

DAIRY FARMING IN THE NETHERLANDS: CHALLENGED BY DEMANDS FOR ECOLOGICAL AND SOCIETAL SUSTAINABILITY

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ABSTRACT

Agricultural land in the Netherlands is predominantly used for dairy farming. Starting centuries ago farmers specialised, intensified and strived for scale increase in order to make a high quality low cost production. The Dutch dairy sector was successful in this respect and became an important exporter of dairy products and cattle, and many if not all Dutchmen were proud of the achievements of the dairy sector. Things have changed, however. Present-day middle-aged and younger generations predominantly grew up in urban areas, and the threat of food shortages is far from everybody and the window on food stops at the supermarket for most consumers. Dutchmen are no longer proud of their agriculture; on the contrary: many blame agriculture to negatively affects nature, air and water quality, animal welfare and rural social coherence as a result of the rationalised, economy-oriented development strategies. At the same time, economics of dairy farming are under pressure and average age of dairy farmers is high with only 10 to 25 percent of them having a successor. Many farmers quit and farm land is becoming available for up-scaling by others; farm houses are being occupied by citizens bringing with them the relatively new phenomenon of hobby farms, where livestock is kept as a leisure activity. So, many conflicting claims are put on land use, which became apparent during a Foot and Mouth Disease epidemic in 2001. It is widely realised now that the big challenge is to develop a new sustainable form of land use. What can be seen at present is a diversity of initiatives in rural areas where farmers combine dairy farming with recreation activities, nature and landscape schemes and green care (day activities for care-needing people), and where farmers and citizens cooperate to improve their living environment. The present paper describes some examples of this diversified development.

Key words: sustainable agriculture / dairy farming / The Netherlands

PRIREJA MLEKA NA NIZOZEMSKEM – IZZVANA Z ZAHTEVAMI EKOLOŠKE IN SOCIALNE SONARAVNOSTI

IZVLEČEK

Večina kmetijskih površin na Nizozemskem se uporablja za prirejo mleka. Že pred stoletji so se kmetje začeli usmerjati in intenzivirati prirejo ter si prizadevati za povečanje njenega obsega v smeri visoko kakovostnih in poceni pridelkov. Nizozemski mlekarški sektor je bil uspešen in je postal pomemben izvoznik mlečnih proizvodov ter goveda. Mnogi Nizozemci, čeprav ne vsi, so bili ponosni na dosežke v mlekarstvu. Stvari pa so se spremenile. Srednja in mlajša generacija je v glavnem odraščala v urbanih območjih, kjer jim pomanjkanje hrane ne grozi, temveč je večini dostopna na trgovskih policah. Nizozemci na svoje kmetijstvo niso več ponosni. Nasprotno, za negativne vplive v naravi, na zrak in kakovost vode, dobro počutje živali in podeželsko socialno povezanost krivijo kmetijstvo. Vse to naj bi bilo rezultat racionalizacije in ekonomsko usmerjenih strategij razvoja v kmetijstvu. Hkrati je gospodarnost prireje mleka pod pritiskom. Povprečna starost kmetov je visoka, le 10–25 % pa jih ima naslednika. Veliko kmetov preneha s kmetovanjem. Na kmečkih gospodarstvih ljudje iz mest razvijajo tako imenovano pristočasno

kmetovanje, kjer je reja domačih živali le pristočasna dejavnost. Veliko nasprotujočih si zahtev se pojavlja ob vprašanju rabe zemljišč, ki so postale še bolj očitne ob izbruhu slinavke in parkljevke leta 2001. Jasno je postalo, da je velik izziv razvijati nov, sonaraven način rabe kmetijskih zemljišč. Trenutno se pojavljajo številne raznovrstne pobude v podeželskih okoljih, kjer kmetje združujejo prirajo mleka z drugimi dejavnostmi, tako da skupaj z meščani sodelujejo pri izboljševanju njihovega življenjskega okolja. Takšne dejavnosti so na primer rekreativne in druge oblike preživljanja prostega časa v naravi in podeželskem okolju in »green care« – dnevna oskrba nege potrebnih ljudi. V prispevku je predstavljenih nekaj takšnih usmeritev.

Ključne besede: sonaravno kmetijstvo / govedoreja / mleko / priraja / Nizozemska

PRODUCTION AND SOCIETAL VALUES DIVERGED

The Netherlands was struck by a Foot and Mouth Disease (FMD) epidemic in 2001. Dairy production occupies at least 70% of the agricultural land in the Netherlands; the epidemic had a great impact on the whole country, with the major impact on dairy farming. However, striking was that this epidemic turned into a relative crisis affecting more people and groups in society than anticipated. It was not because nobody was prepared for it. The Ministry of Agriculture, Nature Management and Fisheries had a scenario in stock. The scenario was a protocol describing required actions, and tasks, competences and responsibilities of various stakeholders in the case an epidemic would occur. The scenario was applied as intended. Moreover, the scenario did what it was supposed to do: it prevented spreading of the disease, it resulted in a relatively soon eradication of the disease and it minimised damage to agricultural exports. Nevertheless, the crisis was there. It became a crisis because many people and societal groups, including many of the affected farmers, did not understand and accept the measures, especially the killing of healthy animals in the protocol. Still today discussions linger on: in a future FMD-epidemic should healthy animals be killed to prevent disease spread or should at least zoo and hobby animals be vaccinated? Reasons behind the controversy will be given in the following sections.

THE PRODUCTION VALUE OF LAND USE

Apparently something had changed in the Dutch society between the moment the scenario was developed and the moment it was executed. Wageningen University and Research centre appointed a taskforce on the future of agriculture in the Netherlands in 2001 (Taskforce Waardevolle Landbouw, 2001). This taskforce hypothesized that the societal constellation before 1990 allowed for an approach on contagious animal diseases as put into words in the scenario. In contrast, the same scenario was associated with crisis a decennium later because it conflicted with newly aroused values of the countryside.

As everywhere agriculture in the Netherlands developed millennia ago as an activity of everybody. And for long, despite the coming up of cities an important fraction of the Dutch population was associated with farming and the countryside. Agriculture belonged to everybody, everybody felt and experienced the importance of agriculture to survive on the food produced and cities and countryside were linked (Bieleman, 1992). Moreover, specialisation in a small product range mainly aimed at export started already centuries ago in The Netherlands (Bieleman, 1992). And the specialisation and export-orientation was boosted after the Second World War as a result of combined efforts of policy, research and extension and education. And the objective became relatively simple: land use in the Netherlands aimed at the production of a widely and generally accepted value: cheap and abundant food (Frouws and Leroy, 2003; Van der Weele *et al.*, 2003) of high quality (Taskforce Waardevolle Landbouw, 2001). Scientific research and government policy were challenged with an ever-repeating urge to support this

value: international competition forced to continuous price reduction and quality improvement. Hence, supporting values such as institutional and technological control of production process and products, mass production, product uniformity became associated with the land use value of abundant, cheap and good quality food (see Figure 1). Moreover, key stakeholders involved in land use i.e. farmers, processing (and mainly exporting) industries and the ministry of Agriculture were unanimous on most of the issues at stake. In addition, this so-called “green front” had a monopoly of knowledge and was politically very influential, since the rural population was the backbone of the Christian democratic parties in the middle of the Dutch political spectrum, parties that were in the Government ruling co-alitions for most of the time in the past 50 or so years. Most Dutchmen were proud of the achievements of Dutch food production and the Netherlands were seen as an example for the world, even as a solution for starvation and malnutrition in less favourable countries. In summary, Dutch land use developed for a relatively long period of decades under sentiments of proudness and unanimity rationalised in a simple targets, again the cheap, abundant and high quality food products.

THE ECOLOGICAL AND SOCIETAL FUNCTION OF LAND USE

In the relatively prosperous and urbanised societies of Western Europe food became obvious and with the basic needs satisfied higher needs as social activities and self realisation grew increasingly important in line with Maslov (1954) predictions. Experiencing landscape, nature and culture became important in the self realisation of people. Recreation in the countryside, keeping livestock as a leisure activity, art exhibitions in rural settings and recognition of the role of a green, open, silent or quiet landscape on human health are among the ways how people shape the various non-production landscape functions (Van der Ziel, 2003). However, people have limited access to such experiences; nature and landscape values fell victim to the rationalisation in land use: streams were canalised, plots were made even, hedgerows were removed, artificial fertilisers and drainage and irrigation made agricultural landscapes almost similar everywhere, excess N- and P-output of farms threatened nutrient-poor biotopes and water quality. Moreover, to avoid disease problems farmers did not allow unnecessary visitors to their farms and an incidental exposure to farming or television coverage of farming was perceived as an industrialised activity where animals could impossibly be in an acceptable state of welfare, let alone the images of dead cattle in a grab killed preventively during the FMD-epidemic. Landscape and farms were not really the places where nature and culture could be experienced. The required values summarised in Figure 1 as system values for transition farming were not seen.

The two sets of system values in Figure 1 seem to be conflicting. Each set of values had its own interest groups: the production values at the one hand were at the interest of the export-dependent processing industries, farmers who were economically dependent on these industries and part of the veterinary authorities; the societal, transition values at the other hand were cherished by the majority of the population. The contrast was the basis of the crisis around the FMD epidemic.

CONSEQUENCES FOR FARMING: A THREAT AND A CHALLENGE

So, farming is no longer perceived as a rural activity where an average Dutchman should be proud of. The decennia-long backing by part of society is dwindling. With regard to policy this is translated into a huge pile of rules and regulations on agriculture, regulations that control the environmental impact of agriculture. European directives on nitrate, bird protection and habitat put limits to up-scaling and intensification of farming on the national level. At dairy farm scale

the nitrate directive reduces possibilities of intensification. Hence, in order to keep up with international competition up-scaling of individual farms is an important alternative. Up-scaling occurs: Table 1 gives an impression of the dynamics in dairy farming in a region (the South-Westerly Quarter) in the Northern Province of Groningen. Table 1 illustrates the fact that many of the farms are, in economic sense, small and many farmers are relatively old.

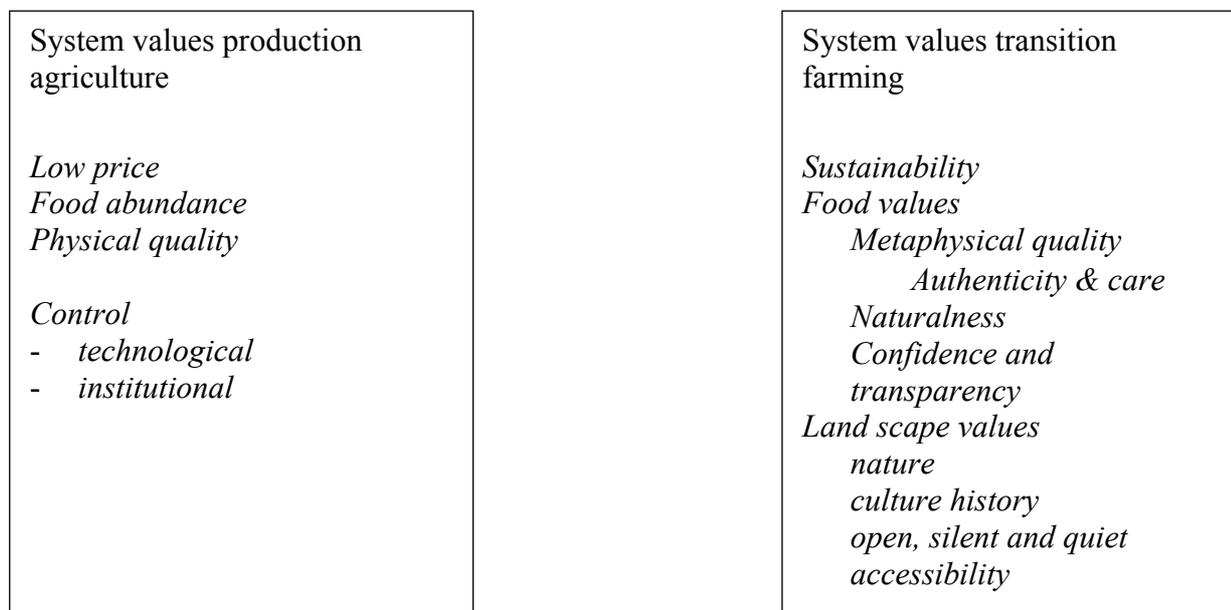


Figure 1. System values of production oriented and transition agriculture (Adapted from Oosting and De Boer, 2002).

Between 1992 and 2002 the number of farms reduced by 23%. Some farms grew bigger. Succession rates were low. Many more farmers will stop in near future. For stayers up-scaling seems a possible solution, though land prices are high as a result of land scarcity for other functions, but land prices are lowering. A similar picture emerges in the rest of the Netherlands.

Table 1. Farm dynamics 1992–2002 in the South-Westerly Quarter of the Province Groningen

	1992	2002	Change
Total farms ¹	916	708	-208
Small ²	563	392	-171
Medium ³	204	106	-98
Large ⁴	149	210	+61
Average farmer's age, yr		56	
Fraction with successor	0.15	0.12	-0.03

¹ 91.9% of farms is dairy farms, ² <40 NGE (Dutch Unit of Size); ³ 40<x<70 NGE; ⁴ >70 NGE (70 NGE is considered a farm of sufficient scale for economically sustainable full employment), Source: Central Bureau of Statistics, April 2004

Nevertheless, despite increased up-scaling and intensification, dairy farmers were able to just maintain their farm incomes for the last years (Figure 2). However, the farming family incomes achieved (average 24k€ since 2000) were below the Dutch average family income of €29k€ (source: www.cpb.nl). The fact that dairy farmers have to make weeks of more than 50 h

compared to an average work week of 36 to 40 h for a labourer explains in part why the succession rate is low (Table 1).

I conclude that in present day land use all sustainability (Oosting, 2002) aspects are under pressure: societal and ecological values are insufficiently expressed and farm family economics are insufficient to attract a new generation of farmers.

The reaction to this is twofold: part of the stakeholders (part of the farmers, exporting processing industries, veterinary authorities) sees the societal and ecological demands as a threat to their interests while the other part takes the challenges of creating a new supply side to the societal and ecological demands. The initiatives in this field are many (see Van Broekhuizen *et al.*, 1997; Van der Ploeg *et al.*, 2002. Some examples of recent studies in which the Animal Production Systems Group of Wageningen University was involved are given below.

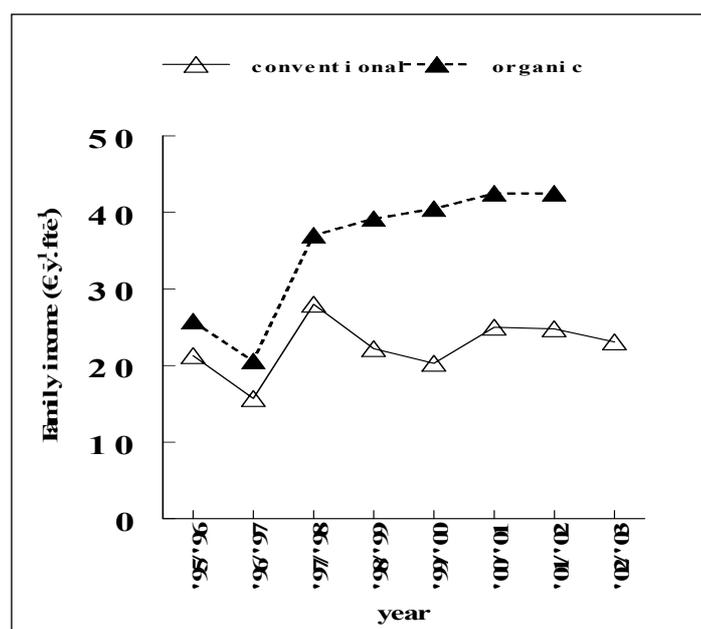


Figure 2. Family income development of conventional and organic farming (Silvis, 1999; Silvis and Van Bruchem, 2001; Berkhout and Van Bruchem, 2003).

ORGANIC DAIRY PRODUCTION AND REGIONAL PRODUCTS

Figure 2 compares the family income of organic dairy farming with that of conventional dairy farming. Organic farmers managed to make a better income than conventional dairy farms for the last decade. The market for organic dairy is, however, getting saturated (Kristensen and Thamsborg, 2002) and in analogy with conventional farming challenged by international competition. It is therefore questionable whether the Netherlands will ever reach the target value of 10% of agricultural production being organic as set by the Ministry of Agriculture (LNV, 2000). However, it seems a small, but relatively stable market. Consumers perceive organic products as sustainable, of metaphysical quality (authenticity, naturalness, identity) and good for health (Oosting and de Boer, 2002; Brown, 2002).

Regional products are another niche market. With increasing rural tourism, a group of potential costumers emerges. Presentation of products as regional products attributes regional values – sun and wind, nature, landscape or environmental protection-, farm related values – organic farming, animal welfare or multifunctionality- to processing related values – craftsmanship, tradition or product presentation- (Oosting *et al.*, in press; Roep, 2002; Van Ittersum, 2001).

REGION-WIDE NATURE MANAGEMENT IN THE SOUTH-WESTERLY QUARTER OF THE PROVINCE OF GRONINGEN

The Dutch government has a subsidy for nature management at farms in an agricultural nature scheme. Farmers within appointed areas can get subsidies to improve the habitat for meadow birds and/or specific plant species and communities. Within the government appointed areas farmers individually make contracts with the government representing authority. However, farmers in many areas of the Netherlands shared forces and combined in regional Agriculture Nature Conservation Societies to be a negotiation partner with the governmental authorities. Negotiations centre around the level of allowance, flexibility of the contracts but also on measures to improve effectivity of the nature conservation activities. One farmers group in the South-Westerly Quarter of the province of Groningen got a permit to hunt foxes, considered to be the major predator of young meadow birds in The Netherlands. Moreover, farmers and the National Forest Management board are working on cooperation on extensive management of a big area of land with mutual benefits for nature and farmers. This cooperation involves also village citizens and has the ultimate link to make the area more attractive to rural tourism, for which also promotion activities are envisaged. Nature, agriculture tourism and village livelihood go hand-in-hand in this project. Comparable examples were described by Roep (2002) and Van der Ploeg *et al.* (2002).

GREEN CARE FARMING

So-called green care farms provide care to a wide variety of target groups: among others frail elderly as well as demented elderly, drug abusers, people with social or psychiatric problems, mentally disabled people and people with burn-out. Such visitors of green care farms are referred to as clients. It is often claimed that farms offer a range of meaningful values to clients and that such values contribute to the wellbeing of clients and to an improved physical, social or mental health status of clients. Examples of such farm values are among others: security, structure, rhythm and routine, people at the farm, animals, plants, meaningful activities, and diversity of activities. The number of farms registered at the "steunpunt landbouw en zorg (support organisation for agriculture and care)" as green care farms increased from 75 in 1998 via 323 in 2001 (Ketelaars *et al.*, 2002) to 372 in 2003 (website steunpunt landbouw en zorg: www.landbouw-zorg.nl). A care function for farms is not new: historically many Dutch farms had a care function in the village society, since many provided an opportunity to work as a farm labourer to people with limited abilities. However, this function got lost during the decades of specialisation and scale increase in Dutch agriculture.

Actual developments in day and chronic care can be summarised as a shift from care in an institutional regime to increased social integration and normalisation of care. So key issues in present care in the Netherlands are: an increasing focus on quality of life of clients; integration of service and care by providing tailor-made accommodation and social activities; target group specific care; fitting into life styles and habits and space for own living instead of an institutional regime. Farms are increasingly seen as environments where these key issues can be realised.

Moreover, it is claimed that farms offer values that contribute to the wellbeing of clients and to an improved physical, social or mental health status of clients. Examples of such farm values are among others: security, structure, rhythm and routine, interaction with people and with animals, caring of plants, meaningful activities, and diversity of activities. Other day-care-environments for clients will offer other values or part of the values also found at farms. Scientific information on comparison of the beneficial effect of green care farms with their specific value combination and other day-activity-environments is scarce. Schols (unpublished) observed in dementia clients less behavioural problems and less medicine use and more activity when spending

two days weekly at a green care farm compared to a control group with day activities in a nursing home. Scientific research on health and wellbeing of clients as affected by animal assisted therapy (a.o. Enders-Slegers, 2000) and horticulture therapy (Simpson and Straus, 1998) is described.

In a workshop with green care farmers study of effects of farm values on clients and in particular on distinct target groups was ranked highest on the research agenda. Farmers gave as reasons for this prioritisation of effect studies that they want to a) increase effectivity of care by matching client interests and care at the farm b) be recognised by care institutions as a full contributor to health and wellbeing of clients. Second on the research agenda was the problem of keeping up the balance between production-agriculture at the farm and care activities and in third place was the design and organisation of a quality-control-system for green care farms.

HOBBY FARMS

It is estimated that around 200.000 people in the Netherlands keep livestock: sheep, goat, chicken, donkeys, horses, ponies and park animals for leisure. They have an important role in preserving endangered breeds and consequently maintaining genetic pools, but also in the field of education. City farms (which we enlisted as a specific group of hobby farms) are for many people the only confrontation with animals and a metaphor for agriculture.

To illustrate the relative importance when it comes to people involved in hobby farming: the epicentre of the FMD epidemic in 2001 was in the centre of the Province of Overijssel in Eastern Netherlands. To stamp out the disease all live animals were killed in the region around the epicentre. Approximately 3000 farms had all their animals killed of which 1800 hobby farms. Only 26 farms were infected.

Table 1 illustrates the same. In the South-Westerly Quarter of the Province of Groningen approximately 50 to 70% of the farms are of such a size that farming contributes just a small fraction of the family income. However, farms are listed at farms in statistics because some animals are kept.

The presence of hobby animals in the vicinity of production farms is a dilemma when it comes to managing contagious disease-epidemics. Measures described in the protocol were aimed at protecting the export status of production agriculture while the majority of people in the rural area are to some extent hobby farmers whose animals will not end up in the food chain.

CONCLUSION

Land use in the Netherlands is in transition. Starting from being the domain of export oriented production agriculture it is moving into the direction of a diverse and multifunctional arena, where farmers, nature, landscape, citizens get their places. This process is irrefutably going on, but means a rather drastic turn from the sole production orientation. This causes debate and tension.

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