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- Recent developments Dutch dairy farming
- Goals and working methods animal in balance
- Results: presentation of three sustainable dairy farm systems



	1960	1980	1990	2000	2004
Farms with dairy cows (*1000)	185	67	47	30	24
Total no of cows (*1000)	1625	2350	1900	1504	1460
Cows per farm	9	35	40	51	60
Grassland and forage crops (ha)	14	21	26	32	38



- First period: 1960-1985: fast growing of milk production
 - Introduction milk machine and tractors (60-65)
 - Towards specialised dairy-farms (65-70)
 - New housing systems, mechanisation roughage production (70-75)
 - Milking tank and maize (76-80)
- Clear role government
 - Supporting and stimulating role
 - Big governmental research and extension-organisation
- Farmer: focus on specialisation and growth.



- Second period: 1985-2000: focus on quality, environment en labour productivity
 - Milk quota (1984)
 - New ways of breeding (85-90)
 - Need to reduce pollution (90-95)
 - Introduction milking robot (95-2000)
- Role government
 - Controlling farmers (making laws)
 - Extension service privatized
- Farmer
 - Focus on craftsmanship: optimizing farm, reducing costs



- Third period: 2000: focus on entrepreneurship, system-innovation
 - Reform EU-policy
- Role government
 - Farming is economical activity
 - No clear guidance, facilitating role
- Role farmer
 - Has to develop own strategy, no clear direction from government or farmers organisations
 - Good craftsmanship is not enough to survive



- Goal is to design and (in parts) realize desired dairyfarming-systems
- Desired is translated in sustainable, this means a balance between the three P's: People, Planet, Profit
- Dairy-farm system
 - Housing system (barn) including milk- en feedingsystems
 - Farm system: includes land, crops
 - Total system: includes position in and relation with society



- Focus on Quality Success Factors to develop and implement sustainable systems.
 - Required skills for entrepreneur
 - Trustbuilding: relation with consumer
 - Sustainability
 - People
 - Labour-circumstances
 - Animal welfare
 - Food-safety
 - Fitting in landscape
 - Planet: strict demands on nutrients\energy etc
 - Profit
 - Economical results
 - Labour-efficiency



• Three main groups

- Dairy farmers (NI, Ge, Dk)
- Industry (Delaval, JOZ, Spinder)
- Research (WUR, Utrecht)

Interaction with other stakeholders

- Consumers\citizens
- Processing industry

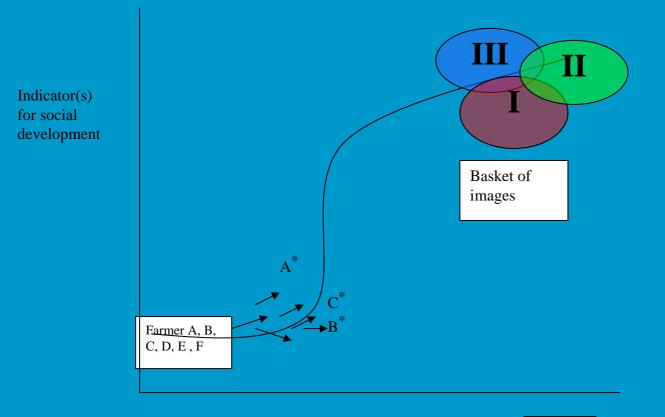


- Transition-management
- Interactive Strategic Management
- Value-orientation
- Purpose is to develop several systems
 - Uncertainty about future
 - Balance-approach between three P's means that there are different solutions.



Project Animal in balance: transition

• This project related to transition model

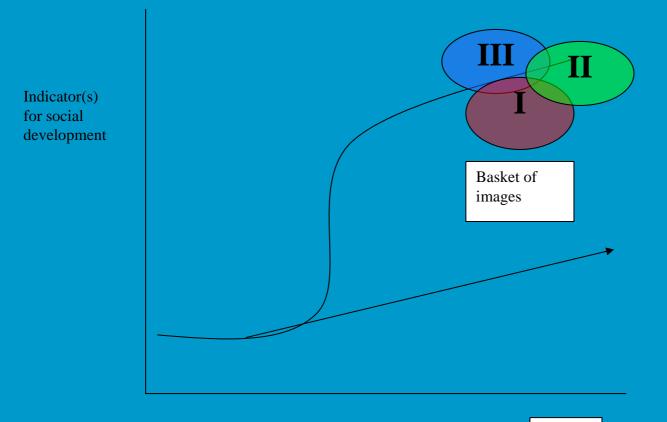






Project Animal in balance: transition vs optimisation

Transition vs optimisation



Time



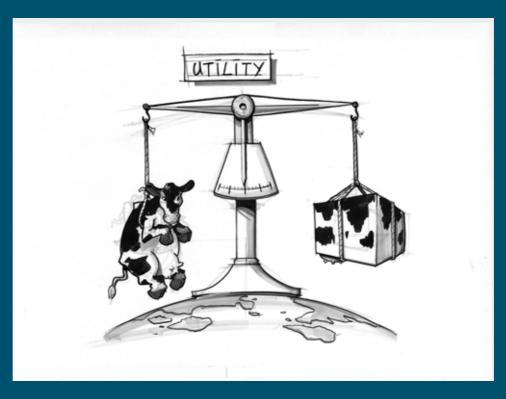
Project Animal in balance: main steps in the project

- 1. Factinding: new developments in and around dairy world-wide
- 2. From value-orientation to future systems in interactive process with all participants
- 3. Expertmeeting to evaluate sustainability
- 4. Presentation of systems to Board of Commissioners
- 5. Connecting future systems with current situation of participating farmers.



Utility The greatest good for the greatest number

Only rational arguments International playing field Efficiency





Duties and rights Don't do to others what you would not like done to yourself

Human rights Animal rights





Virtues That what makes a person stand out to excel

It's in our nature Practices Direct interaction Direct experience

