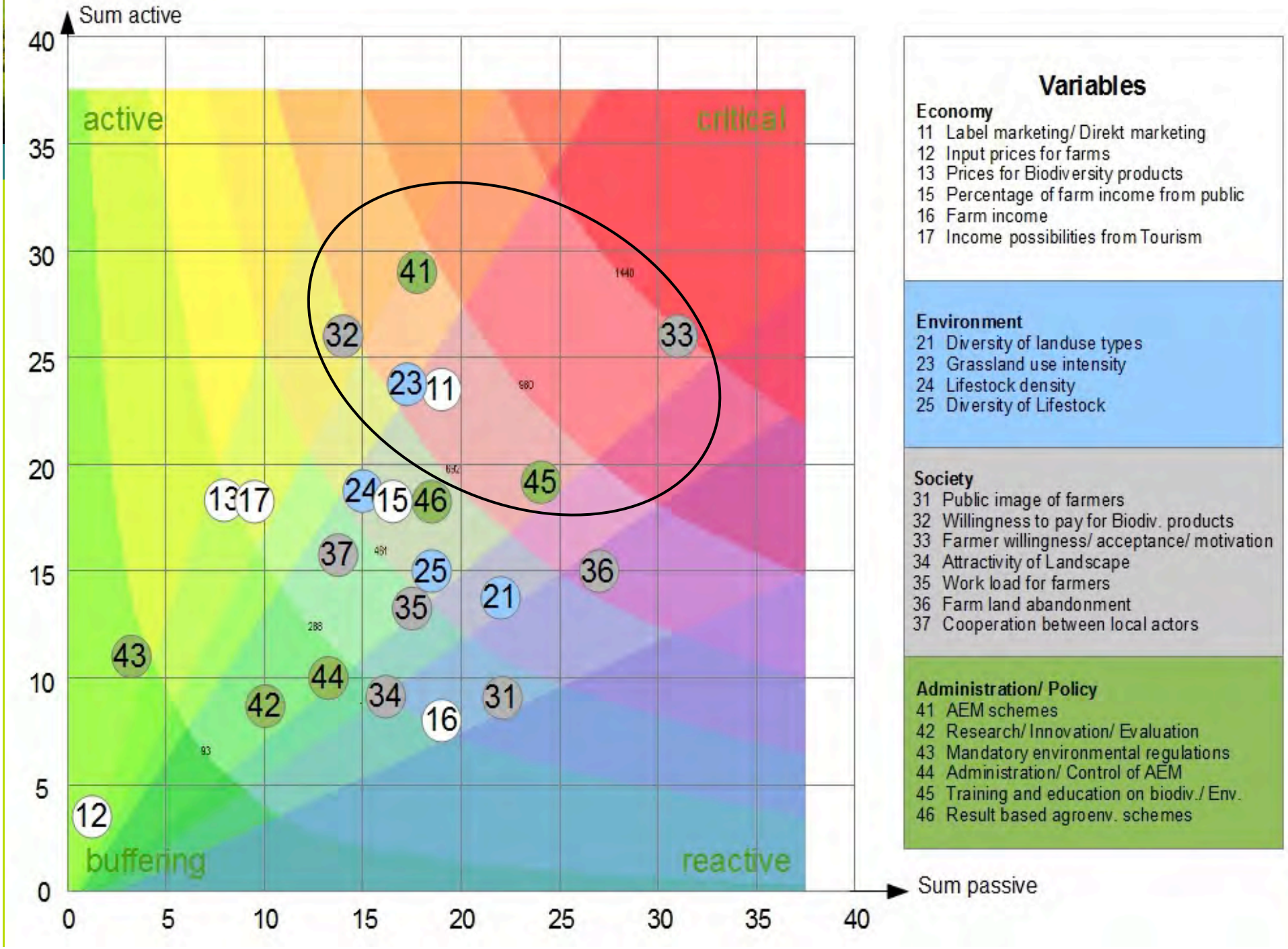
2. Relations between Parameters

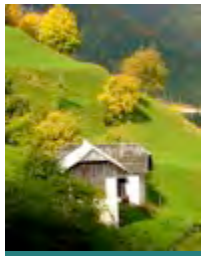
- Examples
  - *If administration and control (Param.44) of AEM will increase then participation of farmers (Param.41) in AEM will decrease*
  - *If prices for products linked to Biodiversity standards (Param. 13) will increase then livestock density will slightly decrease (Param.24)*
  - *If training of farmers for biodiversity (Param.45) will be fostered then farmer motivation to take part in AEM and RBAES (Param. 46) will increase*



Sensitivity Matrix (F. Vester)

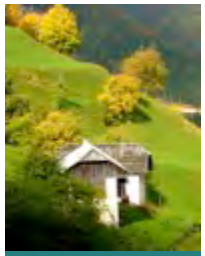
	Param.1	Param.2	…	P.n	Activ-sum
Param.1	x	1		3	17
Param.2	2	x		0	4
…			x		…
Param.n	- 3	1		x	18
Passiv-sum	15	11	…	5	


Sum active
Sum passive
active
critical
buffering
reactive
0
5
10
15
20
25
30
35
40
41
32
33
23
11
1440
980
13
17
24
15
46
45
37
481
25
36
35
21
288
43
44
42
34
31
16
93
12
Variables
Economy
11 Label marketing/ Direkt marketing
12 Input prices for farms
13 Prices for Biodiversity products
15 Percentage of farm income from public
16 Farm income
17 Income possibilities from Tourism
Environment
21 Diversity of landuse types
23 Grassland use intensity
24 Lifestock density
25 Diversity of Lifestock
Society
31 Public image of farmers
32 Willingness to pay for Biodiv. products
33 Farmer willingness/ acceptance/ motivation
34 Attractivity of Landscape
35 Work load for farmers
36 Farm land abandonment
37 Cooperation between local actors
Administration/ Policy
41 AEM schemes
42 Research/ Innovation/ Evaluation
43 Mandatory environmental regulations
44 Administration/ Control of AEM
45 Training and education on biodiv./ Env.
46 Result based agroenv. schemes



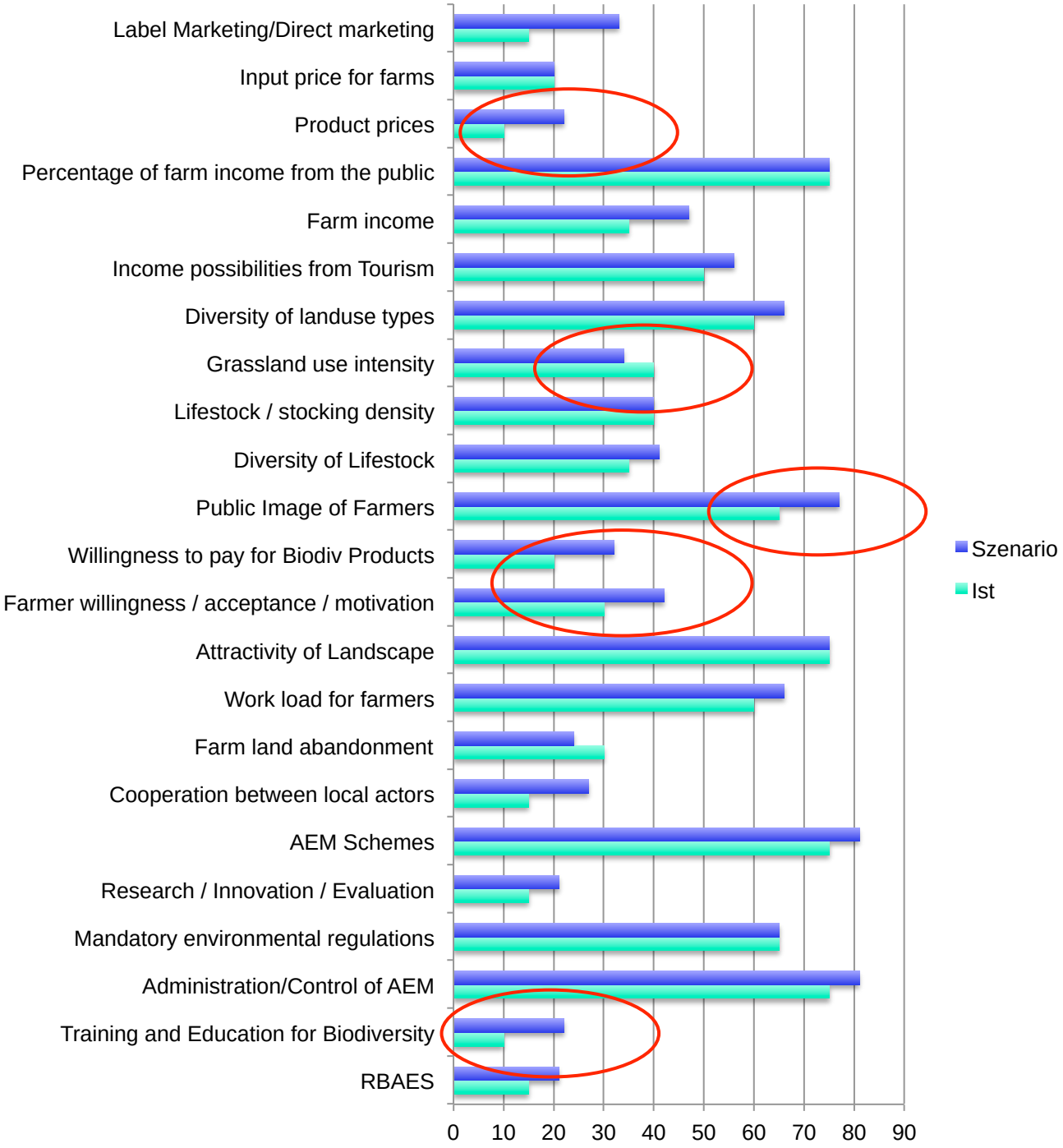
3. Driving forces in the system

- **Param. 41:** Agro-Environmental schemes (AEM)
- **Param. 45:** Training of farmers for Biodiversity
- **Param. 46:** Result based agro-env. schemes
- **Param. 23:** Grassland use intensity
- **Param. 11:** Label marketing/Direct marketing of products with Biodiversity Standards

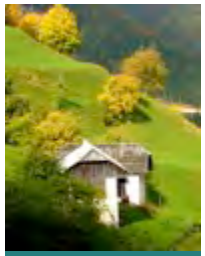


4. Szenarios using simulation model

- 5 paramaters identified as driving forces
- Modelling effects of increasing / decreasing with simulation model
- Select main effects from modelling



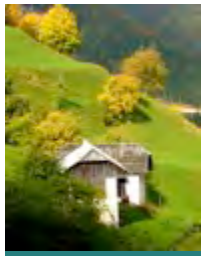
Scenario „Increasing Label Marketing of products with Biodiversity standards“



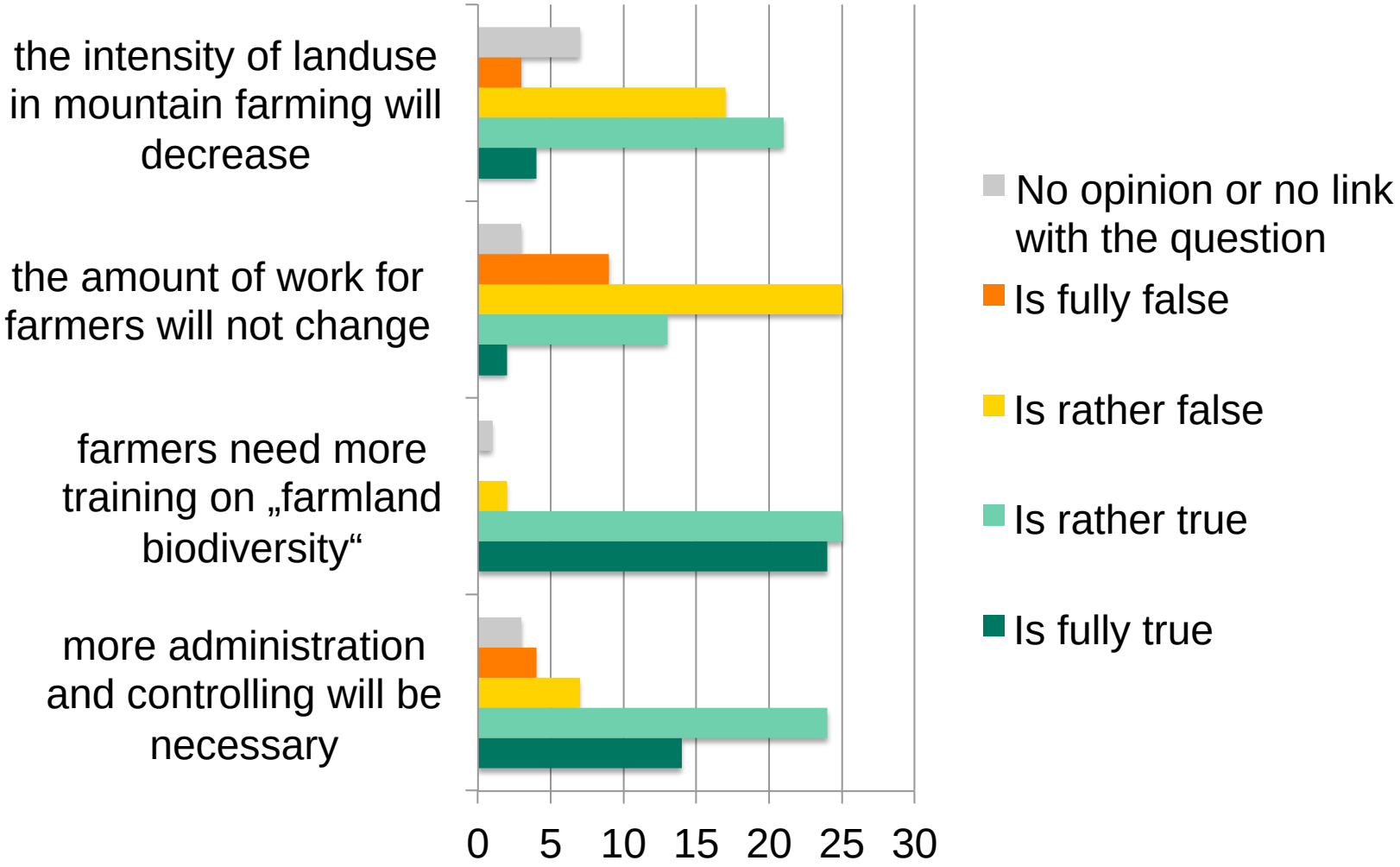
5. Expert survey

- Questionnaire with results from szenario modelling
- 52 experts from CH, IT, D, FR, AT
- Example: ***In case farmers take more part in trainings on „Farmland Biodiversity“, then ...***

	Fully true	Rather true	Rather false	Fully false	No opinion
… farmers will be increasingly motivated to implement measures for improving biodiversity on their farm	22	27	3		
… more agricultural products with clear link to biodiversity standards will be marketed	4	27	15	2	4
… farm income will increase	1	16	23	6	6
… biodiversity in alpine cultural landscape will increase.	10	39	2	1	



If RBAES are more promoted, ...



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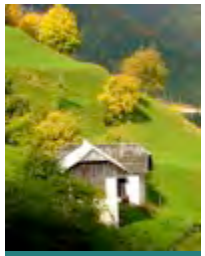
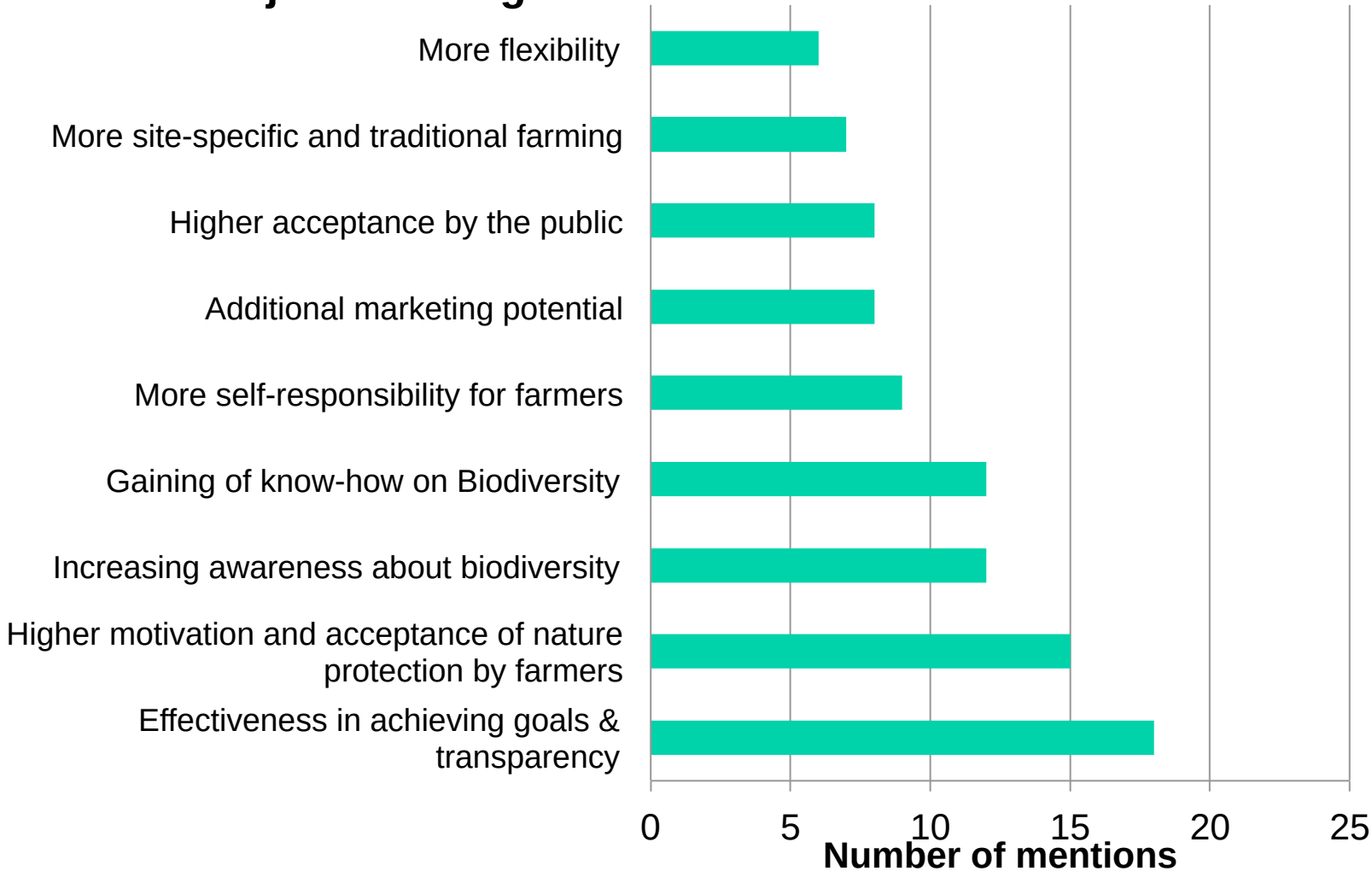


Major advantages of result oriented measures



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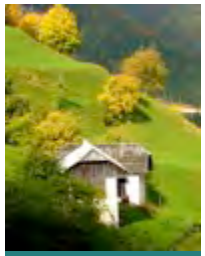
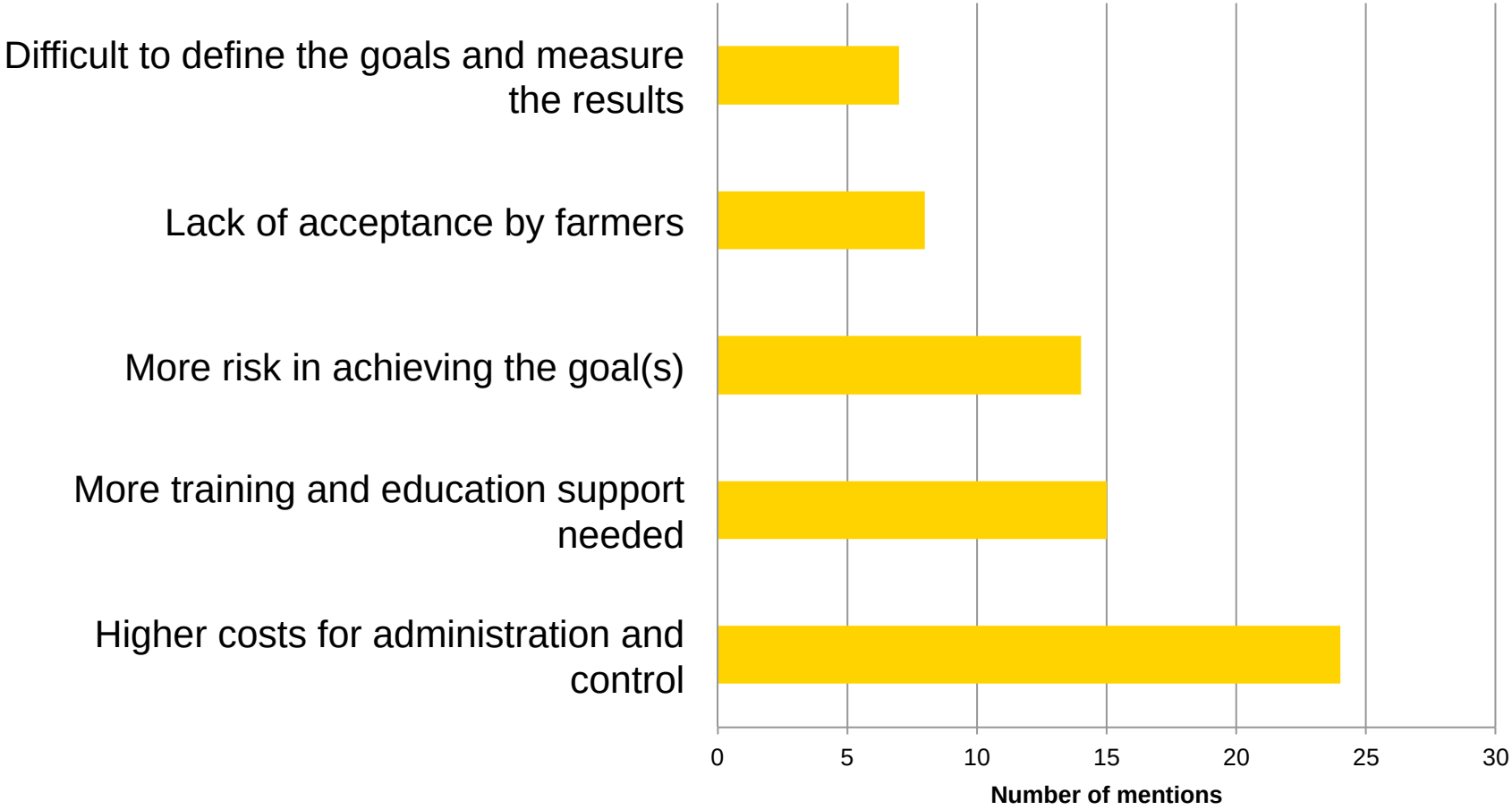


Major disadvantages of result-oriented measures



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