Conceptual Approaches to the Multifunctionality of Livestock Farming Systems

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Outline

- Recognition of Multifunctionality of agricultural activity
- Limitations of conventional approaches to livestock farming systems to understand MFA
- Broader conceptual approaches: possible contributions from sociology
- Implications for research agenda

Relevant EU research projects for MFA

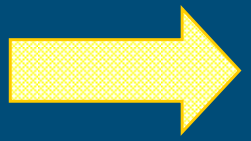
- IMPACT (1999-2002): Socio-economic Impact of Rural Development Practices: NL, IT, UK, DE, ES, IRL www.rural-impact.net
- MULTAGRI (2003-2005): Capitalisation of Research Results on the Multifunctionality of Agriculture & Rural Areas, WP4 Multifunctionality of activities, changing rural identities & new institutional arrangements: NL, IT, FR, CH, NO, CEE www.multagri.net
- WUR-INRA (2002-2006): Multifunctional Agriculture: From Farm Practice to Farm Design and Institutional Innovation: NL, FR www.inra.fr/sed/INRA-WUR-mfa
- ETUDE (2007-2009): Enlarging the Theoretical Understanding of Rural Development: NL, UK, IT, DE, FI, LV

Recognition of Multifunctionality of Agriculture

- Broadening of societal and policy objectives associated with agricultural activity:

Productivist model:

- Production of food & fibres
- Farm income

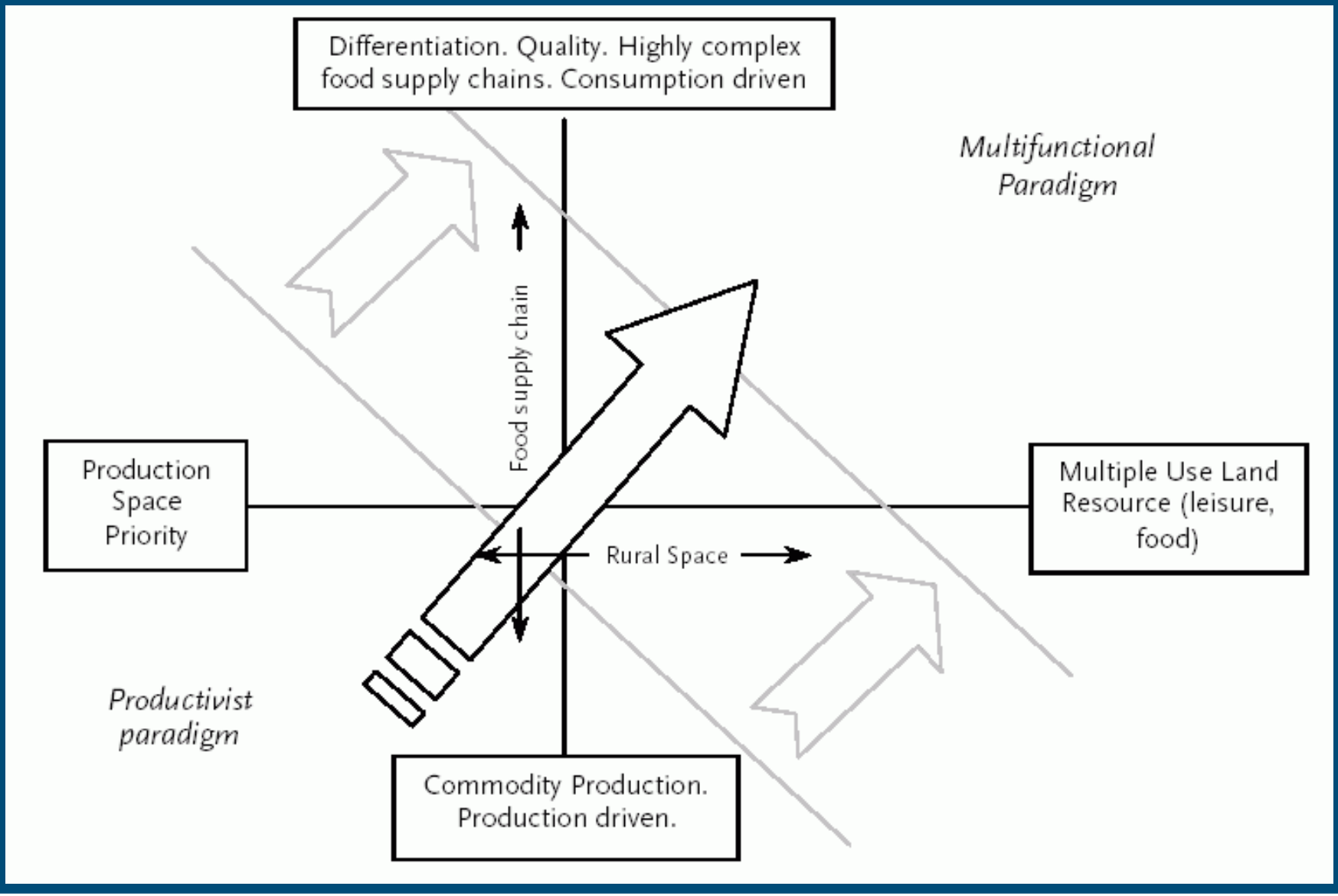


MFA model:

- Regional development
- Environment, landscape, biodiversity
- Food quality
- Energy production
- Health, care, well-being
- Etc.

- Regional policy, Mountain agriculture, Agri-environment schemes, Quality policy, 2nd Pillar CAP / Rural Development Programmes

Underlying processes of MFA

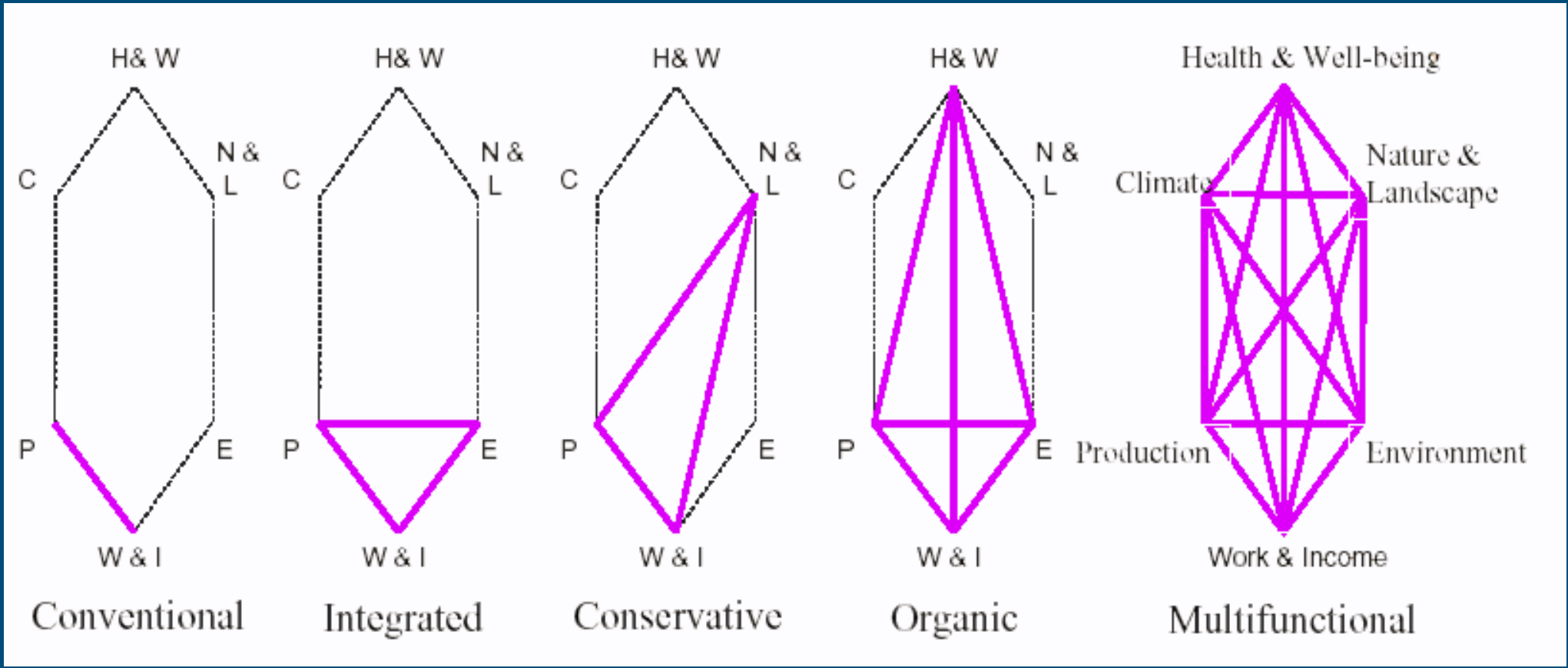


Changing Functions of Agriculture in MFA perspective

- The capacity of farming systems to respond to new societal and consumers demands through the provisioning of:
  - Public goods (biodiversity, landscape, water management, rural amenities, public health etc.)
  - Private goods / services for non-food markets (tourism, care, energy, educational services etc.)
  - Food with distinctive product attributes (quality food, local provenance)
  - Cultural functions (identity, heritage, education)
  - Social functions (food security, social cohesion, disperse settlement patterns, rural employment, etc.)
  - Ethical functions (fairness of trade, animal welfare etc.)

Recognition of Multifunctionality of Agriculture

- Expressions of / responses to MFA are specific in time and space, and highly differentiated for countries / regions

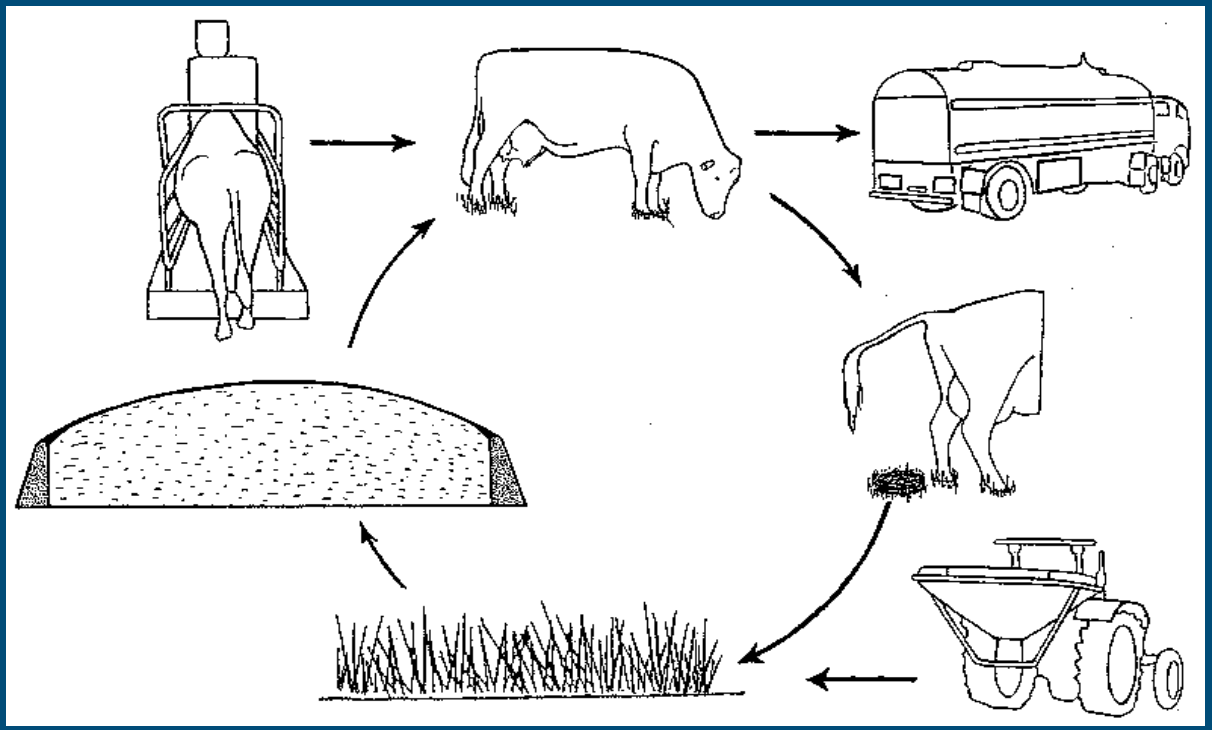


Source: P. Vereijcken et al.

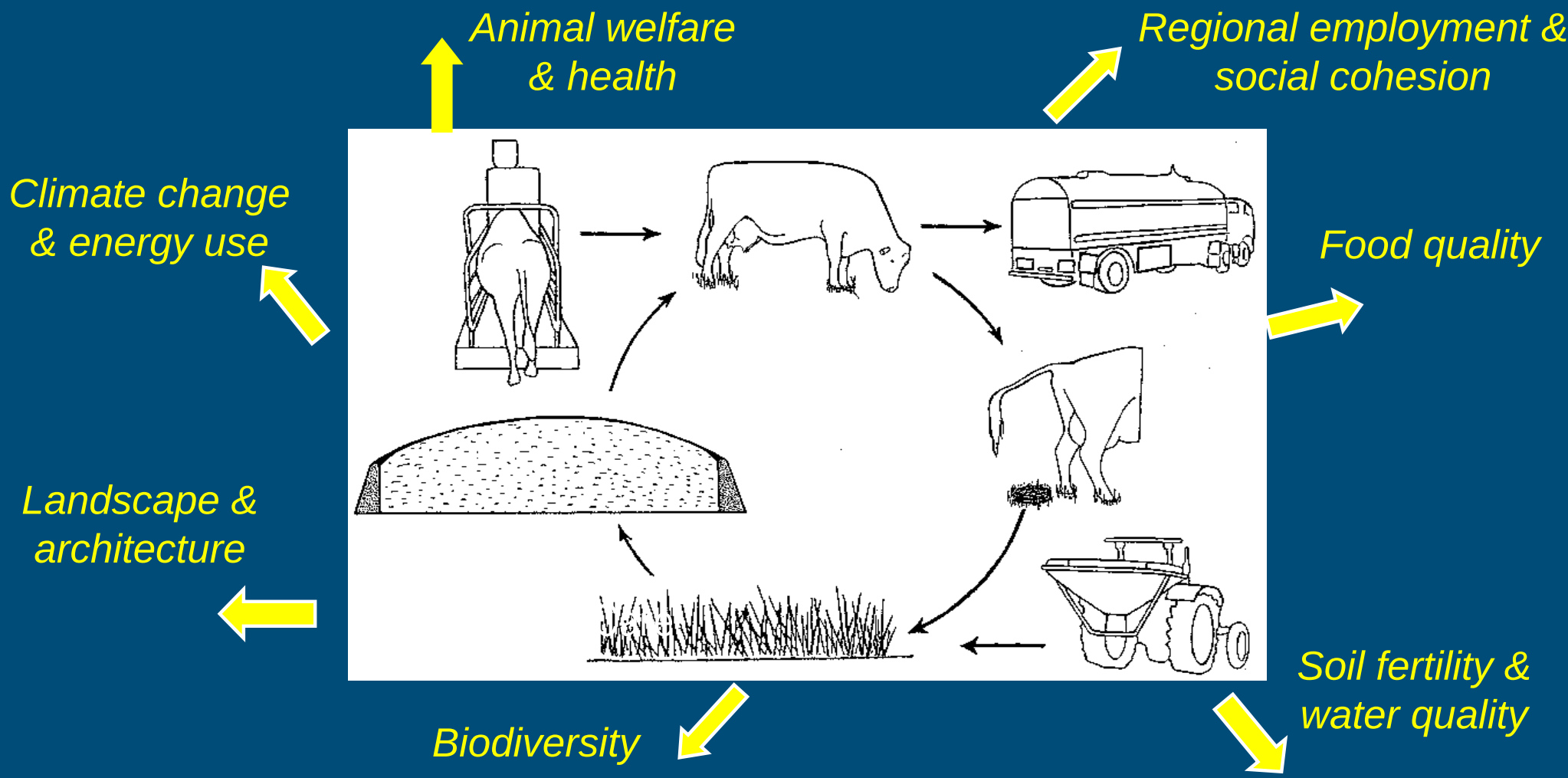
Conventional approach to livestock farming systems

Technical
Economic
Environmental

Input / output relations and efficiency levels



Conventional approach to livestock farming systems



Challenges for Farming systems research

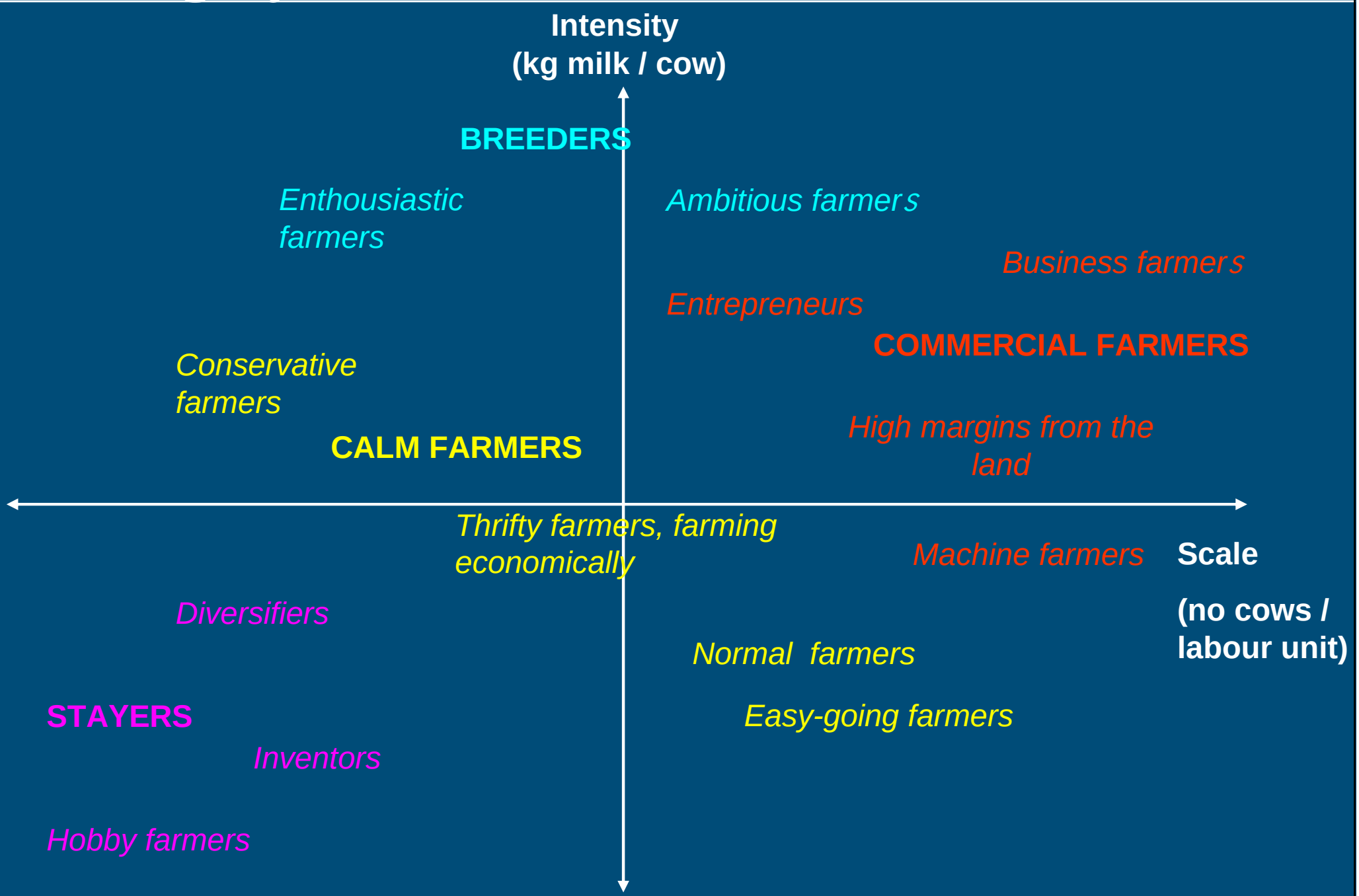
- Need for wider approaches to farming systems beyond technical / economic approaches
- Take into account changing relations between farming and society and threats / opportunities arising from these
- Potentials for integrating social-scientific and technical approaches to farming systems
- Need to identify topics for new research agenda
- Explore different relevant sociological approaches:
  - Farming styles
  - Farm-based MFA Activities
  - Changing Farm-territory relations

Farming Styles approach

- Original concept by Hofstee (1950s) to study *regional* differences in farming styles
- Reintroduced in 1990s to explain growing diversity in agriculture as result of different strategies *in response to markets, policies and technology*:
  - Different cultural repertoires shared by (groups of) farmers on what is 'good farming'
  - Different modes of structuring technical & economic relations within the farm
  - Different ways to articulate to external social, market & policy networks

Case Study: Northern Frisian Woodlands

Farming styles in Northern Frisian Woodlands



Farming styles in Northern Frisian Woodlands

	Commercial farmers	*Breeders*	*Calm farmers*	*Stayers*	Average
Surface	**45,9**	38,7	27,0	**20,8**	34,3
Milk quotum	**498.000**	431.000	221.000	**153.000**	340.000
No. milk cows	**79,2**	63,7	38,7	**26,6**	54,7
Milk yield / cow	6.700	**7.500**	6.000	5.600	6.400
Cattle density	**2,3**	2,3	**2,0**	**2,0**	2,2
N / ha	**350**	330	**270**	**260**	300
Concentrate / cow	1.400	**1.500**	**1.200**	**1.200**	1.300
Age head of farm	43,4	44,2	53,1	41,5	46,5
	27 (31%)	*17 (20%)*	*32 (37%)*	*11 (13%)*	*88 (100%)*

Relevance of Farming Styles for MFA

- Farming styles represent different ways to ordering technical and economic relations within the farm
- Each farming style has its own economic rationale, strong and weak points, and potentials for viable economic development
- Farming styles are also related to:
  - Degrees of environmental pressure (e.g. nutrient losses)
  - Take up of / interest in farm diversification activities
  - Possibilities to work effectively within small-scale landscape
  - Take up of / interest in active forms of nature & landscape management (e.g. in framework of agri-environment schemes)
- Farming Styles embody different ways of structuring co-production of farming & ecological relations

Farming styles and Attitudes to Nature / Landscape

Small-scale, closed landscape

CALM FARMERS

BREEDERS

Cubicle sheds

Trad. buildings

Uniform grassland

Species-rich grass

STAYERS

COMMERCIAL FARMERS

Large-scale, open landscape

Farming styles in Northern Frisian Woodlands

	Commercial farmers	*Breeders*	*Calm farmers*	*Stayers*
Average parcel size	2,5 ha	**1,9**	**1,9**	**2,0**
Parcel size < 2 ha is acceptable	37%	47%	**66%**	**56%**
Small scale of landscape is no restriction	67%	**82%**	69%	**78%**
% traditional buildings	15%	18%	**62%**	**80%**
% old flower-rich grassland	15%	12%	**44%**	**46%**
Combining agriculture & ecology very well possible	19%	24%	**38%**	**73%**

Farming styles in Northern Frisian Woodlands

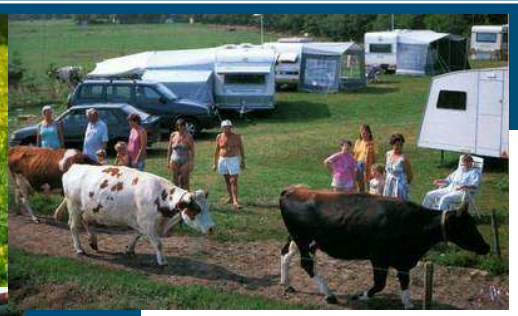
Interest in specific management agreements on (parts of) farm

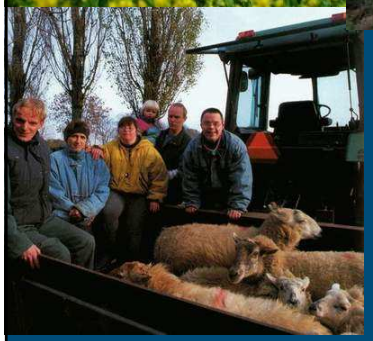
	Commercial farmers	*Breeders*	*Calm farmers*	*Stayers*
Hedgerow management	0	++	+	+/-
Management drinking ponds	-	0	++	+/-
Extensive management field margins	-	0	+	0
Low levels of fertilizer use	–	0	+	++
Delay mowing date to 15/6	+	–	+	+

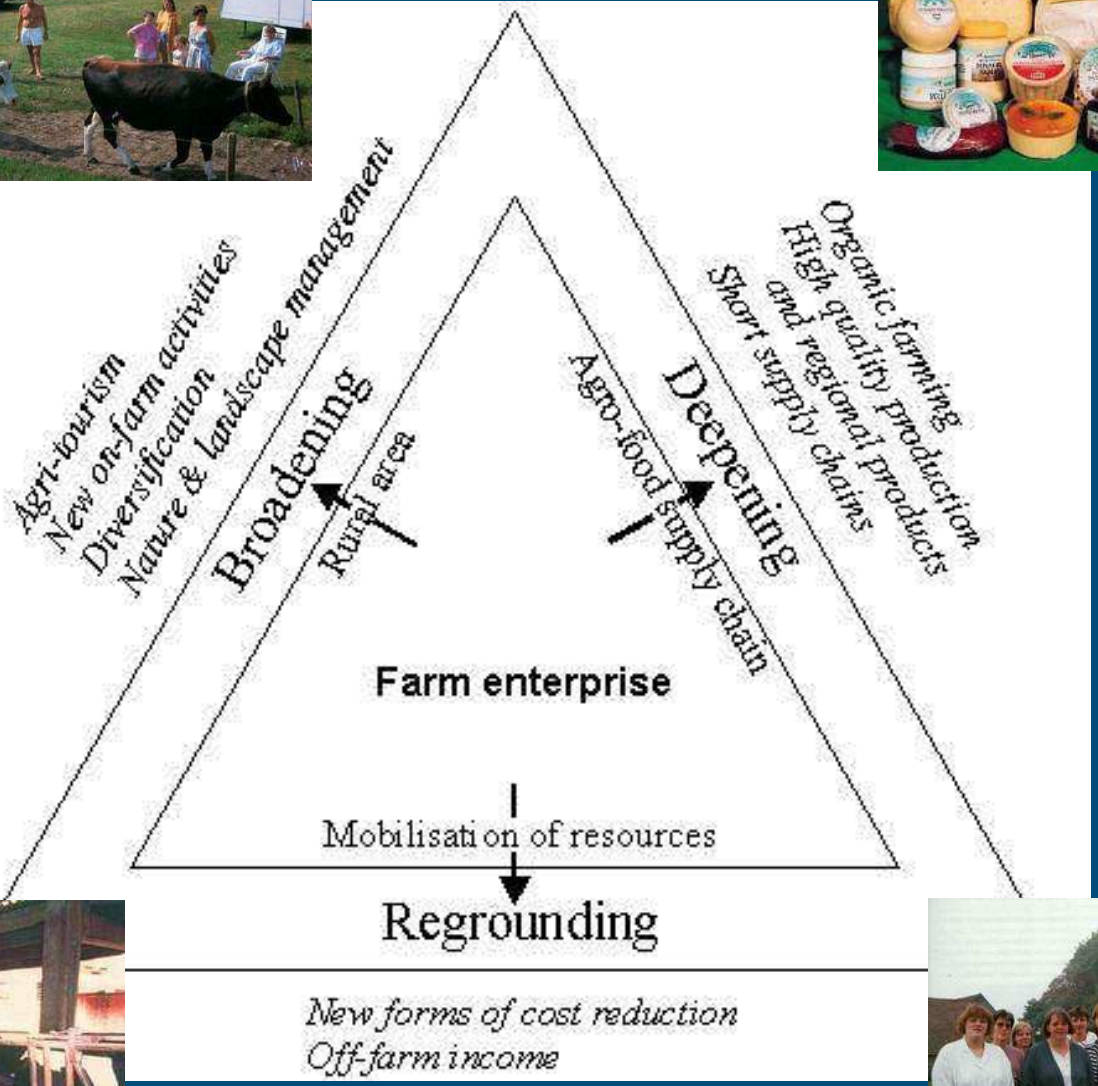
Relevance of Farming Styles for MFA

- Promising concept for analysing diversity of farm strategies in context of MFA
- Mainly applied to differences among full-time 'professional' farms with certain minimum economic size
- More difficult to apply to mixed farming systems and households that combine farming with other activities / income sources
- Strong on technical / economic organisation of farm strategies and role of ecology within farm strategies (use of internal / external resources)

Farm-based MFA Activities







% Farms involved in MFA Activities (1998)

	EU-7	IRL	NL	UK	D	FR	IT	ES
Organic farming	1.4	0.6	0.9	0.6	0.6	1.2	1.9	0.6
Quality foods	**11.5**	0.1	2.8	1.4	**7.5**	**26.8**	**6.2**	**18.5**
Direct sales	**20.2**	0.5	**5.6**	**6.3**	**6.5**	**15.0**	**34.6**	**7.4**
Agri-tourism	2.1	1.3	2.3	**8.3**	**11.6**	2.4	0.2	0.2
New on-farm activities	0.5	0.2	4.1	**6.9**	0.8	0.2	0.1	n.a.
Diversification	3.2	**11.2**	**10.9**	4.6	3.9	**5.4**	1.2	3.2
Agri-environment measures	**7.3**	**23.5**	**11.1**	**19.8**	**18.7**	**13.3**	1.8	4.6
Cost reduction	**30.1**	**53.1**	**40.4**	22.7	27.0	**37.2**	30.1	23.8
Off-farm income	**34.7**	**44.0**	37.1	**50.1**	**46.2**	**44.1**	30.1	28.7

Overall ca. 50% farms > 2 ESU with > 1 Deepening / Broadening activity

% Net Value Added / Total Family Income (1998)

	EU-7		IRL		NL		D		IT	
	%NVA	%TFI	%NVA	%TFI	%NVA	%TFI	%NVA	%TFI	%NVA	%TFI
Deepening	5.7		0.7		2.7		9.2		7.0	
Broadenig	3.5		6.9		3.5		8.6		1.5	
Subtotal	**9.2**	6.4	**7.6**	5.2	**6.1**	5.1	**17.8**	11.0	**8.5**	5.6
Cost reduction		9.7		13.2		10.7		6.6		11.8
Off-farm income		31.0		31.7		17.6		38.3		34.3
Total RD		**47.1**		**50.1**		**33.3**		**55.9**		**51.6**
Primary production		52.9		49.9		66.7		44.1		48.4

Conclusions on Farm-based MFA Activities

- MFA activities have become important cornerstone for sustaining farm households / incomes across Europe
- Generated income is often complementary i.e. there is no substitution possible with primary production
- Rather better co-ordination and attunement of primary production and MFA activities is needed

Changing Farm-Territory Relations

Synergy between MFA activities	EU-6 (2001)
1 Deepening / Broadening activity	52 %
2 DB activities	26 %
3 DB activities	12 %
4 or more DB activities	10 %
Total no. farms (%) with DB activities	1,701 (52 %)

(Source: IMPACT 2002)

Reasons for taking up MFA activities	EU-6 (2001)
Suitability region	82 %
Personal interest	80 %
Required assets available	81 %
Market opportunities	83 %
Income needed	76 %
Strengthening farm business	72 %
Training	45 %
Grant / Subsidies	53 %

MFA requires different farm resources

Land

Animals

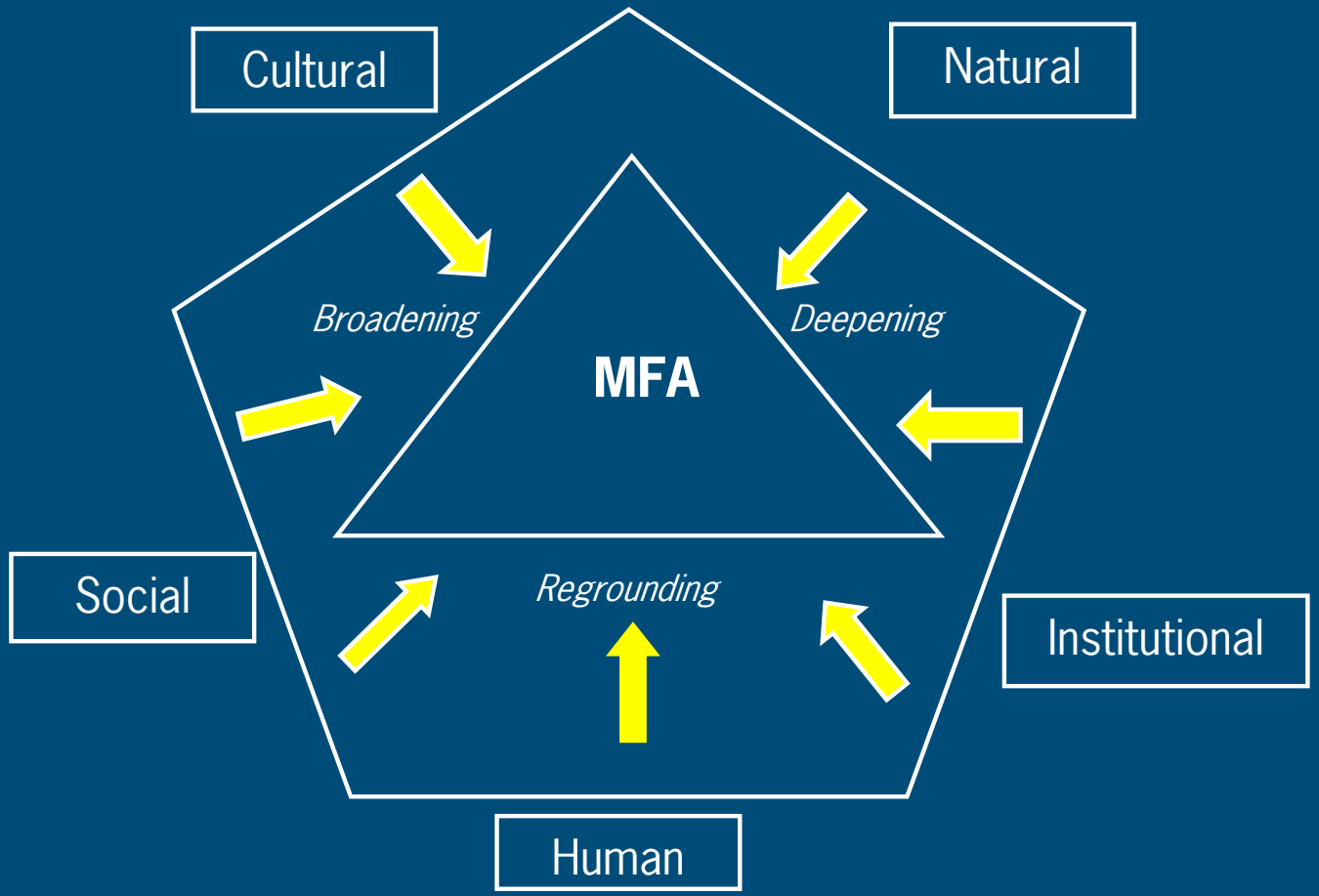
Buildings

Productive characteristics, efficiency

Attractive landscape, suitable therapeutic environment, social interaction

Changing Farm-Territory Relations

- Reconfiguration of resources goes beyond individual farm, and requires co-operation amongst farms / with other rural actors
- Also new institutional arrangements with agricultural state agencies, public health institutions, consumers, advisory services etc. are needed



Implications for Study of Livestock Farming Systems

- New conceptual approaches needed that look beyond productive and economic functions of farming systems
- Better understand how farm resources (land, buildings, landscape, knowledge, etc) contribute to different functions
- How are resources valorised by different activities (incl. primary production) and synergies between combinations of these
- New forms of entrepreneurship / conceptions of 'good farming'
- Linkages between different scale levels: 1) agricultural activity, 2) farm household, 3) territory, 4) relations with wider society
- New types of support measures (extension, subsidies, regulatory frameworks) needed to facilitate multifunctional farming systems

Implications for Study of Livestock Farming Systems

- Articulation of new institutional arrangements (territory, supply chains) to develop capital resource base and create opportunities to valorise MFA
- How can measures be tailored to specific regional opportunities / limitations, and what is role of different (EU, national, local, sectoral) policy levels
- Implications of wider societal trends (lifestyle, welfare concerns, urban-rural relations) for future goods & services to be provided by livestock farming systems
- Need for multi- / interdisciplinary approaches integrating technical and social-scientific disciplines

Questions? Discussion?