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Macro-level analysis of food supply chain dynamics and diversity

National report – The Netherlands

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THE NETHERLANDS

SUS-CHAIN WP2 National Report (deliverable 8.1)

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1 Historical evolution of FSC's in the Netherlands

Over the centuries, free trade policies and a strong involvement in international trade (including agricultural commodities and specialties) have been characteristic for the Netherlands. Nonetheless, *four major events* have given rise to different forms of state intervention into food markets:

1. The international crisis of the 1880's. This crisis triggered the introduction and institutionalisation of a policy aiming at the introduction of basic levels of quality, especially in export products (as e.g. butter, which at that time was object of frequent frauds). This policy was supported by state controls and hallmarks and equally sustained through an increased control of farmers' co-operatives over the production and marketing of the main commodities. These co-operatives emerged as well as a response to the then prevailing crisis. Further, the state and the farmers' unions heavily invested into a nation wide system for extension, schooling and applied research in order to support the intended basic levels of quality.
2. The 1930's crisis required a further extension of state intervention into the agrarian markets. Although exports remained a fundamental aim (and the international markets remained to be the foremost ordering principle), agrarian levels of income and food prices in the cities became regulated to a considerable degree, using a.o. import levies and export regulation.
3. The basic principles of this new form of state regulation (implying even a kind of planning in order to meet domestic demand) finally fed into the third major event, i.e. the creation of the European Economic Community (EEC), that was characterized by a further regulation of the main agricultural commodity markets. EEC policies strongly conditioned the development of production, transformation, commercialization and consumption of food. This did not imply, however, a rupture in the international orientation and involvement of most food chains. Due to EEC regulation exports to the rest of the (expanding) Community grew considerably, whilst exports beyond the Community borders also increased enormously. Currently, the Netherlands is amongst the biggest food exporters in the world.
4. The current decline of EU protection of agricultural and food markets. This decline reflects, amongst other, probably more important pressures (as e.g. WTO negotiations), also the strongly decreased support of the public in general. Food scandals (related with and reflecting high degrees of industrialization of food chains), the negative impact of agriculture on landscapes and bio-diversity, a growing distrust, frequently appearing animal diseases and the related policies of 'stamping out' – all these elements have created a conjuncture that is condensed into frequent calls for a radical transition. These

calls regard mainly primary production, but will, undoubtedly, also affect the structure and dynamics of the food chains as a whole.

Through these four major events and the interrelated periods, the basic structure of FSC's changed considerably. The 1880 crisis gave rise to a wide spread network of farmer co-operatives and auctions for the transformation and marketing of the main products. These co-operatives functioned alongside (and partly competed with) private industries, amongst which powerful enterprises functioning at world market level. Many of the latter had strong roots in Dutch colonial history (as e.g. Unilever).

Especially during and after the third event (the creation of the EEC), the co-operatives went through a process of strong concentrations, resulting in a few strong enterprises that dominate national agriculture and which operate on both European and world market. Nowadays, the co-operative nature seems to be just a formal aspect, and many business leaders regard the co-operative 'inheritance' as a major hindrance for further development. EEC, and later EU regulation has been highly functional for the development and concentration of these former co-operatives. It is felt that a liberalisation of the main markets, especially when it is an abrupt one, might have considerable and negative consequences for this part of agribusiness.

Together with the concentration at the level of transformation and marketing, there has been, again between the third and fourth major event, a remarkable concentration at the level of retailing. It is estimated that the four major retailers of the Netherlands do commercialise some 85% of all food (Bijman et al, 2003).

The ties between the major agribusiness groups in the Netherlands and the major retailers are loosened increasingly (and especially during and after the fourth event). That is, both agribusiness and retailers are operating internationally. The growing disconnection between the two is reflected in the title of a report of the National Council for the Rural Areas (RLG, 2001): "Agribusiness: more business, less agri".

The fourth event and its aftermath are also characterised by an accelerated dissemination of new, short food chains. Both the squeeze on agriculture (resulting from the dominance of agribusiness and retailers as well as from the decline of EU market protection) and the distrust of parts of the consumers vis-a-vis the main FSC's, result in farmers' willingness to develop such new short chains and consumers' interest in re-orienting part of their demand.

2 General configuration of FSC's in the Netherlands

2.1 The main elements of the configuration of FSC's

As outcome of the differential historical trends, the production, transformation, distribution and consumption of food compose a heterogeneous whole. The overall configuration of FSC's in the Netherlands is, thus, a complex and fluid one. The main elements of the configuration are the following ones:

- An *expert-system* (mainly of a public nature) that regulates at different levels the quality of food as well as the nature of primary production. This expert system partly stems from the institutional infrastructure created during and after the first event mentioned in the previous paragraph. Indirect control is currently the key word. That is that food industry is expected to elaborate its own systems for (self-)control, whilst the agencies composing the expert-system control the proper functioning of the decentralised self control systems. The expert system is to sustain trust of the general public in food quality and safety. The complex, worldwide movements of the ingredients that finally are assembled into food, the private nature of the links that compose the different links of the current FSC's and the high levels of mutual competition that induce an ongoing search for cost-price reductions do, however, hardly allow for an adequate guarantee on quality and safety. Consequently, distrust often characterises the interrelations between FSC's and (parts of) the general public. The same expert system also regulates primary production. Its functioning is increasingly threatened by the emerging contradictions between public goals as sustainability and food quality on the one hand and the consequences of liberalisation on the other.
- The second element composing the actual configuration are the big FSC's that will be described in detail in section 4 of this document. They are increasingly operating at *European* if not at *global level*, that is: both the supply function as well as the destination are disconnected from Dutch agriculture and from the Dutch food market. It is a relevant question to what extent it makes sense to talk about *Dutch* FSC's. After all the greater part of the consumers of Dutch agricultural products is not Dutch (± 75% is export) and a growing part of supply and processing is concentrated in multi-national companies (like Unilever, Nutreco, Numico, etc.; Unilever is a Dutch company, but gets 98% of its agricultural raw materials from foreign countries). The self-sufficiency rate of some products is shown in table 2.1.

  Interestingly enough, the prospects of a complete liberalisation (as resulting from the decline of EU market protection), is triggering increasingly statements that the big FSC's should distance themselves from the global market as ordering principle and reorient

themselves to the prosperous consumer markets of NW Europe. Whether the (material) infrastructure elaborated so far will allow for such a change remains unclear.

Table 2.1. *Self-sufficiency rate of some agricultural products (LEI/CBS, 2003)*

Product	Self-sufficiency rate
Vegetables	256 %
Pork	223 %
Poultry	197 %
Eggs	312 %
Beef	168 %
Cereals	23 %
Cheese	246 %
Sugar	194 %
Potatoes	145 %

- In the third place then, there are the *main retailers* that control the majority of food distribution in the Netherlands. Remarkable trends here are, in the first place, to organize directly, through contract-farming, an increasing part of their supply and, secondly, an increased price competition. The vulnerability of the big retailers became evident through the scandals in which Albert Heyn was involved and which caused, subsequently, a huge fall of its value on the exchange markets.
- Fourthly, there is a newly emerging myriad of new *short supply chains*, partly linked with the quickly expanding sector of organic farmers, partly operating alongside it. Regional specialties, high quality products, freshness (and interestingly enough, also price competition) are, together with new direct contact between producers and consumers some of the characteristics of this newly emerging element. It involves the creation of new networks and new identities as well. At the same time there are emerging many contradictions between the expert system and this newly emerging short chains, whilst the main FSC's are entering into a kind of symbolic competition, using increasingly the icons of these new circuits to strengthen there own position.
- Finally there is the fifth element, i.e. *the consumer public* in the Netherlands. This public is increasingly differentiated: the average consumer does not exist anymore, consumption of food is increasingly intertwined with life style and identity. On the one hand critical awareness is growing and there is a slow growth of the demand for quality and distinction. On the other hand: a) in the competition between supermarkets to attract consumers low prices and cheap special offers play a prominent role, b) indifference and unhealthy eating habits cab also be noticed, and c) there is a clear trend towards convenience food.

Together these elements compose a configuration that is basically characterised by the following two elements:

1) Agricultural production, FSC's, the functioning of expert-systems, the consumption of food and the development of new short chains are increasingly *disconnected* from each other.
2) Whilst the functioning of the constellation as a whole as well as the development of its separate elements is basically *at odds with sustainability*, this growing *unsustainability is, nonetheless, reproduced over time*. Frequent expressions of this 'unsustainability' (like the giant manure problem in the Netherlands, the BSE crisis, the prospect of GMO food, the massive transport movements of food, the stamping out of millions of animals after Foot and Mouth disease, swine fever and Avian Influenza) might lead to outcries of public disgust - they do not lead, though, to basic shifts in the regime governing the constellation as a whole.

2.2 The organisational structure

Concerning the organisation of the chains, there has been a clear process of *concentration* and *scale-enlargement* of agri-business and supermarkets. The large majority of FSC's arise from and are embedded in this large-scale structure. This contrasts with the small-scale family farm structure of primary production. On the other hand, *new FSC's* such as organic farming, high-quality production (incl. region-specific production) and short supply chains are small-scale and with a more proportional distribution of benefits and costs over the partners in the chain. The share of these FSC's in the total Added Value of the primary production in The Netherlands is estimated on only 2,7% (see table 2.2a). Between these new small-scale FSC's and the large-scale FSC's is a large gap; there are hardly any 'intermediate' FSC's.

Looking to the *distribution of the Added Value* (exclusive retail) it appears that there are differences between the branches (see table 2.2b). Take note of the relative small share of primary production in dairy farming (land dependent livestock, 32%), arable farming (20%) and especially intensive livestock production (12%). From the Gross Value Added and employment of the total Dutch agri-complex, the share of primary production is modest (€7,9 billion of €36,9 billion [21%] and 186.000 of 692.000 working year units [27%] respectively, see table 2.2c).

Table 2.2a. *The actual impact of Deepening (1998, the Netherlands) (Van der Ploeg et al, 2002)*

Fields of Activity	Number of farms	Extra NVA per farm €	Extra NVA in €	% of Total NVA
Organic farming	962	23.625	22.727.000	0,3
Quality Production	3.000	28.333	85.000.000	1,3
Short Supply Chains	6.000	11.333	68.000.000	1,0
Subtotal			175.727.000	2,7

Table 2.2b. *Distribution of value added in the Dutch agro-complexes in 2000 (up to and included distribution) (Koole and Van Leeuwen, 2002)*

	Cultivation under glass complex	Outdoor cultivation complex	Arable production complex	Intensive livestock production	Land dependent livestock complex
Primary production	71%	66%	20%	12%	32%
Processing industry		2%	28%	25%	23%
Supply food industry				7%	2%
Industry and service industry	23%	27%	34%	37%	32%
Distribution	5%	5%	19%	19%	11%
Total	100%	100%	100%	100%	100%
-Total Added Value, billion € -% of total agro-complex	4,7 21,5%	1,5 7,1%	3,8 17,4%	4,7 21,5%	7,1% 32,5%
-Total Employment x 1000 -% of total agro-complex	64,6 15,3%	41,4 9,8%	73,7 17,4%	97,1 22,9%	146,5 34,6%

Table 2.2c. *Gross value added and employment of the total Dutch Agro-complex in 2000 (Koole and Van Leeuwen, 2002)*

	Gross value added in billion €	Employment x 1.000 working year unit
Gardeners, forestry, agricultural services	1,6	53
Processing, supply industry, distribution of foreign agricultural raw material	13,5	215
Agro-complex based on home-production	21,8	423
Share in national total	*6,1%*	*6,5%*
of which:		
-primary production	7,9	186
-processing industry (home-production)	3,9	49
-supply industry	7,2	135
-distribution	2,7	53
Total agro-complex (home + foreign raw material)	36,9	692
Share in national total	*10,4%*	*10,7%*

More important than these percentages itself is the increasing importance of the *'industrial logic'.* The logic in agribusiness is more and more disconnected from the logic of primary production on family farms. Differentiation (e.g. maybe 90 chicken products in the

supermarket on the basis of one uniform chicken), 'quality' and value are produced in the industries at the end of the production process: *flexible standardisation*.

An organisational structure that is beginning to develop is *vertical integration*. The structure of especially a part of the meat-chain is more and more concentrated in and dominated by a limited number of companies. Some of these companies are working towards 'integration', that means that (several) parts of the chain are set up by the same company so that planning and tuning of production is optimal and that it is possible to take optimal advantage of economies of scale. The Dutch multi-national Nutreco (poultry, pigs, and fish) is a good example. Owing to its scale, available knowledge and control over large parts of the chain Nutreco is able to substitute raw materials (grain, soya, fish meal, etc.) with other raw materials with equivalent nutrition value, to differentiate production for specific market segments by using different breeding, feeding and processing strategies without losing control and/or market share and to develop and easily introduce tracking and tracing methods. It is Nutreco's ambition to play a leading role in the chains. Nutreco is: 1) a major supplier of compound feeds, premixes and concentrates, 2) a major supplier of breeding stock, 3) a major player in processing and marketing, 4) a developer of new housing systems and 5) advisor of farmers (Nutreco, 2002). Farming is the next part of the chain that may be integrated (in fish-farming this is already practice).
This type of integration is not (yet?) spread over the whole meat sector. On the contrary, parts of the sector are characterised by struggles and distrust between parts of the chain and by the absence of any self-regulatory capacity.

Some other figures about Dutch agriculture:

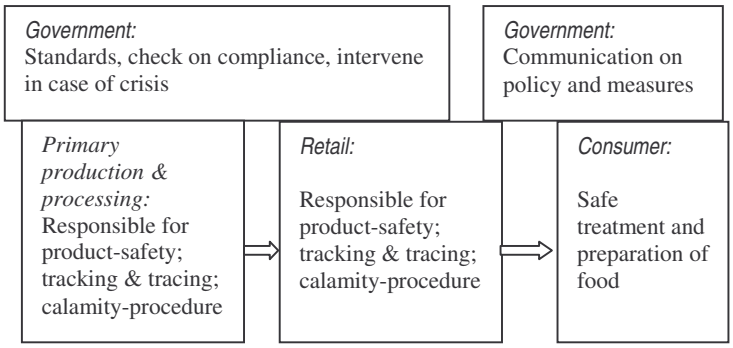
- Primary production (Van der Ploeg et al, 2002):
  - Total NVA = € 6,587,640,000
  - Farm Family Income (FFI) = € 3,367,600,000
  - Total Family Income (FFI + OFI) = € 4,087,600,000
  - N = 92.783 (2001): -25% residential units and hobby farms
    -17 % part-time enterprises
    -58% full-time enterprises
- Other figures (www.minlnv.nl):
  - ± 75% of the total agricultural production is exported (= ± €39 billion); 80% of this goes to the internal European market.
  - 40% of raw materials used by the Dutch food industry comes from abroad.
  - 1999: 5000 businesses in the food, drinks and tobacco sector (11% of Dutch industry).
  - ± 25% of all Dutch logistics is agri-logistics.
  - Share in total EU-15 import of agro-food in 1999 is 11%
  - Share in total EU-15 export of agro-food in 1999 is 20%

- Organic farming in 2002 (Biologica, 2003):
  - 1568 farms (300 farms that are in transition included), 38.000 ha: 2,2 % of the total agricultural area
  - Arable farmers: on average FFI is 178 % compared to conventional arable farmers
    Dairy farmers: on average FFI is 160 % compared to conventional dairy farmers
  - Consumer expenditure: €375 mln (1,6% of total expenditure on food)
    - -supermarkets 48% (± 60% supermarket Albert Heijn)
    - -reform shops 39%
    - -off farm sales, restaurants, farmers markets etc. 13%

3 The regulatory and policy environment and institutional setting

As far as the institutional setting as such is concerned, reference should be made to three important elements that characterise the Dutch setting and which partly explain the problems mentioned above. In the first place that is the corporative tradition of the Netherlands (previously regulated through the Agricultural Policy Community [Landbouwschap] and now reproduced through elements as the favoured 'interactive planning', 'consensus building' and the 'directory role' of the Ministry of Agriculture). The corporatist tradition hinders the creation of changes. A second element is the role of the dominant expert system. This role introduces the image that all-current policy and regulation is scientifically based, and that, by consequence, alternatives are 'non scientific' and therefore inferior. This feature strongly increases the rigidity of the regulatory regime as a whole. Thirdly, also because of the declining role of government, more and more private regulation from agribusiness and corporate supermarkets comes into use. This private regulation also tends to restrict the room for manoeuvre from primary producers

With regard to *sustainable FSC's* Dutch government formulates minimum standards for environment and food safety (a 'narrow' technical perception of sustainability). Government formulates conditions and is concerned with inspection, but business itself is responsible for food-safety. According to the Dutch Ministry of Agriculture, the responsibility of the partner in the chain is as expressed in the scheme below.



There is an increasing amount of regulation (with strong tendency towards technical and administrative prescriptions) to decrease environmental pollution and to guarantee food-safety. Apart from direct intervention in case of immediate risk for public health (closing borders, take products off the market, etc.), direct regulation contains a lot of product prescriptions and standards and the inspection of these. A part of it concerns the elaboration of EU-regulation (e.g. the prohibition of the standard-use of a number of growth-stimulating

antibiotics) and the SPS-agreement (WTO-treaty on Sanitary and Phyto Sanitary measures). For the rest it contains national prescriptions and prohibitions concerning production methods, composition and purity of products and the way inspection is organised. E.g. the prohibition of the use of meat-and-bone meal (because of BSE) in animal feed is a national affair. There is not only regulation regarding the end-product but more and more the whole production-chain becomes an object of monitoring and inspection. Such measures will have further consequences: a) an accumulation of rules and checks as the switch to replacement additives, resources or raw materials demands ongoing regulation, and b) in the longer term, this regulation is affecting production methods and husbandry systems, which have to be modified to offset the disappearance of inputs and resources (Frouws & Van Broekhuizen, 2000).

Economic sustainability is considered a matter of free-trade and market. But in order to create a level playing field for free trade, within the EU-context and other international consultative bodies (WTO, Codex Alimentarius), Dutch government will plead for an increasing harmonisation of regulation for food safety. The food sector itself is held responsible for the creation of qualitative surplus value and the economic strategy.

With regard to policy concerning *new SFSC's* oriented on 'extra' quality and/or sustainability, there hardly is any stimulation and/or regulation. Correlated with this, with regard to *rural development*, there is no specific policy aim as to the relation between FSC's and RD. It has to be said there is a remarkable difference between state at national level and state at lower administrative levels; e.g. the willingness to engage in rural development and SFSC's is higher at community or regional level than at national level.
As to organic farming, Dutch government formulated the policy aim that in 2010 10% of the agricultural area will be used for organic agriculture. The growth of the organic sector has to result from the growth in consumer demand for organic products. More and more the marketing of organic products is stimulated instead of the production itself. The switch from conventional to organic farming is supported by the Regulation Stimulation Organic Production-methods (RSBP). The loss of income during the period that the production already is organic but the sales still is conventional is compensated for 65%. Per year €5,5 mln is available, but last years about the half of this sum of money has been used.

Different types of FSC's suppose different *types of trust.* In general the direct contact between producer and consumer as it was before – and which, to a high degree, formed the basis of trust – has largely disappeared in the more industrialised large-scale FSC's. The way in which this trust must now be achieved is therefore organised in quite a different way: *personal trust* is largely replaced by *institutionalised trust*. The consumer of today is remote from the production of food, which makes it much more difficult for the consumer to form a

clear picture of the circumstances in which the production takes place and of the composition of the final products.
Realisation of sustainable FSC's and the realisation of trust is difficult because it involves many stakeholders. Market forces alone don't make FSC's sustainable. A collective approach, co-operation and co-ordination, and to a certain extent institutionalisation of these in 'chains', are necessary. In the Netherlands most companies have a large number of variable buyers and suppliers. Mostly it concerns a complex and often fuzzy network instead of an integrated system. Institutionalisation of integrated systems or chains is still in its infancy. E.g. there are no institutionalised quality production systems (and FSC's) as in some other countries (prosciutto, Parmiggiano-Reggiano cheese, wine-production etc.).
However, there are lot of new hallmarks and certification systems; Eurepgap, KKM, IKB, Agromilieukeur, Eko, Demeter, DOP/IPG, HACCP, free-range eggs etc. Some regulated by public law, others private. Hallmarks and certification-marks should be perceived as 'institutionalised trust'. They could play a role in the transition of parts of Dutch agriculture from bulk-production to quality-production, but so far they don't. LEI-research (2002) shows: a) that 80% of the market-actors (retail, processors, producers) are of the opinion that for consumers the number of hallmarks is confusing and b) that the reason for this are the unclear criteria (both content and assurance-procedures etc.). And on the part of farmers the involved chain-integration and institutionalisation is not a self-evident trend; many animal farmers are proving hesitant, distrusting and resisting loss of independence (Frouws and Van Broekhuizen, 2000). There are some initiatives to develop new and regional hallmarks (e.g. Certified Regional Product) in which the well-balanced co-operation and co-ordination between the involved parties is one of the central mechanisms; however, so far these are small and fragile.
By and large, the current situation is confusing. Co-ordination and co-operation between stakeholders are not yet well balanced and established, institutionalisation is or still weak or not well balanced (uneven relations between chain-partners).

There are five main problems associated with the regulatory regime in the Netherlands, with the dense web of regulations regarding all different kinds of dimensions like e.g. product quality, processes of production, transport, animal welfare, emission levels, technology and input use:

1. It is internally segmented according to the different dimensions. As a result there is a range of contradictions between the different segments: bird life protection requirements do not fit with, for instance, policy prescriptions for manure application. Etc., etc.
2. The whole set of regulations as well as many of the different segments are increasingly at odds with the diversity in farming. This diversity is due, amongst others, to different local ecological conditions (which become more relevant in any policy aiming at sustainability) and to different farming styles. On the other hand, regulation is generic and standardised, assuming the same conditions in whatever specific time and space bounded location. The

whole regulation complex seems to be disadvantageous to part-time farms, small farms, mixed farms and organic farms.

3. The regulatory regime turns out to be, every now and then, conflicting with the general expectations as reigning in society as a whole. Whilst the public is expecting food safety and animal welfare, the regime is evidently not meeting these expectations in a satisfactory way.
4. The regulatory regime is increasingly at odds with the development tendencies that reign in the different markets. Whilst the ruling regime is evidently raising cost price levels and transaction costs, in the markets the products are being offered prices that tend to be lower and lower.
5. The reigning regime turns out to be very difficult to change. Although there are blatant problems and the urgency for shifts is high (among others because of the pressure as exerted by parliament), real changes are not produced. Where modifications are aimed for, this results only in the multiplication of the problems already mentioned. This is especially painful when it regards the (officially proclaimed) stimulation of organic farming in the Netherlands and the development of 'region-specific' policies that are built on recognition of local situations (and their 'deviations' from the average situation as assumed in generic policy). The difficulties associated with the application of the European guidelines for rural development are yet another illustration of this same problem.

4 Sector by sector summary of FSC's in The Netherlands

4.1 Pig meat food chain in the Netherlands

4.1.1 Diagram and some figures

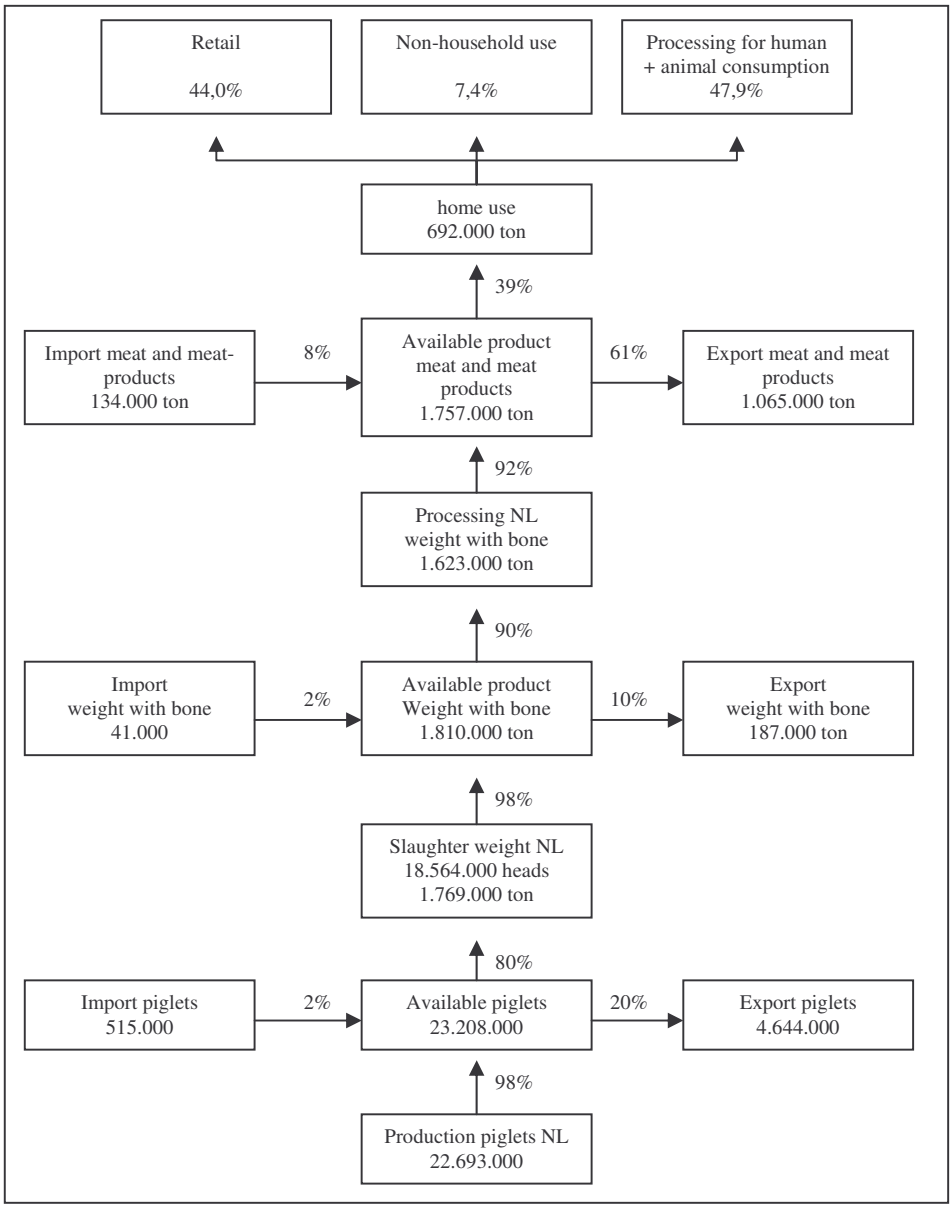


Figure 4.1. *Pig meat food chain in the Netherlands (Bunte et al, 2003)*

Table 4.1a. *The size of the Dutch pig sector (De Bont & Van der Knijff, 2002; PVE, 2003)*

	1990	1995	2000	2001	2002
Number of farms with pigs	29.210	22.390	14.520	12.820	11.850
Number of pig-farms	9.200	7.710	6.060	5.480	5.100
Number of pigs (x1000)	13.915	14.397	13.118	13.073	11.648
Gross production in tons x 1000	1.926	1.886	1.850	1.769	1.528
Gross Production Value primary production			2.426	2.575	1.945
Self-sufficiency rate	285	276	256	247	223

Table 4.1b. *Distribution of value added in the Dutch agro-complexes in 2000 (up to and included distribution) (Koole and Van Leeuwen, 2002) (Pigs & poultry)*

	Intensive livestock farming complex
Primary production	12%
Processing industry	25%
Supply food industry	7%
Industry and service Industry	37%
Distribution	19%
Total	100%
-Total Added Value, billion € -% of total agro-complex	4,7 21,5%
-Total Employment x 1000 -% of total agro-complex	97,1 22,9%

Table 4.1c. *Market-channels meat (all meat) (PVE, 2002)*

	Meat	Meat products
Supermarkets	51%	75%
Non-household market	35%	13%
Butchers	10%	8%
Others	4%	4%

Table 4.1d*. Organic pig production in The Netherlands*

	2002	2003
Supply of organic pigs	28.000	60.000 (est.: is more than the demand)
Number of organic pig-farmers		80

4.1.2. Institutions, organisational forms and governance

General situation

The major strong and weak points of the Dutch pig-sector are:

- As for costs and efficiency, the Dutch pig-sector can measure oneself with the direct competitors France and Denmark.

- As a consequence of several policy measures, up to 2005 an increase of the cost price is expected: €0,09 per kg live weight (that is €0,03 – 0,04 more than in Germany, France, Denmark and Spain).
- With regard tot market and chain solidity and stability, the position of the Netherlands is less beneficial (Bondt et al 2002: 38-39)

Processing industry

The slaughterhouses increasingly integrate processing and wholesale trade in their companies. At the level of slaughter, processing and wholesale trade the Dutch pig-chain is to a large extent concentrated (in 2000: 10 slaughterhouse-companies). In 2002, the two largest slaughterhouses take care of 75 % of the total number of slaughters (Dumeco, 55 %; the Hendrix Meat Group, part of the multinational company Nutreco, ± 20 %) (Bunte et al 2003).

There is a strong competition between the slaughterhouses as for the purchase of living pigs. The slaughterhouses have an interest in the maximum utilisation of their capacity. Because of the overcapacity of the Dutch slaughterhouses, the competition with foreign slaughterhouses is intensified. Pig-farmers compare the weekly-determined prices of the Dutch slaughterhouses with the prices on the German market. Long term agreements between slaughterhouses and pig farmers (on numbers, prices and delivery moments) do not (or hardly) exist.

Relations between pig farmers, processing industry and supermarkets

The relations between pig farmers, processing industry and supermarkets can be characterised as follows:

- At the moment, there is hardly any contact between farmers and processors on the one hand and consumers on the other; the control is nearly completely in the hands of supermarkets (Tacken et al, 2001).
- Concerning pork, research (Bunte et al 2003) shows there is a positive price-asymmetry to the disadvantage of pig farmers; that means that the supermarkets don't pass on price-decreases on farm-level to consumer-prices, but do pass on price-increases to consumer-prices.
- Industrial interests and industrial logic prevail over interests of primary producers. In this logic it is important to maintain a 'critical quantity'. According to some important leaders of agro-industry the Dutch pig-sector has now reached this critical quantity. Not because of the number of pig-farmers but because of the supply food industry, slaughterhouses etc.: "the number of pig farms could decrease, but not the number of pigs" (see Janssens, 2003).

- In general there is an ongoing integration and co-operation between breeding-, food supply- and processing industry. Processing industries are more and more orientated towards retail/supermarkets, but there is a lot of international competition.
- The main project/initiative concerning sustainability and food safety is IKB: Integral Chain Control and Management (Integrale Keten Beheersing). A very large part of the partners in the pig-chain (organisations of slaughterhouses, trade, meat-products industry, food supply industry, supermarkets, butchers, farmers and others) are working together in this initiative. CBL (an important supermarket-organisation) advises its members to buy (and sell) only IKB-certified pigmeat or meat that is 'equivalent'. The two largest slaughterhouses and processors (Dumeco and Hendrix Meat Group) want IKB certification to become a delivery condition. Important elements of the IKB-system are the inspection and sanctioning system; the traceability; demands on the animal food, hygiene and the use of animal-medicines; monitoring of forbidden substances; the meat hallmark PVE/IKB. From time to time the IKB system is adapted to new demands (PVE, 2002). In the view of (especially) the industrial partners IKB is important to secure markets and/or to get their hands on new markets (on the long term this should be in the interest of pig farmers). The radical pig farmers organisation NVV wants to develop an own type of IKB with no differences on the field of food-safety but with a stronger position of pig farmers and cheaper. After comparative research on national quality-control-systems the EHI (Euro Handels Institute: Euro Trade Institute) already two times has concluded that the PVE/IKB system has the best results on a number of relevant criteria (PVE, 2002). A large part of the pork sector is proud of the quality and safety of the Dutch pig meat. But on the other hand, there still are image-problems and food-scandals (in particular originating in the animal food industry: MPA, dioxin).

<u>Regulation</u>
The most important regulations concerning pig production are:
- Law Restructuring Pig-farming (1998; containing the reduction of the number of pigs);
- Regulation on the production and use of manure (maximum amount of manure per hectare);
- Regulation concerning contagious animal diseases: a.o. rules on transport, hygiene and cleaning measures for vehicles, measures to prevent contagion etc.
- Where animal welfare is concerned, the construction of national regulations is considered as too troublesome. Therefore the European regulations set the tone.

4.1.3 Areas that exhibit dynamism

Since several years there is a continuous but not spectacular trend of small changes: a) societal demands are more and more taken into account (environment, production

conditions; urged on to by government), b) cautiously the attention is more and more focussed on specific demands from the market.

There is a remarkable difference in expectations regarding the future of the Dutch meat-sector between the buyers of supermarkets and sales-directors of slaughterhouses. A lot of supermarket buyers expect that the position of the Dutch meat-sector in 10 years will be declined. The competition-power is mainly dependent on marketing strategies; if the sector continues to compete only on cost price it is even doubtful whether there will be meat production in NL. The sales-directors think there will always be a substantial meat-sector in NL (Tacken et al, 2001: 19-20).

According to the processing industry, Dutch pig meat sector is in the middle of a turn from bulk-production to market segmentation and product differentiation and products with a higher added value and on more efficient, more transparent and shorter production chains. E.g. within several years Dumeco wants to produce 50-70 % of their production for particular market segments, like Italian ham, bacon, new markets in Japan, Korea, USA, etcetera. (In the USA: spare-ribs €7,25/kg, in EU €2,75, only 1 kg/pig, but this is a potential extra profit of €85 million for the Dutch pig sector) (ABN-AMRO, 2002). Especially the breeding organisations and slaughterhouses (Nutreco, Dumeco and the Pigture Group) together are taking initiatives to produce in an efficient way pigs with specific qualities and traits to concentrate more on specific wishes of their buyers (Engwerda 2003a). And every pork-concept requires its own type of boar (Vugteveen 2002, Engwerda. 2003b). An important step towards a higher added value (for the Dutch slaughterhouses) is the shift to pre-packed meat especially on the German Market. (NL: share of pre-packed meat is 70%, in Germany 20%; expectation is that within 5 years this share increases to at least 50%) (Van Doorn director of Sobel (owner of Dumeco) in Akkerman 2003).

It is expected that the number of pig-farms will decrease substantially and the industrialisation of primary production will continue. Political and societal debates on the localisation of the industrialised pig farms are still going on: on the current sites, in so-called 'agro-clusters' on the countryside or on industrial-areas. Furthermore there are some attempts at setting up co-operation between 'small initiatives' and large scale organisations. The rationale behind this co-operation is to combine the logistic potential of the industrial FSC's and the innovation-potential of new short FSC's. An example of this is an initiative by supermarket Albert Heijn to scale up the organic pig meat production.

Primarily due to the different crises in Dutch agriculture (nutrient surpluses and outbreaks of diseases) the issue of foodmiles has entered the debate on the future pig farming (and intensive livestock farming in general): shouldn't we try to localise animal feed production instead of gathering animal feed (and thereby nutrients) from all over the world. In this

respect several small initiatives have emerged such as growing own concentrates and "grain for manure" (i.e. collaborations between arable farmers and livestock farmers).

4.1.4 The sustainability and transparency of the current structure and effects of potential changes

Industrial initiatives aiming at products with a higher added value, such as IKB, have positive but limited effects on sustainability, transparency, food-safety, welfare etc. We interpret it as a gradual improvement of current strategies and not as a real shift to quality-production (creating distinction) and new FSC's. However, due to its production volume a combination of small sustainability steps may have substantial effects on the long term. The economic sustainability of the pig chain is uncertain. The opinions are divided:

- Some are convinced that the sector will slowly disappear from the Netherlands,
- Others are convinced that due to the introduction of approaches such as IKB the Dutch pig sector is ahead of other countries and on the right track to develop new competitive strength and to acquire societal support.

Developments such as product differentiation and higher value added strategies mainly focus on strengthening the processing industry. They have little or no positive effect on the social and economic position of primary producers. But it is not completely out of the question that industrial initiatives and IKB can also have a positive effect for primary producers in the future.

Amongst others due to food-scandals (MPA, dioxin: practices and logistics in animal food industry are a substantial problem) and dramatic events (swine fever) societal trust in the pig sector remains low. An illustrative example of how IKB is considered to be a, albeit ackward, means to regain public trust is given in its promotion paper: due to the integral chain approach animal feed contaminated with hormone residues from the production of contraceptive pills has been intercepted. Yet, the very fact that such animal feed is offered for sale is what worries consumers.

Recently the two largest supermarkets in the Netherlands (AH and Laurus) have commenced with their own organic projects. This could result in a breakthrough of organic pig farming.

4.1.5 Rural development implications of the current structure and effects of potential changes

At the moment the most probable development trajectory seems to be ongoing scale-enlargement and further industrialisation of primary production. This will lead to a substantial

reduction of rural employment. A possible further reduction of the number of pigs in the Netherlands will increase this effect. In the economic development of the pig chain, 'urban interests' (industry and industrial employment) seems to weigh heavier than 'rural interests' do.

The reduction of the number of pig farms may, however, contribute to the visual quality of the countryside and enhances the opportunities for non-agricultural rural development. A problem, especially in the small-scale landscapes in the eastern part of the Netherlands, is the mixed farms (pigs and cows). If the pig-part perishes, the whole farm may disappear from the scene and with that rural employment and the management of the countryside.

A higher added value at industry level doesn't imply a higher added value in the whole chain. For example a shift from the sales by butchers to Aldi and Lidl goes together with a shift to pre-packed meat. This means a higher added value for industry, but probably a lower added value for the whole chain.

Regarding the emergence of several small farm-led initiatives, it is difficult to predict effects on rural development. Probably these will be marginal.

4.1.6 Bottlenecks for change

The main bottlenecks for realising a change in the pig meat sector, that will enhance sustainable rural development, are:

- The lack of a level-playing-field or 'unfair' competition. The production of more animal- and/or more environmental-friendly products and/or the acceptance of more strict quality regulations is strongly hampered by the competition of cheaper products produced in countries where regulation is less strict (e.g. concerning pesticides, BST, hormones, welfare-regulation, etc.).
- New animal health regulation: may have strong uniforming effects. The proposed measures (in several policy notes) for animal health could lead to a situation that only very little room for small-scale and organic types of pig farming will be left.
- Regulation on hygiene, environment and business accommodation: due to this regulation the number of butchers who slaughter themselves has been decreased with 40% in 6 years (555 in 1994, 324 in 2000) and will decrease further (Trade Organisation of Butchers in Sleurink 2001).
- The clear growing importance of food safety and traceability entails the necessity for a better co-operation between the partners within the chain. But with regard to new forms of co-operation and initiatives within the chain many pig farmers are proving hesitant, distrusting and resisting loss of independence. On the one hand they are confronted with

more and more demands from government (regulation on environment, welfare, etc.), processing industry and supermarkets (IKB etc.) that entail an increase of administrative costs and cost price. But on the other hand these costs are not compensated by a better price. There is very little confidence that a) the consumer will pay for environment and welfare, b) there is a substantial market for products with a specific quality and c) the possible extra added value will be distributed in a 'fair' way.

- The lack of a collective vision on the strategic development of the sector (Bondt et al, 2002) and a hardly effective communication between government, NGO's and pig farmers (Hees & Van Laarhoven, 2002). E.g. there is an enormous field of tension between further control (disconnection from natural processes) vs. management (re-connection with natural processes).
- The division of opinion within and powerlessness of farmers unions and an every man for himself attitude.
- Bad image.

4.2 Poultry food chain in the Netherlands (meat and eggs)

4.2.1 Diagram and some figures

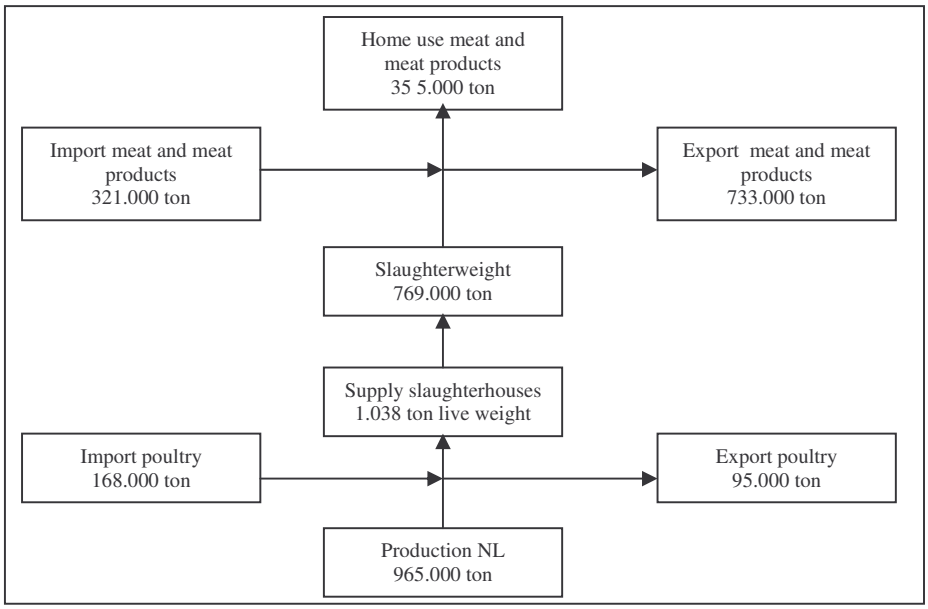


Figure 4.2a. *Chicken-meat chain Netherlands 2001 (PVE, 2002)*

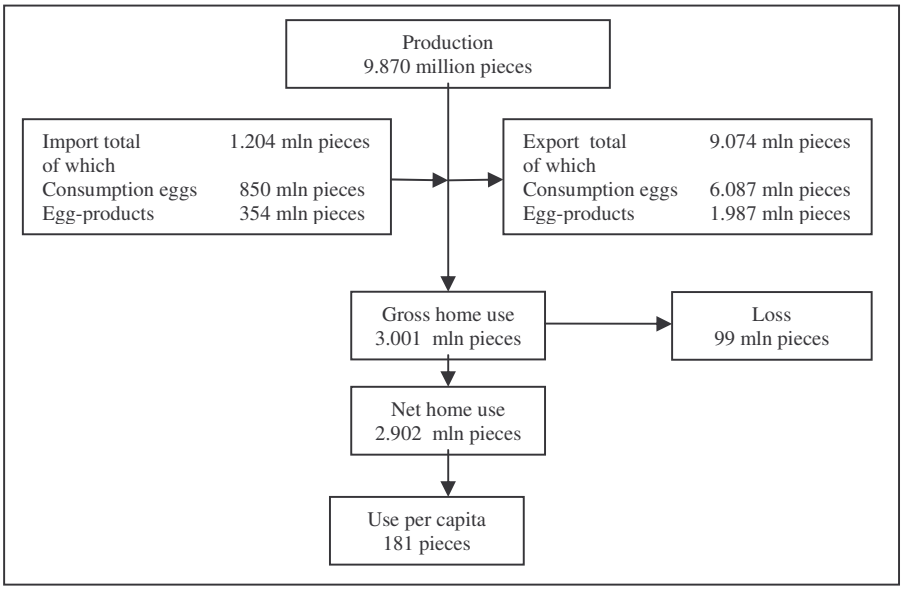


Figure 4.2b. *Egg chain Netherlands 2001 (PVE, 2002)*

Table 4.2a. *The size of the Dutch poultry sector in 2001: layers (Den Hartog et al 2003)*

	Number of companies/farms	**Number of animals (x mln)**
-breeding	3	d.n.a.
-multiplying farms	54	0,5
-hatcheries	6	90,3
-rearing farms	?	10,8
-layer farms	2000	31,2
-packing station	180	d.n.a.
-egg-products industry	23	d.n.a.
-slaughterhouses	5	d.n.a.

Table 4.2b. *The size of the Dutch poultry sector in 2001: broilers (Den Hartog et al 2003)*

	Number of companies/farms	**Number of animals (x mln)**
-breeding	5	d.n.a.
-rearing farms	502	4,5
-hatcheries	31	?
-broiler farms	1027	50,1
-turkey farms station	119	1,5
-duck farms	100	0,9
-slaughterhouses	34	400

Table 4.2c. *The size of the Dutch poultry-sector(De Bont & Van der Knijff, 2002; PVE, 2003)*

	1990	**1995**	**2000**	**2001**	**2002**
Number of layers (x 1000)	33.199	29.297	32.573	31.838	28.703
Number of broilers (x1000)	41.172	43.828	50.937	50.127	54.660
Self-sufficiency rate: -meat	202	193	203	202	197
- eggs	375	329	339	329	312

Table 4.2d*. Economic value of Dutch poultry production (Den Hartog et al, 2003)*

Gross Production Value	
-meat: primary sector	€800 mln
-eggs: primary sector	€300 mln
-total poultry sector	€5.000 mln
Gross Value Added	
-primary poultry sector	€158 mln
-total poultry chain	€1.400 mln

Table 4.2e. *Distribution of value added in the Dutch agro-complexes in 2000 (up to and included distribution) (Koole and Van Leeuwen, 2002) (Pigs & poultry)*

	Intensive livestock complex
Primary production	12%
Processing industry	25%
Supply food industry	7%
Industry and service Industry	37%
Distribution	19%

Total	100%
-Total Added Value, billion € -% of total agro-complex	4,7 21,5%
-Total Employment x 1000 -% of total agro-complex	97,1 22,9%

***Table 4.2f**. Employment in Dutch poultry sector*

-primary production	± 5000
-slaughterhouses	± 5000
-distribution	± 5000
-supply ind. & services	± 10000
-total	± 25000

***Table 4.2g.** Organic poultry production in 2002*

	Nr. of farms	production
Chicken-meat	17	400.000 slaughters
Eggs	67	250.000 animals

The production of chicken meat is completely separated from the production of eggs and takes place in several specialised phases: a) grandparent breeding, b) parent breeding activities, c) hatchery and d) broiler farms.

4.2.2 Institutions, organisational forms and governance

General situation (meat)

The general situation of the Dutch chicken meat sector is characterised as follows:

- The cost price of Dutch chicken meat (primary production plus processing) is a little bit lower (€1,34/kg) than of France (€1,37/kg), UK (€1,40/kg) and Germany (€1,36/kg).
- As a consequence of some policy measures (manure, ammonia, welfare, food-safety), up to 2005 an increase of the cost price is expected: €0,063 (in Germany, UK and France respectively €0,022, €0,025 and €0,038. So, the Dutch chicken meat sector will loose a large part of its advantage in cost price.
- The cost prices in the USA and Brazil are lower: resp. 22% and 35% (Bondt & Van Horne, 2002).
- The BSE-crisis has had implications for the chicken meat chain: it stimulated the demand, but also resulted in an increase of feed costs.

General situation (eggs)

The general situation of the Dutch egg sector is characterised as follows:

- The cost price of Dutch eggs (€0,710/kg)is higher than in France, Spain, Germany, USA (resp. €0,653/kg, €0,940/kg, €0,658/kg and €0,591/kg). But for a large German

market, the cost price plus transport costs are lower than of France and Spain (NL €0,75/kg, F €0,76/kg, Sp. €0,82/kg).

- An estimation of cost prices in 2005 shows that the Dutch egg-sector will weaken further: NL €0,77/kg, F €0.69/kg, Sp. €0,67/kg, Germ. €0,70/kg (Van Horne & Bondt, 2002).
- The Netherlands has a strong international position as for knowledge and technology development. A lot of large international operating companies have their basis in the Netherlands (breeding, vaccines, incubators, feed-additives, housing, stable equipment, slaughter equipment etc.) (Den Hartog et al, 2003).

Slaughterhouses

The meat chain is to a large extent vertically integrated. The slaughterhouses possess hatcheries and animal food companies and have supply contracts with parent breeders and broiler farms. The largest four slaughterhouses have a market share of 40%. The processing is very fragmented: there are more than 300 meat cutting companies (Bunte et al, 2003).

Regulation

With regard to regulation three fields will be mentioned:

- The manure-regulation brings about substantial restrictions (maximum amount of manure per hectare).
- Very important is the import regulation: because of an opening in the EU-regulation since September 2001 there has been a flow into the EU of very cheap light salted filet of chicken resulting in a fall of prices. Despite a more strict import regulation in the EU (excl. Germany: so there remains an opening) the import from Thailand and Brazil goes on (products with a salt-percentage higher than 1,9% are classified as "frozen natural filet" for which applies a higher import tariff) (De Bont en Van der Knijf 2002).
- The regulation (EU & NL) regarding salmonella and welfare will become more strict in the coming years. Where animal welfare is concerned, *going it alone* in The Netherlands is considered as too troublesome. Therefore the European regulations set the tone.

Relations in the chain

The relation within the chicken chain can be characterised as follows:

- There is a strong vertical integration, dominated by industry.
- Broilers: there is a positive price-asymmetry to the disadvantage of farmers and to the advantage of retail and processing industry: the retail/processing industry don't pass on price-decreases on farm-level, but do pass on price-increases. Especially processors seem to have 'price-power' (Bunte et al 2003).
- A central project/initiative concerning sustainability and food safety (both for meat and eggs) is *IKB: Integral Chain Control and Management* (Integrale Keten Beheersing). A very large part of the partners in the poultry-chain (organisations of slaughterhouses, trade, meat-products industry, food supply industry, supermarkets, butchers, farmers and

others) are working together in this initiative. Important elements of the IKB-system are the inspection and sanctioning system; the traceability; demands on the animal food, hygiene and the use of animal-medicines; monitoring of forbidden substances (PVE, 2002). In the view of the partners IKB is important to secure markets and/or to get their hands on new markets (on the *long term* this should be in the interest of farmers). There are not as many protests against the IKB-system as in the pig-sector (or KKM-system in the dairy sector). In despite of IKB, there still are image-problems (welfare, quality) and food-scandals (in particular originating in the animal feed industry: e.g. dioxin).

4.2.3. Areas that exhibit dynamism

The outbreak of Avian Influenza in 2003 has resulted in the destruction of ±35 million chickens. This crisis has led to a debate about the future of poultry farming in the Netherlands. Some remarks:

- It will be very difficult to regain the lost markets and a lot of poultry farmers probably will not continue farming. The decline might be 25% - 30% (expectation of the chairman of the Dutch Organisation of Poultry-farmers).
- The Minister of Agriculture said that the sector has to change in a way that in case of an outbreak of a contagious disease the sector not directly will face enormous problems. This means that in the future consumers have to pay a higher price. The minister doesn't have concrete ideas at the moment. But if the chicken chain does not take care for a real turn, government will intervene, for example with levies (www.agriholland.nl 18/3/2002, Agrarisch Dagblad 23/05/03).
- There is a debate on the accessibility of the sector: a) a further disconnection of the production process from nature versus b) a re-connection of the production process to natural processes (more robust animals with a higher resistance). The Animal Welfare Organisation wants for 2030: a reduction of the number of chicken of 50%; preventive vaccination, obligatory free range.

In general the current structure seems to be on its last legs because of: a) small economic margins and strong foreign competition, b) continuous societal criticism, c) continuous problems with diseases, welfare, quality, food-scandals etc.. It is a question whether a poultry sector that produces a bulk-product will survive on the long run. Maybe we're on the threshold of leaving the idea of the world market as a leading ordering principle (Den Hartog et al, 2003). This would mean a smaller sector (±25% is sold on the world market, the largest part is processed eggs: egg-powder). On the European markets the competitiveness is better and the opportunities for getting a better price for a quality product are better (especially as for eggs, for meat this is more difficult). E.g. the consumer price for free-range eggs in the Netherlands is 35% higher than for 'normal' eggs; the share of free-range eggs in

Dutch supermarkets is ±50% and right at this moment several supermarket chains (C1000, Super de Boer, Edah and Konmar) switch to free-range eggs.
Buyers of supermarkets implicitly plead such a shift. A lot of supermarket buyers think that: a) the position of the Dutch meat-sector in 10 years will be declined, b) the competition-power is mainly dependent on marketing strategies, and c) if the sector continues to compete only on cost price it is doubtful whether there will be meat production in NL. This opinion differs from the opinion of sales-directors of slaughterhouses who think there always will be a substantial meat-sector in NL (Tacken et al, 2001)

The consequences of such a shift for industries that provide knowledge and technology over the whole world (breeding, stable equipment, medicines etc) is difficult to predict. These industries operate highly international (e.g. ± 4 large breeding companies dominate the world market) and therefore are very mobile. E.g. the turnover and added value of these industries is a multiple of the turnover of Dutch primary poultry production. The primary production is not important because of its size, but mainly as bedrock for knowledge etc.: will these industries stay in the Netherlands if the primary sector strongly decreases?

There are a lot of initiatives in the field of organic and welfare-friendly poultry production (free range egg, Kemper-chicken, Freiland-chicken, EKO, grass-egg, mais-egg etc.): some of them are marginal different from 'normal eggs', some of them make one slightly think of the French Label Rouge. There are a lot of old chicken breeds (to a large extent preserved by so-called hobby-farmers) that might be starting points for new niche production.

These experiences may be used by 'large players' for the above-mentioned switch (from orientation world market to a more differentiated European market). There are already cautious experiments: e.g. the Pingo Poultry organic broiler concept. In 2002 multinational Nutreco (Pingo Poultry) and Albert Heijn (supermarket chain) began a project to set up an organic and welfare friendly (e.g. at least 4 m2/bird free range space) broiler chain for the Dutch market with Belgian farmers. It is a closed Nutreco food production chain (organic food from Nutreco; the farmers are supported by Nutreco advisors; the broilers are slaughtered according to Nutreco specifications; Nutreco Poultry Research Centre selected the optimum breed etc.). The size of production is closely linked to demand; currently 32 farms are in the scheme and growth is foreseen in 2003.

The most probable development still is strong scale-enlargement and further industrialisation of primary production and consequently a reduction of rural employment. A possible further reduction of the number of chickens will increase this effect. We are talking about a possible shift, but there still are powerful and radical initiatives within the current logic (plans and designs for 'mega-farms' (e.g. ± 2 million chickens). In slaughtering and processing there is also a development of ongoing concentration and scale-enlargement.

A major change in the poultry sector in the near future may be induced by EU welfare regulation. This implies, for instance, that from 2011 onwards layers will be kept in so-called 'enriched cages'. In this system the cost price will be at least 13% higher (Van Horne & Bondt, 2002). That will mean that, transport costs included, eggs from the USA, Brazil or India etc. (lower welfare status) will be cheaper than Dutch eggs. What will happen with welfare regulation in these countries? How will the EU and the WTO deal with these differences?

4.2.4 The sustainability and transparency of the current structure and effects of potential changes

The economic sustainability of the poultry sector is uncertain. On the one hand there are experts who believe that the sector will slowly disappear from the Netherlands. On the other hand there are the experts who are convinced that with the introduction of integral chain approaches (IKB) the Dutch poultry sector is ahead of other countries and on the right track to develop new competitive strength and to acquire societal support.
If the shift mentioned above isn't carried through completely or only half-hearted the industrial initiatives as the search for products with a higher added value, IKB etc will have positive but limited effects on sustainability, transparency, food-safety, welfare etc. Then they can be interpreted as a gradual improvement of current strategies and not as a real shift to quality-production (creating distinction) and new FSC's. Yet, the current poultry sector represents an enormous quantity and a lot of small steps may have substantial sustainability and rural development effects at national level.

4.2.5 Rural development implications of the current structure and effects of potential changes

The shift discussed in *4.2.3* implies a smaller sector but also (by means of differentiation and a higher quality) a higher added value. The effects on Rural Development are among other things dependent on the distribution of this added value. If there is a 'fair' distribution, the loss of employment (and number of farms) in primary production could be limited (compared to the reduction of number of animals).

However, if this shift isn't carried through completely or half-hearted there is a good change that the sector won't gain a higher added value and continues to suffer from world-market logic and cheap imports. Then the effects on Rural Development will be negative. This could be the case if the differentiation and 'quality' are mainly produced in the industries, and is

thereby disconnected from primary production (e.g., like now: maybe 90 chicken products in the supermarket on the basis of one uniform chicken): flexible standardisation.

The reduction of the number of poultry farms may even make a positive contribution to the visual quality of the countryside and enhances the opportunities for non-agricultural rural development. Regarding small farm-led initiatives, it is difficult to predict the effects on rural development.

4.2.6 Bottlenecks for change

The main bottlenecks in the chicken sector for realising changes that will enhance sustainable rural development, are:

- The mentioned shift will meet substantial barriers, e.g.: a) large relative immobile investments (both industry and primary production), b) large existing interests and resistance; each shift not only entails new winners, and c) the 'ideological shift' that is needed.
- The lack of a level playing-field. The production of more animal- and environmental-friendly products and the acceptance of more strict quality regulations are hampered by the competition of cheaper products produced in countries where regulation is less strict (concerning pesticides, hormones, welfare, etc.).
- New animal health regulation may have strong uniforming effects. The proposed measures (in several policy notes) for animal health could lead to a situation that only very little room for small-scale and organic types of poultry farming will be left. (E.g. with roundabout 100 million chickens in the Netherlands on thousands of (hobby)-farms it is nearly impossible to give all chickens free-range room without a very high risk of getting problems with contagious diseases).
- On the one hand farmers are confronted with more and more demands from government (regulation on environment, welfare, etc.), processing industry and supermarkets (IKB etc.) that entail an increase of administrative costs and cost price and make investments necessary. But on the other hand there is very little confidence that a) the consumer will pay for environment and welfare and b) there is a substantial market for products with a specific quality.
- The lack of a collective vision on the strategic development of the sector and a hardly effective communication between government, NGO's and farmers. E.g. there is an enormous field of tension between further control (disconnection from natural processes) vs. management (re-connection).
- The division of opinion within and powerlessness of farmers unions.
- Bad image. Amongst others due to food-scandals (salmonella, dioxin) and dramatic events (avian influenza) societal trust in the poultry sector remains low.

4.3 Cereals chain in The Netherlands

4.3.1 Diagram and some figures and features

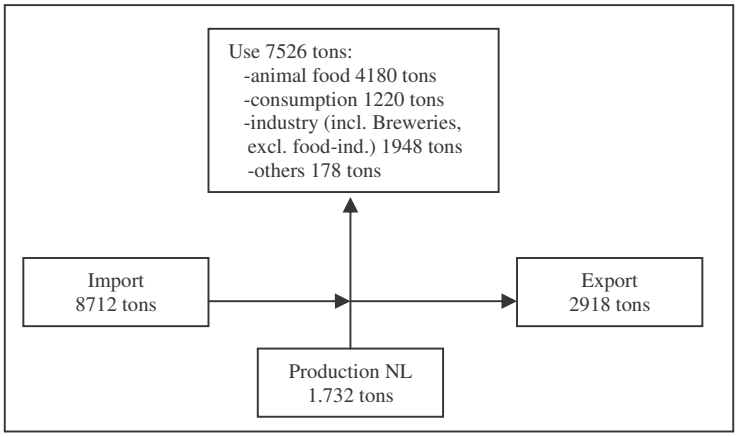


Figure 4.3 *Cereal chain in the Netherlands (all varieties, x 1000 ton) (LEI/CBS, 2003)*

Table 4.3a*. Size and prices of cereal production (excl. maize) in the Netherlands (LEI/CBS, 2003)*

	1980	**1990**	**2001**
-Area under cereal-crops (x 1000 ha)	223,5	193,0	202,4
of which: -winter wheat			95,8
-spring wheat			28,9
-winter barley			3,2
-spring barley			63,5
-rye			3,6
-oat			2,6
-triticale			4,8
Growers prices of cereals (€/100 kg):			
-wheat	21,85	17,35	11,20
-rye	20,95	16,70	10,45
-winter-/spring barley	21,65	16,90	11,05
-brewer's barley	22,65	20,35	12,80
-oat	18,70	16,95	12,60
Holdings with cereals	26.194	20.124	19.135

The cereal processing industry is much larger than the primary production of cereals suggests. By far the largest part of the processed cereals is imported. Dutch cereal processing industry does not depend on Dutch primary cereal production. The animal feed industry also imports and a lot of cereal-substitutes such as soya, tapioca, citrus pulp, fish residual products and uses other industrial by-products.

There are four branches in cereal processing:

- Animal feed industry: (±250 companies).
- Starch industry: the four large industries (Cargill, Amylum, Cerestar and Latestein: all part of large world market oriented companies) import nearly all the needed wheat (and little maize).

- Malting plants/breweries: the malting sector is dominated by Cargill and Bavaria.
- Milling business: high concentration, five companies; by far Meneba is the largest.

Table 4.3b shows the modest position of primary production in relation to processing industry.

Table 4.3b. *Added value in the cereal chain (Rabobank, 2001)*

	Added value x million (1998)
-Growers NL	€92
-Animal feed industry	€587
-Starch industry	€635
-Malting and breweries	€1105
-Milling and baking	€1598

The greater part of Dutch cereals (especially wheat) has a lower protein content than of e.g. French or German cereals. In the Netherlands it is possible to grow quality wheat, but because the yield per hectare is lower that is not profitable. So milling industry imports quality wheat. Dutch wheat is partly used as 'filling wheat' (±20%), the greater part (± 2/3) is used as animal feed and a very small part goes to the starch industry. Of the Dutch barley 30 to 65% is suitable for the malting plants/breweries (this fluctuates with the weather; the rest goes to the animal feed industry).

The processing industry is highly interwoven with the food industry and with livestock industry. By-products of processing industries are used as feed for intensive livestock sector.

Organic arable farming: 9.840 ha in 2002 (Biologica, 2003), of which 3360 ha cereals (2/3 animal feed, 1/3 milling industry). Cereals (and grass) are important for organic arable farming because of their role in the crop-rotation. The largest part of the income comes from other more intensive crops with a higher profit (field vegetable production, potatoes). The organic baking wheat mainly (70%) comes from Eastern Europe.

4.3.2 Institutions, organisational forms and governance

In comparison to other product-sectors, the arable processing industry is large and seems to be quite strong and profitable, but profits in primary cereal production are very low (Rabobank, 2001). Dutch primary cereal production technically is on a high level, but because of low prices, low incomes and high prices for land the position and prospects of cereal producers is troubling. The internationally organised processing industry dominates the cereal chain. Primary producers are powerless within the large chains. EU-regulation is both for industry and primary production very important.

There seems to be no substantial debates and/or conflicts between the main partners in the cereal chain. Dissatisfaction of primary producers (low incomes) is mainly focussed on the EU-policy. Some critical groups (a.o. the Dutch Arable Farmers Trade Union and some Third World Organisations unsuccessfully plea for a EU-policy based on: a) tuning (restriction) of production on demand by means of fallow, b) cost-effective cereal prices, c) international agreement on import and export quantities of cereals and substitutes (no dumping on the world market).

As far as cereal production is concerned, within the conventional chains there is no direct contact between farmers and with consumers. There is even hardly any contact between processing industry and consumers because the main products of (the first step in) processing are semi-manufactured products. So there is no real 'integrated chain management' and chain co-operation.

4.3.3 Areas that exhibit dynamism

The effects of 'disconnection' between production and subsidies (protection of product prices will be decreased, instead farmers will get income-support) in the new EU-policy are not clear yet. On the first sight this policy seems to be advantageous for the cereal processing industry because of the cheaper raw material, cheaper imports from outside EU (but no export-subsidies). The long-term effects on primary production are difficult to predict. As a consequence of this 'disconnection' farmers become more flexible in their management so it is a serious question whether farmers continue to grow low profitable cereals or will switch to other crops. (In the new policy it is not allowed to produce table potatoes, vegetables and fruits on land on which income-support is applicable; will there be other profitable arable crops?). Assuming a price-decrease of 5% LEI/CBS estimates a decrease of the cereal-area of 15% in 2012; but the intervention-prices of cereals will not be decreased. But because of the complexity of the world market it is difficult to predict real cereal prices in the future: the OECD expects a gradual recovery of prices (OECD, 2000); the Worldbank expects lasting low prices; and the FAO reckons with a growing scarcity and therefore higher prices.

There is a tendency towards differentiation and product development, but this development occurs in the industry on the basis of a homogeneous primary product.

Primary arable production in general is under pressure because of low prices. Cereals have relative low profits. Often cereals are seen as 'the pivot' on which everything hinges; if the profits become too low, arable farmers start to grow other crops which results in the saturation of these markets, resulting in lower prices, etc. and thus in a negative spiral.

Because of the relative high prices of land and low incomes of arable farmers the scale-enlargement of arable farmers stagnates. Nowadays arable areas (especially in the north), are seen as settlement-areas for dairy farmers (especially from the south and east [intensive livestock production, high land-prices] and from urban expansion areas). Arable farming seems to be driven away by other activities, both agricultural and non-agricultural (recreation, urbanisation). Arable land is very important for especially pig farmers who have to contract arable farmers to use their manure-surplus: this may yield a profit.

Organic cereal production for animal feed may get an impulse because of the growing organic pig-production (project supermarket Albert Heijn) and the more strict organic feeding regulation. Organic production for breweries and bread cereals maybe will grow a little bit.
There are some initiatives to establish new small chains, e.g.: a) Gulpener beer: environmental friendly produced grain from arable farmers in Limburg, b) some 'farmers bread' (and some other products) projects (a.o. Zeeuwse Vlegel, North Holland Bio-Grain-Flour-Bread project [sale-addresses ± 60]), c) there are also some projects "cereals for manure" (co-operation between arable farmers and pig-farmers), d) there are some cereal growers who feed their cereals to their own cattle (e.g. dairy farmers who grow their own concentrates, arable farmers who started a poultry branch, etc.). At this moment there are no figures about these farmers-led quantities. There is a tendency towards pluri-activity on arable farms (a.o. income from other activities): diversification of activities in the area.

4.3.4 The sustainability and transparency of the current structure and effects of potential changes

The intention of the new EU-policy is more sustainability, but the effects of this policy concerning intensity of arable farming in general and cereal production in particular (cropping plan etc.) are not clear.

In some small projects (organic, 'farmers bread', beer-production) there are attempts to produce more environment-friendly and there is a real co-operation between partners in the chain resulting in more transparency. In the rest of the primary production and large chains it is mainly a matter of complying with regulation.

4.3.5 Rural development implications of the current structure and effects of potential changes

In areas where cereal production will remain dominant (North East Groningen) it seems likely that a decline of agricultural employment and regional agricultural income will take place,

resulting in so-called ´empty areas´. In the old arable/cereal regions probably there will be a process of 'greening' (dairy farming) and other alternative land-use resulting in a loss of regional identity and decline of 'real cereal-areas' in the Dutch landscape and in more economic activity (entailing liveability).

Counter movements such as the small initiatives mentioned above will have the following effects:

- Probably by means of a higher added value some more arable farms continue to exist,
- more pleasure in farming,
- Creating co-operation between farmers and between farmers and other regional partners,
- Development of knowledge on how to build new small chains.

Furthermore pluri-activity on arable farms (a.o. income from other activities) will result in diversification of activities in the area, thereby maintaining an economic basis of rural life.

4.3.6 Bottlenecks for change

Some bottlenecks for change are:

- Unclear chains, lack of co-operation within chains, lack of a substantial power from primary producers.
- Lack of initiatives (and ideas) from primary arable farmers.
- Low profits and incomes in primary cereal production.

4.4 Dairy food chain in the Netherlands

4.4.1 Diagram and some figures

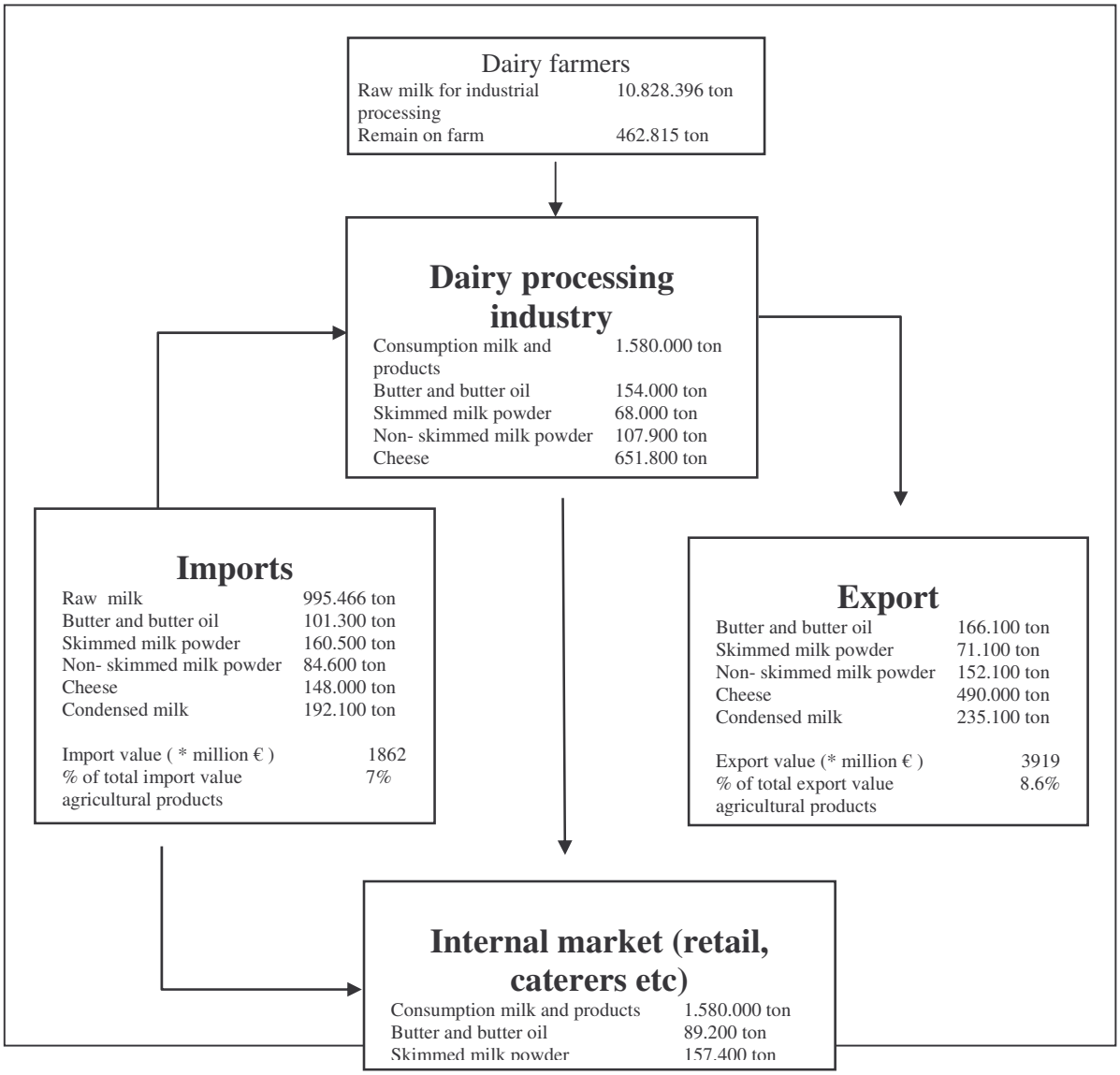


Figure 4.4 *Dairy food chain in the Netherlands (Productschap Zuivel 2002)*

***Table 4.4a**. The size of the Dutch dairy farming (Productschap zuivel 2001,LEI/Binternet 2003, Rabobank 2001)*

	1990	**1995**	**2000**	**2001**
Number of farms with dairy processing on the farm		828	655	631
Number of farms with cows	46.977	37.465	29.467	27.926
Number of farms with goats	745	563	838	865
Number of cows	1.877.684	1.707.875	1.504.097	1.545.823
Number of goats	37.472	43.231	98.077	116.145
- % farms with 70 cows or more - % of the total production by farms with more than 70 cows	12.2% 28.6%	16.8% 34.5%	21.6% 40.3%	27.4% 47.6%
% of the European quota produced by the Netherlands				9%
Dutch share in the total world production			2.3%	
Net added value per primary producer	58.102	57.154	49.503	

***Table 4.4b**. Distribution of added value in the Dutch agro-complexes in 2000 (up to and included distribution) (Koole and Van Leeuwen, 2002)*

	Land dependent livestock complex
Primary production	32%
Processing industry	23%
Supply food industry	2%
Industry and service industry	32%
Distribution	11%
Total	100%
- Total Added Value, billion - % of the total agro complex	7.1 32.5%
- Total Employment * 1000 - % of the total agro complex	146.5 34.6%

***Table 4.4c.** Market channels dairy products (Productschap zuivel 2001)*

	Consumption milk and products		**Cheese**	
	1990	2001	1990	2001
Supermarkets	82.8	96.8	60.4	81.1
Markets	0.1		13.7	8.9
Ambulant channel	9.1	1.5	2.9	-
Special stores	0.6	0.1	10.3	6.2
Others	7.4	1.6	12.7	3.8

Table 4.4d. *Organic dairy production in The Netherlands (CBS, LEI/Binternet, Rabobank 2001)*

	1990	**1996**	**2000**	**2001**
Number of organic farms (cows)	100		281	320
Number of organic farms (goats)			71	61
Market value organic dairy products * million € Market share organic dairy product		0.3%	22 2.3%	

4.4.2 Institutions, organisational forms and governance

General situation

The general situation in the Dutch dairy sector can be characterised as follows:

- The Dutch dairy sector has built a good position in terms of low costs and good (uniform) standard quality. The high productivity and safe production was possible due to a combination of specialised knowledge and continuous technological improvements.
- An increase in the cost price is expected because of the requirements the society and national politics are putting to food safety, animal welfare and environment. In the future Dutch dairy sector will not be competitive in terms of cost price.
- As a consequence of the European policy the intervention prices for generic products will decrease from 2005. Because the price decrease will not be fully compensated by direct income support a decrease of the income of the diary farmers by 25% in 2012 is expected (Bont et al, 2003)

Processing industry

The Dutch diary sector has become very concentrated. In the period 1990 – 2002 the number of processing company's decreased from 31 in 1990 to 13 in 2002 (Productschap Zuivel, 2002). The two biggest company's Friesland Coberco Dairy Foods (FCDF; turnover €4.7 milliard, 2002) and Campina (turnover €3.7 milliard, 2002), both co-operatives, have a 84% market share in the processing of milk in the Netherlands (Van der Schans et al, 2002). They realised this by autonomous growth, acquisitions and fusions. Besides the concentration of processing, FCDF and Campina integrate and also concentrate other functions than processing in their company's like product development, distribution, marketing and selling. The process of concentration and integration of functions will continue. The driving forces of this process are the saturation of the dairy market in Europe, the increase of competition for generic products, concentration by retailers and stringent regulations with respect to: food safety/HACCP, the use of energy, water and packages.

Usually there is a long-term agreement on the quantity of milk that dairy farmers deliver to the processing industry. However as for the milk price dairy farmers are dependent on the results of the dairy industry. In case of disappointing results (a low price) it is becoming much

more difficult for dairy farmers to switch to another processor. This is due to the concentration in the processing industry and the saturation of the dairy market.

In 1997 the dairy industry started the project KKM (Chain Quality Milk). Also after threats of social organisations to announce the limited sustainability efforts of the dairy sector, which could threaten the good reputation of the Dutch dairy brands (van der Schans et al, 2002). KKM is a set of rules that has to quarantee a reliable basis quality for bulk production: up to now it is a set of minimum rules for all dairy farmers. Remarkable is the absence of the supermarkets in the KKM system. Up to now it is an initiative dominated by dairy industry and concerning practices of dairy farmers.

Regulation
Most important regulations are:

- MINeral Accounting System (MINAS): regulation on the production and use of nutrients (manure, feed etc); dairy farmers have to pay a levy for nutrient surpluses.
- Chain quality milk (KKM) minimum set of rules for dairy farmers with respect to food safety, environment and animal welfare.
- Regulation concerning food safety in the industry: the implementation of the HACCP (Hazard Analysis Critical Control Points) principles and the use of early warning systems and tracking and tracing systems.
- Covenants between dairy industry, government and social organisations on the reduction of: the use of energy, use of water, air pollution, draining of wastewater and the use of packages by the industry.

4.4.3 Areas that exhibit dynamism

The dairy industry like Campina and FCDF is in the middle of a turn from bulk production to market segmentation and product-differentiation and products with higher added value. This means that the uniform bulk production by dairy farmers become differentiated in the industry by dairy- and package technology and strong brands. FCDF for example developed (functional) dairy products for the Asian baby market with the brand Dutch Lady and successfully introduced “Breaker” in the Netherlands as dairy-snack in an easy to use package. On the other hand the dairy industry is trying to maintain their market position for generic products by reducing costs through standardisation of (logistic) processes and international scale enlargement (Campina 2002 and FCDF 2002).

An example of attempts to realise more efficiency by means of scale-enlargement is the start up or take-over of dairy industries in Rumania and Poland. Here they mainly produce bulk products for their home market. Until now the required technological know-how and standard

quality of milk and the buy-obligation of the co-operatives, make that the production of high added value takes place in the Netherlands and prevent substitution of Dutch milk by e.g. cheap Polish milk.

Dairy farmers who can't reduce the cost price and want to focus on differentiation of milk by origin, feed, race and animal welfare don't fit in the strategy of the large dairy industry. For dairy industry differentiation of milk-flows implies increasing logistical, marketing and processing costs and, in their opinion, the market potential is insecure. As a consequence there might be new market opportunities for smaller industrial dairy processors who are more flexible in their processes. For example the co-operative CONO (turnover €126 million, 2001) is willing to pay an extra price for farmers with cows grazing in the field (Schans et al, 2002).

Some small-scale initiatives, with milk processing on the farm, are more and more trying to take societal demands into account by differentiating the milk-flow on farm-level. They do realise a higher added value by developing regional brands and hallmarks and market their products in short supply chains. Often this strategy is embedded in a broader multifunctional strategy (nature management, recreation, region-specific production, etc.). There are a lot of regions in the Netherlands where the so-called 'optimal production' (ongoing scale-enlargement and industrialisation of production) is not possible because of limitations due to the small-scale structure of the landscape, hydrological regime, local ecology etc.. In these areas a multifunctional strategy is required to maintain a successful claim on the use of the land. A classical mono-functional and industrialising strategy would lead to an elimination of agriculture in these areas.

Last years, the share of organic dairy increased, mainly because: a) supermarket Albert Heijn introduced a own organic label and b) large co-operatives took over small organic dairy processors and put on the market brands like "De Groene Koe" (The Green Cow), "Zuiver Zuivel" (Pure dairy) "Friesland organic". Furthermore government promotes organic dairy by means of a convenant with supermarkets and processors. The difference between the price or organic milk and conventional milk for farmers is €0,06 (by now this surcharge is under pressure because of a surplus (Duquesnoy, 2003)). In the supermarket this difference is ± €0,25. Therefore, as far as the price of organic milk is concerned, especially a more efficient distribution and processing might be very profitable..

4.4.4 The sustainability and transparency of the current structure and effects potential changes

The effect of the industrial initiative KKM has a positive but up to now limited effect on sustainability, food safety, animal welfare etc. It is conceivable that KKM will function as a straitjacket for primary producers, as an obligatory set of regulations prescribed by the dairy industry. But on the other hand the KKM system could also function as a starting point for new differentiation and quality production (premium products with a higher added value, new brands) in which new specific relations with (groups of) primary producers and retail may be a decisive feature, etc.

Right now differentiation and higher added value strategies can be seen as an industrial strategy disconnected from primary production. In the opinion of the industry strengthening of industry also means strengthening of the position of the dairy farmers: it has limited the decrease in the milk price and it has led to a better return on the capital farmers invested in their co-operative.

Due to covenants between supermarkets, the dairy industry and the government the market share of organic dairy has grown from 0.3 % 1996 to 2.3 percent in 2000. But a real breakthrough is uncertain because of the limited differences in taste and big differences in price compared to conventional dairy products.

4.4.5 Rural development implications of the current structure and effects of potential changes

On the one hand in primary production there is a process of ongoing scale-enlargement (and decline of the number of farms and employment) and increasing technological control. The dairy industry advocates this development. This may lead to a further disconnection from local environment and ecology. In that respect dairy farming seems to follow pig production. Probably the consequences for Rural Development will be negative, e.g. less rural income, less employment, degradation of the quality of the countryside and agriculture disappearing from the scene in vulnerable areas.

On the other hand, there is a process towards 're-connection' with the local environment and ecology which goes hand in hand with trend towards multi-functionality. Consequences for Rural Development are positive (employment, quality and management of the countryside etc: e.g. see Van der Ploeg (2002b)). On farm processors (individuals and small collectives like Wadden-group) and small-scale industrial processors (e.g. CONO) try to develop market concepts on the basis of differentiation of milk-flows at farm level. The potential of these

initiatives / this trend is very difficult to predict. There seem to be good opportunities to match with both regional demands and policy and new EU Rural Development policy.

4.4.6 Bottlenecks for change

Some bottlenecks for changes towards more sustainability are:

- The squeeze between decreasing prices and the growing societal demands (food-safety, traceability, welfare, etc.).
- The lack of a level playing field or unfair competition. The production of more animal- and/or more environmental-friendly products and/or acceptance of more strict quality regulations are strongly hampered by the competition of cheaper products produced in countries where regulation is less strict (e.g. concerning pesticides, welfare regulation etc.).
- Large dairy industries want to realise differentiation inside the industry on the basis of a homogenous primary product (and thus keep control).
- Scaling up of small initiatives (both on farm and on industrial level) requires high investments (with substantial risks): to build new regional brands, new suitable logistic structures, to finance product development, etc..
- The number of farmers who are interested in product differentiation is limited, mainly due to the lack of big successes of new marketing concepts with sustainability claims.
- The current systems for food-safety have been developed to reduce risks of large-scale industrial production. Because of the high costs these systems are not suitable for small-scale processing related to local environment and ecology (as a consequence uniformation is stimulated).

4.5 Potatoes food chain in the Netherlands

4.5.1 Diagram and some figures

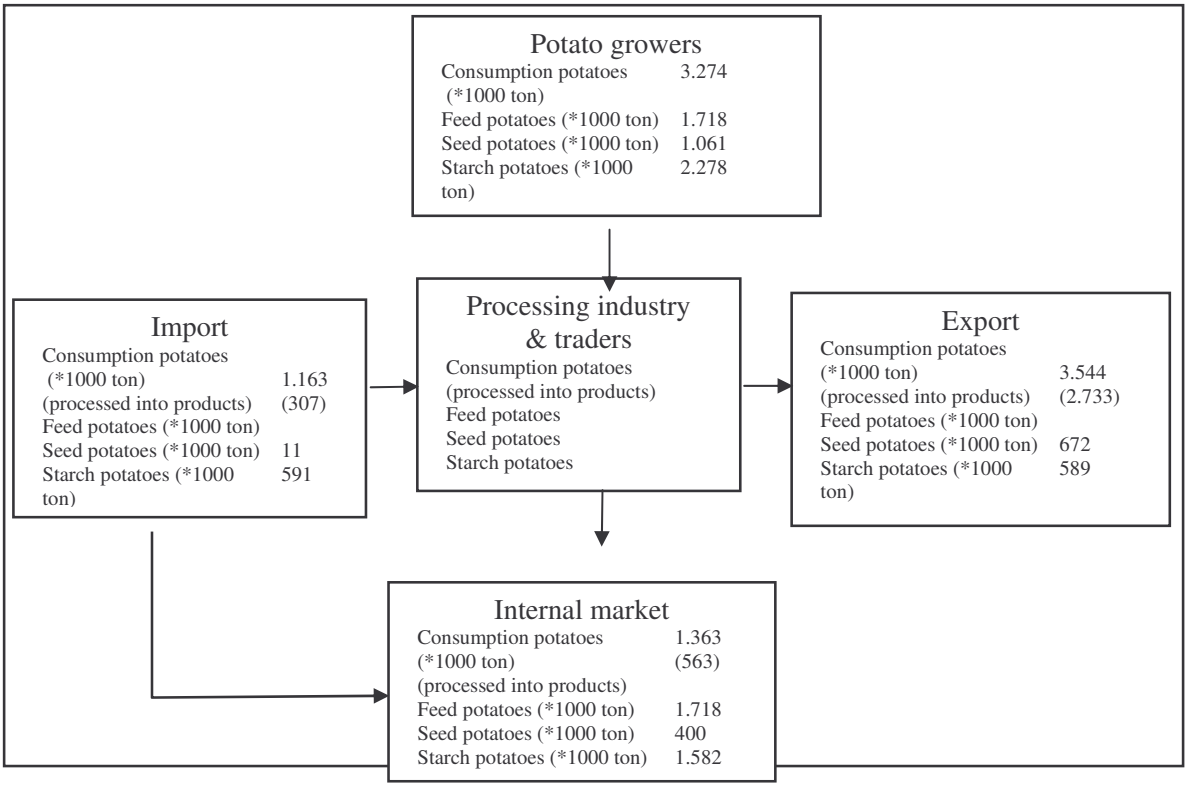


Figure 4.5 *Potatoes Food chain in the Netherlands in 2002 (LEI/CBS, 2003; NIVAA 2003)*

Table 4.5a. *The size of the Dutch potatoes sector (LEI/CBS 2003)*

	1990	1995	1996	1997	2000	2001
Area land with potatoes (*1000 ha) Percentage of total arable land	175	179 22.5			180 22.3	164 20.5
Number of farms with potatoes	24.238	20.058			17.373	14.787
Total production (*1000 ton)	7.037	7.340			8.127	7.015
Production value (*million €) % of total production value arable farming % of production value total agricultural sector		772 50.4 4.6	494 38.6 2.9	521 32.2 2.9		
Self sufficiency rate					145	

***Table 4.5b**. Distribution of value added in the arable food chain (Rabobank, 2000)*

	1997
Primary sector	13%
Processing (Average in agriculture processing)	55% (35%)
Traders like: wholesalers & retailers	31%

***Table 4.5c.** Added value in the Dutch potato chain (Rabobank, 2000)*

	Added Value in million €
Growers	€ 258
Trade & processing industry:	€ 272
-consumption potatoes	€ 311
-processed products	€ 174
-seed potatoes	€ 112
-starch	

***Table 4.5d**. The size of the Dutch potatoes organic potato sector (CBS, 2002; Foodmagazine, 2001)*

	2001
Area land with potatoes (ha)	1174
% of total area land with potatoes	0.7%
Number of farms	240
share of organic potatoes of total consumer value for potatoes	3.9%

***Table 4.5e**. Market channels for fresh potatoes (NIVAA, 2003)*

Market channel	2001
Supermarket	75%
Speciality shop	8%
Producer	6%
Delivery at home	5%
Market	5%
Other	1%

4.5.2 Institutions, organisational forms and governance

General situation

The major strong and weak points of the Dutch potato sector are

- From financial point of view the potato is the most important crop for Dutch arable farmers.
- The Dutch potato sector has build a good position in producing and processing potatoes in the EU in terms of high productivity and high (standard) quality of potatoes. This due to a combination of: knowledge, appropriate land and climate, good logistics and the neighbourhood of huge consumer concentrations.

- With regard to cost price, chain solidity and stability needed to cope with competition from surrounding EU countries (France, United Kingdom) the position of the Netherlands is less beneficial.

Potatoes processing industry

The Dutch consumer potato products processing industry (the largest in Europe) is becoming more and more concentrated. There are four big players (in order of size): Mc Cain a Canadian processor; two Dutch processors, Aviko (part of the co-operative Cosun) and Farm Frites (turnover 2001: €350 million, ABN-AMRO 2002); and an American processor Lamb Weston/Meyer. Aviko processes 30% (1.2 million ton; www.aviko.nl) of the Dutch consumption potatoes and Farm Frites processes 1 million ton. Most of the potato products (pre- fried, snacks etc) are exported mainly (92%) to EU countries. The industries are more and more integrate processing with wholesale functions (distribution, trading, etc) in their companies and controlling the whole supply chain. This for example by skipping or taking over the trade houses and making direct agreements (about delivery date, price) with potato growers (Rabobank, 2000).

The growing of starch potato's in the Netherlands is to supply the only starch co-operative (Turnover €755 million, AVEBE 2003). AVEBE processes starch potatoes to starch and starch derivatives for food and non-food (textile, gluten) purposes. AVEBE is meeting stronger competition because of concentration in the starch market (Cargill took over the French Cerestar) and competition from cheaper substitutes like starch from wheat and maize. To meet competition they focus on growth and efficiency advantages by internationalisation (joint venture with Chinese Runkai, Agri Holland 2002).

Seed potatoes

Just as the processing industry the trading firms for seed potatoes become more and more concentrated. There are two big trading firms in the Netherlands: the co-operative (Turnover €256 million, Agrico 2003) and HZPC (Turnover €217 million, HZPC 2003). Next to the development of new varieties they are collecting, storing, trading and distributing 80% of the seed potatoes, needed for the production of consumption potatoes, in the Netherlands. These trading firms have a strong position in the chain because they have the ownership of the varieties. To get the best quality there is frequent contact between trading firms and farmers for example to monitor the growing and storing process. On the other hand the trading firms also are involved in consumption potatoes. Agrico for example processes (table)potatoes for supermarkets and foodservice by using their consumer brand "Cêla Vita"

Contracts and price

The trading firms like the co-operative Agrico and HZPC have long term contracts (about: delivery, variety, payments, the right of say, the share in profits etc.) with the growers. By

Agrico this is connected to the co-operative membership and by HZPC it is coupled to a certificate. On the other hand most of the processing industries have short term contracts with the growers (in 2001 75% of the supply for the French-fried potato industry was secured by a contract, ABN AMRO 2002). The future market (to spread price risks) for potatoes is hardly used by the potato growers. Driving forces behind the increasing use of contracts are the importance of processing, concentration of retailers, societal demands, and the unstable prices (De Vlieger, 1999).

Most important regulation

The most important regulations concerning potato production are:

- National regulation on the use of manure, pesticides. etc.
- Eurepgap a minimum set of rules initiated by supermarkets to guarantee food safety and traceability. To deliver to HZPC the farmers must have an Eurepgap certificate in 2005 this is also required to deliver to AVEBE (HZPC 2003, AVEBE 2003).
- Regulation according food-safety in the industry: an implementation of the HACCP principles and hygiene codes, Good Manufacturing Practice
- Covenants between industry and government on the reduction of the use of energy, use of water, water pollution etc.
- Other regulation systems Milieukeur, KPA (quality project arable farming)
- EU-market regulation on starch (a.o. minimum prices).

4.5.3 Areas that exhibit dynamism

Some identified areas that exhibit dynamism are:

- The process of concentration in processing industry and chain integration will continue. The driving forces behind this are concentration by retailers and strong competition between the potato processing industries also due to over-capacity in processing and saturation of the West European market.
- The potato industry (starch and consumption products) and the trade houses have a two-sided strategy. On the one hand efficiency-improvement by standardisation of processes and scale enlargement for example by starting up processing and sale offices in countries where the market is growing (South Europe, Asia, Middle East). On the other hand they are focussing on the development of new products, varieties and strong brands with higher added value (annual reports 2002 HZPC (2003), Agrico (2003), AVEBE (2003), Aviko (2003)). The Dutch potato food chain is trying to make a turn from bulk production to market segmentation and product differentiation and products with higher added value and on more efficient, more transparent
- The forthcoming new EU-regulation: the prohibition to grow consumer potatoes on land that counts in the determination of income-support. The effects of the forthcoming regulation on potato-prices and area are unclear.

- The rise of producers associations who control (part of the) functions in the chain like collecting, sorting, packaging, selling of potatoes and give support to the members. By doing this they can strengthen their bargaining power and better meet the demand (varieties, area, method of cultivation) of special market segments. An example is BAMM (Collecting Potatoes Create Power) with 200 members and Nedato (Dutch Potato Growers Association) with 700 members (ABN AMRO, 2002).
- According to the farmer lobby organisations, scale-enlargement (collecting) of the supply adjusted to demand and professionalisation (of growing and organisation) of the potato growers is needed otherwise within 5 years a decrease of 50% of the (consumption) potatoes farmers is expected (Masterplan Consumptie Aardappelen, 2002).
- Growing demand for new table potato varieties and organic (table)potatoes.
- Co-operation between dairy farmers and arable farmers for the exchange of land to get a better crop-rotation (more opportunities to grow profitable crops) and to prevent potato sickness.

4.5.4 The sustainability and transparency of the current structure and effects of potential changes

The product differentiation and market segmentation strategy of the industrial producers and trading firms is becoming more connected to differentiation on farm level (by producing special varieties for different segment, store methods). However this strategy mainly strengthens the economic position of the processing industry and trading firms and doesn't improve or strengthen the economic position of farmers. In some cases, if the farmers are shareholders of the industrial processors or trading firms like Agrico and Aviko, they can indirectly take advantage (by sharing in the profits) of the added value strategy. However this effect is not clear.
The distribution of power and added value in the potato food chain still is not well balanced (concentrated food industry and badly organised and informed growers). Initiatives to organise growers like BAMM and Nedato are still small but can strengthen the position of the growers (better prices and information) and maybe have an expansion potential.

The use of pesticides in potato cultivation is still the highest of the arable crops (LEI/CBS, 2002). In connection to this there is also a discussion in the WTO about the trade of GMO potatoes (from the United States) who are resistant to diseases and thus need less pesticides (Volkskrant, 28/6/03). There is resistance to the use of these varieties in Europe also because the long-term effects of these products on consumer and environment are not quite clear.

Due to more variation in the assortment and covenants between supermarkets, the processing industry and government the share of organic (table) potatoes in the consumer

market increased to 3.9% (Foodmagazine, 2002). However it is uncertain if the national goals of a market share of 5% in 2002 and 10% in 2010 will be reached also because of the increase of price competition in supermarkets.

4.5.5 Rural development implications of the current structure and effects of potential changes

The number of potato farmers is expected to decrease because of several reasons:

1. Due to the EU policy the price for starch and thus the income of arable farmers will decrease. Starch potatoes mainly are grown in an area (Veenkolonien) that doesn't have good alternatives for other crops;
2. Processing industries can easily substitute the Dutch potato for an cheaper imported potato with the same quality (in 2000: 33% of consumption potatoes was imported); this may lead to lower prices;
3. To be competitive farmers have to reduce their cost price, but for a large part of the farmers this is difficult because of high land prices and societal demands.

The entailing effects of this on Rural Development are unclear difficult to predict. It is clear that the prospects for arable farmers are not good and that (certainly on the short run) there will not be substantial effects from farmer-led initiatives. But will arable land be conversed into grass (settlement of dairy farmers) or will it be used for non-agricultural purposes, what will be the effects on the management of the countryside, will this result in a withdrawal of processing industries?

4.5.6 Bottlenecks for change

There are some bottlenecks for changes. Firstly, the co-operation within the chain is not optimal. There is a strong distrust between the potato growers and the processing industry. This because the potato industry can, according to the potato growers, influence the prices because of their market power. For example the potato industry import potatoes at the moment that the Dutch potato price is increasing (ABN AMRO 2002) and there is not an independent judgement about quality which can lead to low prices for good quality (Masterplan, 2002).

A second bottleneck is that the co-operatives are weak in "co-operation": several attempts for working together, for example between Agrico and Aviko, have failed so far.

Thirdly, the exclusivity policy of the trading firms with respect to monopoly varieties is a bottleneck for an optimal spread of seed potatoes over the country and market segments (Masterplan, 2002).

4.6 Sugar food chain in the Netherlands

4.6.1 Diagram and some figures

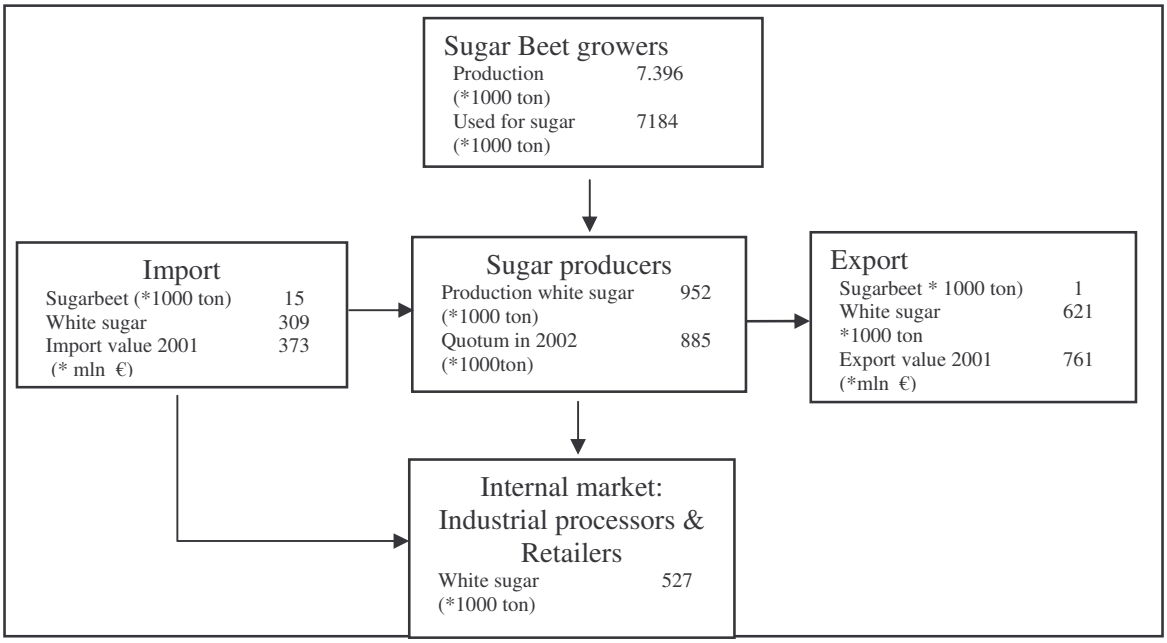


Figure 4.6. *Sugar food chain in the Netherlands (LEI/CBS, 2000)*

Table 4.6a. *Size of the Dutch primary sugar sector (LEI/CBS, 2002)*

	1990	1991	1995	2000	2001	2002
Number of farms with sugar beet	20.879	20.506	19.189	17.098	16.399	15.532
Area land with sugar beet (*1000 ha) % land with sugerbeet of total arable land	125 15.6	123 15.4	116. 14.6	111 13.8	109 13.7	109 13.2
Total production (*1000 ton)	8.623		6.499	6.727	5.947	6.250
Number of organic farms with sugar beet		28	26	90	97	
Number of land with organic sugar beet (ha)		153	100	750	864	
Price-index sugar beet (1995 = 100)			100	91	112	95
Self sufficiency rate (%)				194		

Table 4.6b*. Added value sugar beet sector (Rabobank 2000)*

	1995	1996	1997	1998	1999
Net Added value sugar beet primary sector (* mln €; excluding processing)	182			204	216
Gross Added value total arable primary production (*mln €; excluding processing)	953	862	817	680	

4.6.2 Institutions, organisational forms and governance

General situation

Some main characteristics of the situation in the Dutch sugar chain are:

- The sugar production is highly dependent on EU-market regulation. As a consequence of the European policy (decrease of intervention price and quota) and the increase of the world production the prices for sugar beets probably will decrease.
- Because of the relative (compared to other crops) stable and high profit, sugar beet is an important crop for arable farmers
- The Dutch sugar beet sector developed itself due to the EU sugar arrangement (with guaranteed prices and delivery-quota) to an efficient sugar producer.

Sugar production

The Dutch sugar sector has become very concentrated. Only two company's: the co-operative Suikerunie (part of top co-operative Cosun, turnover in the Netherlands €503 million, 2002) and the CSM Sugar (part of CSM BV, turnover in the Netherlands €518 million, 2002) process the whole Dutch sugar beet production (market share Suikerunie 62.5 %, CSM 37.5%). Together these company's produce approximately 1 million ton sugar largely for the food industry (bakery, soft drinks, dairy, sweetener).

The sugar producers are controlling the supply chain. Besides having long term contracts with sugerbeet producers (agreements about deliveries, services etc) and processing beets to sugar products they also are involved with other functions like: selling, logistics (the transport is outsourced) and product development. In addition, Suikerunie has a 50 % share a seedcompany (Advanta).

Regulation

The main regulations in the sugar sector are:

- The sugar producers have developed their own certification system to guarantee foodsafety, next to other certification systems like EUREPGAP, Milieukeur and KPA (quality project arable farming). This because the costs and the limited work out of food safety issues appropriate for beet growers (Cosun, 2003). It is a minimum set of rules according to the registration and use of pesticides, seed and fertiliser. For delivering sugar beet to CSM a certificate is in 2003 obligatory for delivering to Suikerunie there is a certificate needed in 2005.
- Regulation according food-safety in the industry: an implementation of the HACCP principles and hygiene codes
- Covenants between sugar producers and government about the reduction of energy

4.6.3 Areas that exhibit dynamism

Up to now the sugar sector is a relatively stable sector because of saturation of the (EU) sugar market and the EU policy (guarantee prices and production quota). Areas that exhibit possible dynamism are:

- EU/WTO policy (decrease of protection),
- Substitution sugar by chemical sweeteners,
- Growth of organic production.

The sugar producers are trying to maintain their market position of their products by improving the efficiency of processing and scale-enlargement by the beet growers. For example by the exchange of beet deliveries of producers to Suikerunie and CSM they have saved two million kilometres (Volkskrant, 2003). On the other hand due to more competition there is (renewed) attention for product differentiation and market segmentation by sugar- and package technology and strong brands (van Gilse, Venco, Red Band). For example with the brand Unizon Suikerunie introduced organic beet-sugar for the industrial market. Up to now the demand for organic sugar is larger than the supply (Suikerunie, 2003). By introducing the food safety certificate the sugar industry tries to strengthen the trust of their customers in their brands.

4.6.4 The sustainability and transparency of the current structure and effects of potential changes

The strategy of product differentiation and market segmentation is not connected to differentiation on farm level and will mainly effect the position of the sugar industry. The size of the effect of it is unclear. Because of the co-operative structure of Suikerunie, the growers could indirectly take advantage of this strategy (the decrease of the sugar price can be compensated by other profitable activities and/or farmers receive a return on the capital they invested in Suikerunie).

Otherwise, no important things can be mentioned regarding sustainability and transparency of the sugar chain. There is a growing demand for organic sugar but this will be a small niche also due to the price competition in the (industrial) sugar market. And the food safety certificate for beet growers has, up to now, a limited effect on the environmental dimension of sustainability.

4.6.5 Rural development implications of the current structure and effects of potential changes

For the sugar producers it is crucial to have beet-growers in the Netherlands. It is not interesting to import sugar beets, because of the high distribution costs and the limited storage life of sugar beets. In addition, the Dutch growers can deliver high (standard) quality sugar beets needed to meet the demands of the (industrial) customers in the Netherlands.

Due to the EU price and quota policy and the efficient organisation of the beet-processing sugar beet production delivers an important share in the income of arable farmers. However due to the expected EU policy after 2006 the price for sugar and thus the income of the arable farmers will decrease. Probably this will lead to a further decrease of the number of arable farmers and agricultural employment. The entailing effects on Rural Development are difficult to predict (what will be the alternative use of the land, will this result in a withdrawal of land from agriculture for non-agricultural purposes, effects on management of the countryside etc.).

4.6.6 Bottlenecks for change

The expansion of the land with organic sugar beet is difficult because of the complexity of the organic cultivation.

4.7 Horticulture vegetable chain in the Netherlands

4.7.1 Some figures[1]

The horticulture sector comprises both the production of vegetables and flowers in greenhouses and the open field production of vegetables and flowers, flowerbulbs and trees. Horticulture takes an important position on the national and international market. In the Netherlands, the horticulture sector (both vegetables and flowers) is the most important agricultural sector with respect to its financial turnover.

In 2001 the production added value increased up to € 6,8 billion of which € 4,4 billion from horticulture 'under glass'. The share of horticultural products in export was 36% of the total agricultural export of the Netherlands. Also at European level, the Dutch horticulture sector is quite important. Within the European Union, the Dutch horticulture sector represents 24% of the trade in vegetables, 12% of the trade in fruit and 70% of the trade in flowers. The export of Dutch horticultural products (mainly flowers, vegetables, trees) is steadily growing to € 11,2 billion in 2001 of which € 6 billion from the production in glasshouses (www.lto.nl). Approximately 80% of the horticultural production is exported (Spliet, 2002). Within the Dutch agricultural sector, the horticulture sector is the largest exporter with a share of 36% of the total agricultural export (PT, 2002).

***Table 4.7a**. Production value of the agricultural sector in the Netherlands*

Sector	**Production value in Billions of Euros**
Horticulture (vegetables, fruit, flowers)	6,8
Intensive pig husbandry	4,3
Diary farming	3,9
Arable agriculture	2,4
Other	1,5
Total	***18,9***

(source; PT, 2002)

Horticulture under glass

Within the horticulture sector, the production in greenhouses dominates the market in terms of financial turnover. The horticulture under glass sector comprises mainly flowers and vegetables. In 2002, the horticulture sector under glass covered a surface of approximately

[1] The horticulture sector is a diverse sector. This diversity is one of the strengths of this dynamic sector, but it sometimes causes confusion for the ones studying it. The sector comprises horticulture, both under glass and open air and the production of flowers and bulbs as well as vegetables, mushrooms and trees. Because of its diversity, available statistical data is not always coherent and divided in the same categories. Sometimes vegetables under glass are linked to mushroom production, sometimes vegetables are taken in general, comprising both under glass and open field production and sometimes they comprise fruits too. Because of this, it is impossible to convert all the data into one category.

only 10,500 hectares of which ca 60% ornamental flowers and 40% vegetables (tomatoes, peppers, cucumbers, others).
In 2001 more than 75% of the vegetable production takes places on substrate surface instead of in the soil, making most of the production land independent. In total there are more than 10.000 growers with greenhouses. They offer direct work to 72.500 people (in primary production). In the periphery (processing industries, supply industries) another 104.000 people are working.

Open field production

The open field production is a very diversified sector ranging from specialised production to farmers who grow a wide range of vegetables. This sector comprises the production of vegetables, fruits, flowers, bulbs, trees and seed production. The surface covered by open field production is much larger than the production in greenhouses. Open field horticulture takes place on ca 100,000 hectares. In the open field horticulture there are around 9,400 specialist holdings. The number of farms has declined by almost 40% since 1980, but the total surface increased slightly (Berkhout, 2003). Open field vegetable production takes place on ca 45.000 hectares and there are around 6900 farmers producing vegetables in the open field (LEI, 2002).

Trade in vegetables

The auction is the heart of the trade in horticultural products. The most important auction for vegetables and fruits (both glasshouse and open air) is the Greenery in which most former regional auctions are merged. The total turnover of vegetables and fruits traded by the Greenery in 2000 was €1,5 billion (Spliet, 2002). The total auction turnover for fresh vegetables (both open field and under glass) in the Netherlands is €743 million (PT, 2002).

The activities of the auction are in development. Nowadays, the products are not only sold by the clock; a system that regulates offer and demand from day to day; but as well through direct selling, mostly with support of growers' organisations. These growers' organisations are small groups of 10-15 farmers who co-operate in product and knowledge development and marketing. The development and marketing of (new) products requires an intensive form of co-operation for which the old auction system was not suitable anymore. There is no formal relation between the growers' organisations and the Greenery, but in practice they tend to co-operate and search for the most optimal agreements for selling the products (Berkhout, 2003) Vegetables are mainly sold to wholesalers and retail on contract base. Especially supermarkets are participating in this form of trade because they can work with fixed prices. In many cases the products are already sold before even planted (Spliet, 2002). In the trade of horticultural alimentary products (vegetables, fruits, mushrooms, etc.), the number of companies in trade (export, import, wholesale) is slightly decreasing over the past six years from 1,347 in 1996 to 1,230 in 2001 (PT, 2002).

Table 4.7b.*Number of trade companies*

Trade companies	**Number 2000**
Exporters (>€ 500,000)	291
Importers (>€ 500,000)	116
National whole sellers (>€ 500,000)	444
National traders (>€ 250,000)	237
Total	***1,249***

(Source: PT; 2002)

Processing industry & market channels in the Netherlands

In the vegetable food chain, processing industries play a limited role, especially for vegetables produced under glass. Almost 100% of the vegetables produced are sold fresh, mainly through supermarkets. In the past years we see a steady decline in the number of specialised vegetable & fruit shops and open-air markets, leading to an increasing market share of supermarkets in selling vegetables to consumers.

Table 4.7c *Market channels for vegetables*

Channels in the Netherlands	Number of shops		
	1996	2001	% of total sales 2002
Supermarkets	n.a.	5,220	85%
Markets	1,487	1,246	8%
Specialised shops	3,586	2,514	5%
Other			2%
Total			100%

Export and import of fresh vegetables

Statistical data on import and export of vegetables does not make a difference between horticulture under glass and open field agriculture. The total export of vegetables to other EU countries represents a value of ca € 2,452 million in 2001. This comprises ca 33% of the total intra EU trade in vegetables. Vegetables are mainly exported to Germany and the United Kingdom (LEI, 2002/2003).

The export of vegetables to countries outside the EU is rather limited and represents a value of ca €400 million in 2001 mainly to the USA and Eastern European countries (LEI, 2002).

The import of fresh vegetables from other EU countries (mainly Spain) represents a value of ca €684 million in 2001. From countries outside the EU only ca €100 million in 2001 is imported. This makes the horticulture vegetable sector a large net exporter of products (ca €2,100 million) and consequently an important player on the international market.

Vegetable production under glass: a dynamic innovative sector

In the further description of the horticultural chain we confine ourselves to the vegetable production under glass. This sector comprises mainly the production of cucumbers, tomatoes and peppers. The sector is characterized by high capital investments, rapid adoption of innovations and a strong orientation on export. The sector surely has its own dynamic is therefore not comparable with open field production of vegetables. Furthermore, it is the sector with the most intensive capital turnover that makes it highly interesting from an economic point of view when studying sustainable food chains. Thirdly, the sector is facing major challenges in moving to sustainable production especially with respect to the tension between the image of naturalness of products and the artificiality of production methods. Finally, the food chain of this sector is interesting for the Suschain project for the geographical distance between consumers and producers, since most of the consumption takes place in other European countries.

The number of horticulture vegetable farms under glass is slowly decreasing since 1990, while the total acreage of glasshouses is quite stable. This indicates a trend of scale enlargement, which is also shown by the increase in average size of the farm from 0.8 hectare in 1990 to 1.3 hectare in 2001 (see table below). Another trend is the increase in use of substrate as a 'soil' for production. Growing on substrate makes vegetable production soil independent as plants are grown on a base of mineral/rock wool (90%) or another form of base (perlite, foam, coconut, clay grains). The main advantage of the use of substrate is that total recirculation of minerals is possible; that there is a higher energy efficiency and that the productivity is higher compared to growing on a natural soil. An important disadvantage is the amount of waste. However, for mineral/rock wool the average recycle percentage is almost 90% (LTO, 2001).

Table 4.7d *General data vegetable production under glass*

Data	**1990**	**1995**	**2000**	**2001**	**2002**
Number of horticulture vegetable farms under glass	5,652	4,686	3,433	3,171	3,001
Acreage vegetables under glass (in hectares)	4,453	4,405	4,200	4,271	4,287
Production vegetables under glass (in tons)	1,419,000	1,515,000	1,298,000	1,351,000	1,379,000
Production value (in millions of Euro's)	1,173	1,067	1,259	1,154	1,180
Average size of farm (in hectares)	0.8	0.9	1.2	1.3	
% use of substrate of total	61.4	64.1	73.6	75.1	

Source: PT 2002, LEI 2003, LEI 2002, Berkhout 2003

Development of organic horticulture production

The development of organic horticulture is stagnating. The total acreage is even expected to decrease slightly in 2003. In 2002, 95% of the organic horticultural products were exported to other countries (UK, US and Scandinavia). Due to an increasing demand for national

organic products in other countries, the organic producers in the Netherlands faced difficulties in selling their products abroad (Biologica, 2003). Together with the technical difficulties linked to the conversion of conventional greenhouse production into organic; this has led to a decreasing interest of growers to invest in organic horticulture.

Table 4.7e *Organic vegetable production under glass*

Organic vegetables under glass	**1999**	**2000**	**2001**	**2002**	**2003**
Number of holdings	79	95	90	100	
Hectares	32	72	71	75	67

(Source: Biologica 2003)

Main trends in vegetable production under glass

- A steady increase of production value of horticulture under glass.
- Increasing export of horticultural products under glass within European Union and abroad.
- Scale enlargement is an important trend of the past five years. In a few years time, the average horticulture farm increased its size with more than 25% together with a decreasing number of growers (-8% a year) while the total acreage of horticulture under glass is stable.
- Increased use of mechanisation and robots to make the production process less labour dependent, to improve labour circumstances and to reduce costs.
- Increasing use of substrate in greenhouses, especially in vegetable production (75% of growers use substrate), making production location and soil independent.
- Increasing interest for energy reduction at farm level induced by liberalisation of the energy market. The liberalisation will lead to the abolishment of cheap provision of gas for heating.
- Stagnation and decrease of organic horticulture under glass due to great difference between traditional and organic production system and stagnation in the market.
- Increasing employment in horticulture sector. Especially for permanent and temporary labour, mainly due to a decrease in the use of family labour and more acreage per farm.
- Due to land pressure in urbanised areas and renewal of glass houses, there is an increasing demand for new glass house locations and restructuring of the sector. Due to slow planning processes, this process takes longer than expected.
- Scale enlargement is also a central trend in the total vegetable food supply chain. There is a decreasing number of vegetable exporters (-2%), wholesale companies and vegetable shops (-6%).

Main themes horticulture sector in general 2003 (www.LTO.nl)

- Environment (covenant)
- Energy
- Restructuring of green house locations

- Crop protection
- Strengthening market position
- Innovation towards 2020
- Labour

4.7.2 Institutions, organisational forms and governance

General issues in the chain

The major strong points of the Dutch horticulture vegetable sector are:

- One of the most strong agricultural sectors in terms of turnover, export and profitability;
- Independent of the EU production support system;
- Strong chain organisation: from seed to marketing of products;
- Strong player on the European market and beyond. Competitive on the world market.
- High use of natural crop protection instruments (e.g. predator insects) instead of pesticides.
- The market structure is reasonably stable with few large players in the sale of vegetables.

The major weak points of the Dutch horticulture vegetable sector are:

- Risk of industrial image due to high use of natural gas for heating, additional illumination during the night and growing on substrate.
- Price fluctuations of vegetables (tomato, cucumber, pepper), under influence of international markets, determine to great extent the income of farms from year to year. Past years the income of vegetable growers was negative, but in 2002 a small increase in income was noted.
- Every year, a seasonal labour shortage is encountered, which is sometimes solved by employing illegal workers. This gives the sector a negative connotation in the press after raids and legal procedures.

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Relations between producers, intermediate traders/auctions and supermarkets

- Independent labels and hallmarks (MBT, Milieukeur) focussed on sustainable production did not find a common ground in this sector. EUREP GAP, HACCP, BRC and ISO are the main regulating quality systems in the chain. Besides these quality systems, one of the largest auctions, The Greenery, set up a basic quality care system (basiszorg systeem) to which its growers need to comply. It is a simplified version of the EUREP GAP system.
- Producers are increasingly organised in large trade unions that establish direct contacts between the producer and the retailer or exporter. In this way, special demands from the retailer/trader (packaging, unit size, etc.) can be dealt with instantly.

Regulation

From April 2002 onwards an integral policy regulation for the horticultural sector became effective. This agreement is called 'Besluit glastuinbouw' and covers the themes of energy, nutrients, water protection, use of pesticides and crop protection, light pollution. The new agreement comprises three laws:

1. Regulation of water pollution
2. Regulation of pesticide use
3. Regulation of environmental management.

4.7.3 Areas that exhibit dynamism

- Produce and production innovation, mainly to distinguish products from the bulk market, but also towards a more environmentally friendly production.
- Scale enlargement and increased efficiency of production.
- Increased use of technology in cultivation methods (substrate, gas heating, mechanisation)
- Increased use of natural crop protection instruments such as predator insects.
- Stagnation of conversion into organic, due to stagnating export markets, limited national markets and low prices for organic products.

4.7.4 The sustainability and transparency of the current structure and effects of potential changes

Judging the sustainability of the greenhouse sector is a tricky assignment. A sector that covers hectares of glass, produces on substrate rather than in the soil and that uses a large part of the gas consumption of the Netherlands for heating the greenhouses (10% of total Dutch use of gas) can hardly be called sustainable when one equals sustainability with naturalness, limited use of external inputs and land based production. But when one looks to the sector from a perspective of efficiency and clean production one will see a sector that can easily compete with other agricultural sectors in terms of transparency of production, pesticide use, nutrient use and waste management, especially with respect to yields per hectare. Recirculation of water, re-usable substrates and the use of natural crop protection instruments become more and more common practice. Another environmental issue: the high use of gas for heating is expected to be tackled in the next few years, partly because of the high innovative character of the sector itself and its wish to conform to societal demands, partly because of the privatisation of the gas market, leading to an increase of heating costs in the next few years. However this environmental performance, there is a tension between

the artificiality of the cultivation methods and means and the naturalness one expects from agricultural products.

Sometimes this tension between naturalness and artificiality of production has been reflected in the market, as we probably all remember the case of the 'water bombs'. Almost 15 years ago, German consumers refused to eat Dutch tomatoes because of the lack of flavour. But the innovativeness of the sector has turned this into their advantage and it turned out to be the start of a process of product development, innovation and segmentation of the market by a diversity of specialised products (vine tomatoes, cherry tomatoes, tasty toms..).

In all, the sector turns out to be profitable and independent on market structuring or subsidies. Most of the years the returns are positive, leading into new investments and rapid changes to make production processes more efficient and according to societal demands. Especially because of lack to market structuring or subsidies, this sectors' survival depends on listening to the market and the consumer, making the sector highly demand orientated. Because the market is mainly outside the Netherlands, 80% of the horticulture products are exported the demand is an international issue. In terms of sustainable production as being a relationship between consumer and producer this might be a constraint for the future, since the territorial link will be limited.

Due to the integral environmental regulation (Besluit Glastuinbouw), it can be expected that the sector will have to minimise is environmental impact even further in the next years. Growers will have an individual responsible to comply with the rules. An important aspect of this Besluit is registration of pesticide use, nutrient use, energy use and handing over a year report. This increases the transparency of the sector and its environmental impact in total.

Within the chain, EUREP GAP and HACCP are the main regulating quality systems that also increase the transparency of the total chain. Organic products are controlled by SKAL and have to comply with the EU rules. A large Dutch supermarket chain (Albert Heijn) that has supply contracts with growers has its' own system of quality control (Aarde en Waarde) in which environmental measures are incorporated.

With respect to labour, the sector still faces problems in balancing demand and offer. Especially in busy seasons, growers often encounter a labour shortage that they sometimes solve with illegal workers from foreign countries, resulting in negative publicity. Apart from the problem of labour shortage, labour conditions improved greatly in the past years, due to mechanisation processes and the adoption of labour friendly methods (e.g. fixed height for tomato picking, plant beds on waist level)

4.7.5 Rural development implications of the current structure and effects of potential changes

Greenhouses are mainly situated in the suburban areas in the west of the Netherlands and some centres in the south east and east of the country (Venlo & Emmen). The greenhouse centres in the west are characterised by hectares of glass, bordered by narrow roads and houses. Even though the landscape does not look very appealing to people who search the tranquil green pastures and broad horizons, many inhabitants of the area value the landscape of greenhouses and find living and recreating (walking, cycling, skating) in between them appealing. Since the pressure on land in the west of the Netherlands is reaching its limits due to an increasing demand for housing, infrastructure and industry land, there has been a process of relocating greenhouse centres to other parts of the country. This also coincides with the wish of growers to enlarge the surface of glass and to renew the old greenhouse systems with new high technology and glass structures, the so-called restructuring. This process of relocation and restructuring is still rather slow, mainly due to long procedures in changing policy and allocating sites for greenhouses. Even though greenhouse production generates an increasing demand for labour in rural areas, not many municipalities fancy the idea to become a sea of glass.
In terms of rural development, the main feature for greenhouse production would be this demand for (rural) labour, since production within the glasshouses is rather disconnected from the rural surroundings. Some critics even say that greenhouse production could even take place on the industry parks one finds at the border of a city.

4.7.6 Bottlenecks for change

- Increasing use of high-tech cultivation methods might give the greenhouse sector an industrial image that not coincides with an increasing demand for naturalness.
- Green house vegetable production is mainly oriented to international markets resulting in a distance between the territory of production and the territory of consumption. One could question to what extent consumers feel connected to the production area, the growers and the cultivation methods and its ambitions in terms of sustainable production.
- An increased power of the large supermarket chains in setting contracts and conditions with growers and a growing percentage of the outlet market might affect the process towards sustainable production and chain management; since change is mainly in their hands.
- Organic horticultural products are still very expensive, due to a complete different cultivation method than conventional production. Conversion implies huge investments, total change of growing system and an uncertain market that is mainly based abroad. Organic horticulture is therefore not really appealing to growers leaving it in an impasse.

4.8 Beef sector in the Netherlands

4.8.1 Diagram and some figures

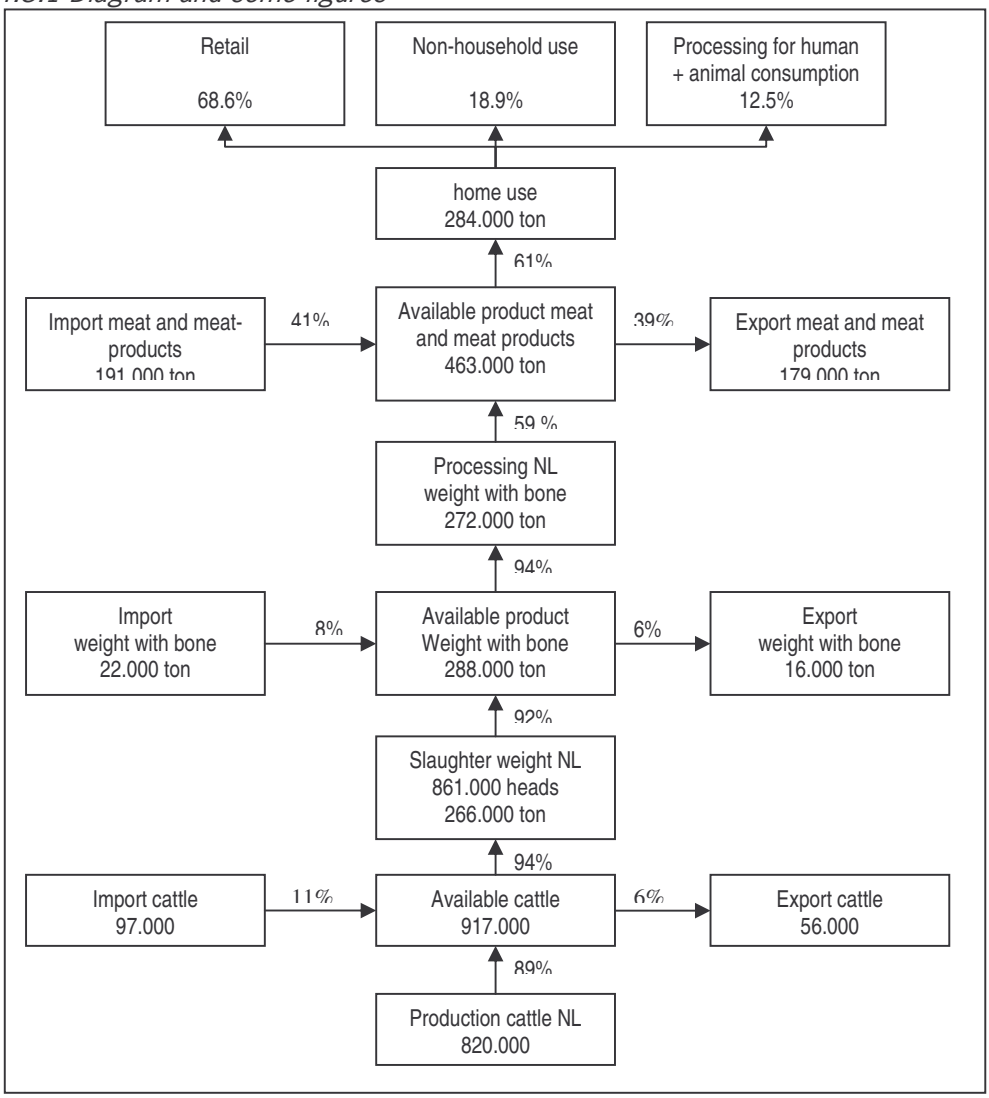


Figure 4.8. *Cattle meat food chain in the Netherlands (Bunte et al, 2003)*

Table 4.8a *The size of the Dutch beef sector (LEI/CBS, 2003)*

	1990	**1995**	**2001**	**2002**
Number of farms with cattle	65.423	56.216	43.481	41.266
Numbers of cattle * 1000	4.926	4.654	4.047	3.858
Number of slaughter animals (cows, heifers, bulls) * 1000 heads	1.179	1.181	628	662
Number of slaughter animals (calf) * 1000 heads	1.071	1.198	1.029	1.214
Gross production cows, heifer, bull meat * 1000 ton	387	272	207	207
Gross production calf meat in * 1000 ton	165	194	164	177
Gross prod. value primary cattle meat prod. * million Euro		1.560	1.001	1.212
Self sufficiency rate			160	168

Table 4.8b Marketing channel of cattle products (HBD, 2003)

	Number of outlets	Market share
Supermarkets	4.968	62.9
Butchers	3.568	31.0
Others		6.2

Table 4.8c Organic cattle production in the Netherlands (Biologica, 2003)

	2000	2001	2002	2003*
Number of slaughter animals (cows, heifers, bulls)		4.950	7.100	8.750
Number of organic farms with cattle	408	466	507	
Number of cattle	31.089	36.383	41.824	

* Expectation

4.8.2 Institutions, organisational forms, governance

General situation

In general the quality of Dutch cattle meat is low because the meat is for 65% originated from the dairy sector. This sector is more interested in breeds with a high milk production than in breeds with good quality meat (Bunte et al 2003). This choice also affects (apart from the imports) the (low) quality of meat from the calf meat sector and the bull meat sector because the surplus of cow and bull calves from the dairy sector is used for meat production. The low quality of Dutch cattle meat is also the reason for relatively large imports and small exports compared to other sectors (Bunte et al 2003).

The slaughterhouses are, contrary to the production, more and more concentrated. The three biggest slaughterhouses (Dumeco, Weyl, Brada [liquidated in 2003] have a market share of 56% (Bunte et al, 2003). Despite the closing of slaughterhouses (for cows, heifers and bulls meat there are 6 left (Klein Kranenberg, 2003a)) there still is an over-capacity due

to a decreasing supply of cattle. Because of the interest in maximum utilisation of capacity the competition between slaughterhouses for the purchase of cattle is intensified. This costly struggle has lead to a shortage of capital for product development (new quality concepts). However, the liquidation of innovative slaughterhouses (Wolff Vlees) showed that investments in added value (new quality concepts, market segmentation) are not always a guarantee for success (Klein Kranenberg, 2003a).
Because of the fragmented delivery structure of dairy farmers, long term agreements between cattle meat producers and slaughterhouses do not (or hardly) exist. This structure also causes relative high logistical (material handling) costs for the slaughterhouses. However, between bull meat producers and slaughterhouses long term agreements do exist (Bunte et al 2003: 30-31).

Relations between pig farmers, processing industry and supermarkets:
The costs of obligatory BSE tests are fully transferred to the primary sector (the farmers). This has enlarged the gap between the price for farmers and the wholesaler meat prices and caused by farmers a feeling of a lack of level playing field.

The main project/initiative concerning sustainability and food safety is IKB: Integral Chain Control and Management (Integrale Keten Beheersing). A very large part of the partners in the cattle meat-chain (organisations of slaughterhouses, trade, meat-products industry, food supply industry, supermarkets, butchers, farmers and others) are working together in this initiative. CBL (an important supermarket-organisation) advises its members to buy (and sell) only IKB-certified cattle meat or meat that is 'equivalent'. The two largest slaughterhouses and processors (Dumeco and Hendrix Meat Group) want IKB certification to become a delivery condition.

Important elements of the IKB-system are the inspection and sanctioning system; the traceability; demands on the animal food, hygiene and the use of animal-medicines; monitoring of forbidden substances; the meat hallmark PVE/IKB. From time to time the IKB system is adapted to new demands (PVE, 2002). In the view of (especially) the industrial partners IKB is important to secure markets and/or to get their hands on new markets. On the long term this should be in the interest of cattle meat farmers. After comparative research on national quality-control-systems the EHI (Euro Handels Institute: Euro Trade Institute) already two times has concluded that the PVE/IKB system has the best results on a number of relevant criteria (PVE, 2002).

Most important regulation:
- Regulation on the production and use of manure (maximum amount of manure per hectare); farmers have to pay for mineral surpluses.

- Regulation concerning contagious animal diseases: a.o. rules on transport, hygiene and cleaning measures for vehicles, measures to prevent contagion etc.
- Where animal welfare is concerned, going it alone in The Netherlands is considered as too troublesome. Therefore the European regulations set the tone.

4.8.3 Areas that exhibit dynamism

There is a rise of new short food supply chains (e.g. Waterlands vlees) controlled by farmers who are trying to realise more added value by: a) differentiation on the farm level by breed, feed, origin , b) take into account societal demands regarding landscape, animal welfare (a.o. organic farming) etc. and c) search for the right market segments. An example is the breeding of Marchigiana cattle for meat packages sold directly from farm to consumers. With this strategy the farmer generates € 7-8 kg in stead of € 3.50 – 3.75 kg by selling the meat in the conventional channel (Klein Kranenberg, 2003a).
Due to the low prices paid by the slaughterhouses there is a trend of selling meat from the dairy farm directly to consumers. This happens for example within farmer-shop initiatives such as the Green Heart Landshops.

In the Netherlands, farmers and nature organisations manage an important part of the nature reserves with beef cattle. According Kuit and Van der Meulen (1997) about 10.000 cattle out of nature areas are sold with a surplus price of 30%. Their estimation of the potential market for cattle of 'nature beef' is 120.000 heads. The total added value actually obtained by marketing beef from nature reserves is estimated at €4,2 mln per year, with perspectives to enhance it to €54 mln in the year 2015.

There are examples of small scale (300 animals per week) family owned slaughterhouses who are willing to invest and that have a positive attitude towards the future. They are relative flexible and capable to meet changing consumer demands due to market-segmentation and integration of activities (processing, retailing, selling) and thus creating a short product and information chain (Klein Kranenberg, 2003b).

There is a remarkable difference in expectations regarding the future of the Dutch meat-sector between the buyers of supermarkets and sales-directors of slaughterhouses. A lot of supermarket buyers expect that the position of the Dutch meat-sector in 10 years will be declined. The competition-power is mainly dependent on marketing strategies; if the sector continues to compete only on cost price it is even doubtful whether there will be meat production in NL. The sales-directors think there will always be a substantial meat-sector in NL (Tacken et al, 2001: 19-20))

There is more attention within the processing industry for added value by differentiation and market segmentation. However, differentiation is more created on industry level, usually by innovative packages and product concepts (pre-packed, easy to use, ease to prepare etc), than on farm level for example by using meat from: typical quality races, a certain origin, etc.

4.8.4 The sustainability and transparency of the current structure and effects of potential changes

Industrial initiatives as the search for products with a higher added value, IKB: have positive but limited effects on sustainability, transparency, food-safety, welfare etc. We interpret it as a gradual improvement of current strategies and not as a real shift to quality-production (creating distinction) and new FSC's; but it concerns an enormous quantity and a lot of small steps may have substantial effects on the long term.

The economic sustainability of the beef sector is uncertain. The opinions are divided: a) the sector step by step will disappear from the Netherlands b) with IKB etc. we walk in front and are on the right way to develop new competitive strength and to acquire societal support.

With regard to differentiation and higher added value strategies until now these attempts are mainly focussed on the strengthening of industry and don't improve and or strengthen the position of primary producers. But it is not completely out of the question that industrial initiatives and IKB can also have a positive effect for primary producers in the future.

4.8.5 Rural development implications of the current structure and effects of potential changes

It is difficult to predict effects of small farm led initiatives. Probably the total effect will be marginal. As regards organic meat, some supermarkets (a.o. Albert Heyn, Dekamarkt, Jan Linders) have an active policy to increase the sales of organic meat. The number of outlets selling organic cattle meat is expanded (Biologica, 2003). It is unclear if this will result in a breakthrough for organic meat because of: a) the price gap between organic meat and mainstream cattle meat and b) the quality of cattle meat that is sometimes insufficient (fatter and less tender).

The concentration of slaughterhouses will reduce the overhead costs per kg for the slaughterhouse. But the higher transportation costs for the delivered cattle will be fully transferred to the cattle farmers. This will have a negative effect on the farmers income.

Severe competition from other foreign countries who can produce the same quality for a lower costprice (because of scale advantages and/or lesser demands regarding animal welfare, environment) may result in a lower cattle meat price. This will result in a lower income for Dutch farmers. The effect of this on a decrease of dairy farmers (7% of the income of dairy farmers comes from selling animals for meat consumption) and specialised cattle meat farmers is difficult to predict.

4.8.6 Bottlenecks for change

Some bottlenecks are:

- Price competition for bulk meat products in supermarkets may have a negative affect on sustainability. Because farmers are put under pressure by supermarkets to reduce the cost price, this can result in skipping measures regarding animal welfare, environment etc.
- Insufficient fine tuning between the organic dairy and cattle meat sector. For example a great part of the redundant cows from the organic dairy sector have insufficient meat quality and end up in the conventional channel (Biologica, 2003)
- The food industry for 'organic remaining parts' has been developed insufficiently. For example an organic cattle meat bouillon is not available. This leads to the processing of organic meat 'rest products' as conventional products and therefore to a lower price.
- Severe competition, regarding organic meat with the same or better quality, from Germany and Austria because of a lower cost price (due to a better use of 'double purpose' breeds, larger scale production etc; Biologica 2003)
- There is a shortage of farmers who are willing to: a) quality breeds such as Marchigiana and b) co-operate in building a chain (farmer, slaughterhouse, retail) for high quality cattle meat (Klein Kranenberg , (2003a).
- Competition within the chain in stead of between chains. There are no (or hardly) common shared vision and strategy between the chain partners regarding the supply of cattle meat.

5 Drivers of change in FSC's in The Netherlands

5.1 Political factors

- For a long time the Ministry of Agriculture was the central authority and took responsibility with regard to agro-food chain (structure development, internationalisation etc.). Nowadays this is seen as the responsibility of the players in the chain themselves. So the players in the chain have to develop and gain a new own position. Dutch government only formulates minimum standards for environment and food safety, and business itself is responsible for food-safety and quality. More and more the ministry makes a move from a 'farmers-ministry' towards a 'ministry for consumer and citizen'. This shift is illustrated by the change of name from Ministry of Agriculture, Nature Conservation and Fisheries to Agriculture, Nature Conservation and Food-quality.
- The central and powerful position of the former 'Agricultural Policy Community' (Farmers Unions and government, with a productivist ideology, internal unanimity and external discipline) perished. With this the relative power of the farm-lobby has been faded away (farmers unions are powerlessness and farmers disagree and are divided). With regard to FSC's this position to a large extent has been taken over by retail and agro-industry. To a small extent there are small-scale initiatives on regional level to develop new modes of ordering (Short FSC's, regional co-operatives for nature and landscape management etc.). These are also efforts to regain a larger part of the control.
  With respect to sustainable FSC's it can be concluded that at this moment the co-ordination / modes of ordering (State, Market and Civil Society) don't function well, are not geared to each other very well (food-scandals, consumers' distrust, distrust of farmers, etc.). The situation is unstable and dynamic: all parties involved are trying to define and realise new positions and the struggle goes on.
- EU-policy: a) nitrogen-regulation, b) the shift from agricultural policy to rural development policy, c) food safety regulation, d) attention for quality production (a.o. PGI/PGO), e) animal health regulation, f) common animal welfare policy.
- The whole complex of regulation, the treadmill of new regulation on animal health and food safety seems to be disadvantageous to part-time farms, small farms, mixed farms, organic farms, small processors and artisanal processing. There is a serious friction between regulation and Rural Development. On the other hand new opportunities for Rural Development and Short-FSC's that may result from new rural development policy (coming modulation) are not in the picture yet. (PGO/PGI: until now NL only has four certified products: this characterises the attitude of Dutch agribusiness).
- WTO: to which extent the negotiations will lead to a level playing field (also for welfare, food safety, environmental regulation etc.)?

- National Dutch policy: *Economic sustainability* is considered a matter of free trade and market. With regard to *rural development*, there is no specific policy aim (as to the relation between FSC's and RD). To put it bluntly: the Dutch standpoint is that the decrease in number of farms and agricultural land creates room for nature, living, leisure, transport and industries, and 'thus' for RD. It has to be said there is a remarkable difference between state at national level and state at lower administrative levels; e.g. the willingness to engage in rural development is higher at community or regional level than at national level.

5.2 Economic factors

- Low incomes (esp. intensive livestock production) and ongoing price decreases for most primary products (on the one hand a driver for change, on the other reducing the room to invest in innovation, alternative production systems etc.).
- The food industry is to an increasing extent large-scale and internationally oriented. Dutch agro-business more and more broadens its activities, is less and less connected on Dutch primary products and is more and more based on foreign raw materials; agribusiness is more and more business, less and less agri (RLG, 2001). Multinational companies dominate an increasing large portion of the value created in food production. There is a tendency to concentrate activities where the purchasing power is greatest; organising production of raw materials in rural areas, while centralising the rest of the value added. Globalisation results in the control of food being concentrated in the hands of fewer and fewer multinational actors.
- Related to the previous point: variation within agribusiness has been faded away, there is hardly any 'mid-sized' industry left. According to lot of our spokesman because of marketing reasons and flexibility exactly mid-sized industry has an interest in and capacity to create a distinctive identity. It is a hypothesis that exactly in the largest and most concentrated industry the margins and the room to go into new opportunities are the lowest. This confirms so much the more the potential importance of the re-construction of mid-sized industry.
- Interests of the agricultural industry and the related industrial logic are dominant and often are in conflict with Rural Development (building up new and small short FSC's by groups of farmers and that result in a higher added value that ends up on the countryside). New private regulation (IKB, Eurep-Gap, KKM etc.) seems to reduce room for manoeuvre for initiatives of (small groups of) farmers (e.g. the regulation of large dairy co-operatives (delivery duty) hampers on-farm cheese-making). Either you completely follow the rules of the industry or you have to everything on your own. However, the room for manoeuvre varies from sector to sector. It seems to be that in the sectors where industrial processing has a more important position (a higher part of the

total added value), the room for manoeuvre for primary producers is smaller E.g. added value ratio industry – primary production in cultivation under glass is 28% - 71% and in intensive livestock 69% - 12%: and indeed primary vegetable production is more vivid (more variety, groups of primary producers who has own marketing strategies etc) than primary pigs and poultry production.

- For a long time 'sustainable economic development' was considered synonymously to 'the capacity to compete on cost price' and it was thought that there was only 'one economic optimum' and developments were only assessed on their contribution to reach this optimum. Nowadays, large institutions and organisations more and more and step-by-step try to break away from this idea and are (often cautiously and half-hearted) looking for differentiation and a higher added value. This process is strengthened by the intensified competition on cost price for bulk products on world markets (globalisation and liberalisation). Possibly we're on the threshold of leaving the idea of the world market as a leading ordering principle. E.g. for the poultry sector in Den Hartog et al (2003) this question prominently comes to the fore. Probably, for a lot of products (which ones?) the competitiveness on the European market is better and the opportunities for getting a better price for a high quality product are better on European markets.
- In the Netherlands labour, land and production-quota are the most expensive within the EU. Therefore the classical strategy of farm scale-enlargement alone is not enough to defend competitiveness. And an intensification-strategy comes into collision with more and more societal barriers (environment, welfare etc.). Consequently, these cost price increasing factors in combination with price decreases and loss of influence in the large FSC's are another driving force to look for other strategies: re-localisation, shortening of chains (off-farm sales, self processing and marketing, etc.), differentiation and specialisation on knowledge-based high value added products such as breeding material (seeds, seed potatoes, high-grade animal breeding products etc.). There are a lot of farmer-led small initiatives on this field. Until now the connection with institutions, industry, policy etc. is highly marginal, but there are a lot of new starting points and efforts to create connections and co-operation
- In the sixties, 40% of the consumer-expenditure ended up in farmers' hands. Nowadays this is about 20% (processing industry 35%, trade 45%) (Bijman et al, 2003).
- Expansion of supermarkets at the cost of specialist shops (bakeries, butchers, groceries, etc.). Dutch consumers spend about €30 billion on food and stimulant (tabacco etc.). Of this €20 billion is spend in supermarkets (the four largest ones are good for 85%) The share of specialist shops is about 33% (10 year ago 40%). Off-farm sales is about 0,8% (€230 mln). Hotel and catering industry is good for 35% of total expenditure and is to an increasing extent sensitive for quality food and specialities. A growing domain is formed by the ethnic shops (e.g. 750 Islamic butcheries) and shops that sell foreign products (688) (Bijman et al, 2003)

5.3 Social factors

- For the Dutch consumer (the quality of) food didn't play an important part in everyday life. There is no a specific and locally based eating culture in the Netherlands and consumers rather easily trusted food. But Dutch eating culture begins to move. Consumer behaviour follows *trends*, not only in the same but also in different or even opposite directions. Consumption of food is increasingly intertwined with life style and identity. All in all it appears that critical awareness is growing: the consumer knows more, is more on the alert and lacks sufficient confidence in institutes that must guarantee the quality of food. There is a slow growth of the demand for quality and of a life-style market. Research (GFK) shows that 63% of the Dutch consumers wish that in the future their food for the most part were produced in the Netherlands. 19% consider regional origin as important. To guarantee the national/regional origin might be one of the ways to communicate quality and safety to the consumer.
  On the other hand indifference, laziness and unhealthy eating habits can also be noticed. There is a clear trend towards the use of convenience food (ready-made-meals, prepared food etc.) and outdoor-dining. By now Shell (petrol stations) is the largest seller of pre-packed sandwiches.
- A growing aversion to and reflection on industrialisation of animal production by citizens, amongst others instigated by food-scandals (dioxin, BSE, MPA, etc.) and large-scale killing of lots of animals in case of contagious animal diseases (avian influenza, swine fever).
- The necessity of more co-operation and new conventions between the parties involved. But there still is a lot of disagreement between farmers and between farmers and other chain-players, there are no real contacts between consumers and primary producers in large FSC's, there is no collective vision on the strategic development of agriculture and FSC's and a hardly effective communication between government, NGO's, farmers, industry and consumers. There is a lot of competition within chains, instead of competition between chains (especially in the current livestock industry the internal tuning of the different parts of the chains often is a problem). Partners within a chain are mainly focussed on their own interest, and not on the collective interest. So, the struggle goes on with uncertain outcomes.
- Concerning the development of new products there is hardly good knowledge and know how (both technical engineering and process) available (Klawer et al, 2002). Step-by-step practical experience and attention for foreign practices are growing, but the expert-system hardly shows attention.
- The exchange of experiences with foreign groups of farmers. There are appealing and fascinating examples of region specific production especially in southern Europe (Parmiggiano Reggiano, Parma-ham, etc.) that attract attention of and motivate Dutch

farmers. For the moment in the Netherlands the knowledge of specific production, the process to establish new short FSC's etc. has been poorly developed, but a growing number of persons and groups are getting down to work on this.

5.4 Technical factors

- For a long time, it was thought that there was only 'one technical optimum' and the usefulness of technical development and designs only was considered from the contribution to reach this optimum. E.g. it was common sense that it was not possible to grow bread-wheat varieties in the Netherlands (but only fodder-wheat); so these varieties were not accepted on the official Descriptive List of Varieties, etc. This way of thinking slowly is mixed up with, replaced by the notion of diversity.
- There is an area of tension concerning the technological model that should be used to realise sustainable (clean) production: a) further 'artificial' control of the production process and disconnection from nature, and b) (re)-connection to natural processes. A lot of economic and technological forces (the logic in the expert-systems, industry etc.) are working towards a further artificialisation (e.g. dairy breeding and farming seem to follow in pig-breeding and farming's footsteps. But this trend faces more and more societal opposition; especially in the intensive livestock, the production is too much disconnected from nature.
- Internet: this is a new medium to organise connection between primary producers and consumers and efficient and small-scale distribution.

6 Sustainable Food Supply Chain Initiatives in The Netherlands

There are a lot of initiatives concerning FSC's. Descriptions have been made of 14 initiatives. These can be found in Annex 1. It is not possible to give a thorough general overview of all initiatives, their socio-economic impact, the number and size of initiatives, etcetera. The variation in size, objectives and other characteristics is enormous. In a first look we present seven 'types' of initiatives. Subsequently we try to look a little bit deeper and distinguish four basic patterns

6.1 Types of initiatives

In this first look at the initiatives we describe seven types of initiatives. An initiative can belong to several types.

a. Short Supply Chain
The category short supply chains comprises amongst others farmers-markets, direct selling of farm products, subscription systems (e.g. ODIN, ± 30.000 families have a vegetable subscription), delivery services to consumers, farmers shops, direct delivery to restaurants, supermarkets that directly buy from farmers (especially small special products), etc.

b. Sales co-operative, market organisation
There are a lot new organisations and small co-operations for the sales and marketing of products. For instance small associations of vegetable growers that market their products themselves; co-operatives for the sales of one (type of) product (organic arable products [Nautilus], goat-milk [Amalthea], organic milk [Ecomel], nuts [Eco-noot], etc.); organisations for region-marketing and/or the sales and marketing of regional products (Waddengroup, Green Heart Landshops, etc. nearly in every province there is such a kind of organisation); etcetera.

c. Special production (production itself and/or processing)
This concerns products or production processes with an own distinguishable identity or quality; e.g. an own breed, special taste, regional products, special other characteristics, etcetera. (Livar, Kemper Poultry, Tasty Tom).

d. Hallmarks and brands
The number of hallmarks and brands one way or the other referring to sustainability and/or quality is growing fast. For instance the Agri-holland web-site has a 'hallmark file' where about

80 hallmarks are described. These refer to quality, environmental practises, organic production methods, region specific character, fair trade, animal welfare, etcetera. The content varies from very superficial to comprehensive.

e. Regional production

The attention for regional products is rather new. There are a lot initiatives with use the concept 'regional product', but the content and depth strongly varies. A distinction have to made between:

e1) there is one way or the other a certain link with the region (e.g. the product is produced in a certain region) or the organisation is regional (e.g. Distreko, Green Heart Landshops).

e2) the product itself is distinctive.

Compared to for instance regional production systems in France, Italy and Spain (whine, prosciutto, etc.) both the organisational/institutional structure of regional production and the distinctive qualities of the products are in its infancy.

f. New products

An ongoing search for diversification and new niche products has been started especially by (groups of) farmers. Some examples: whine production in the Netherlands (± 40 winegrowers, number is increasing), special berries (sea buckthorn, cowberry, elderberry, cape goosberry, etc.), quinoa, red deer, hazel nuts, horse milk, etc.

g. Other initiatives

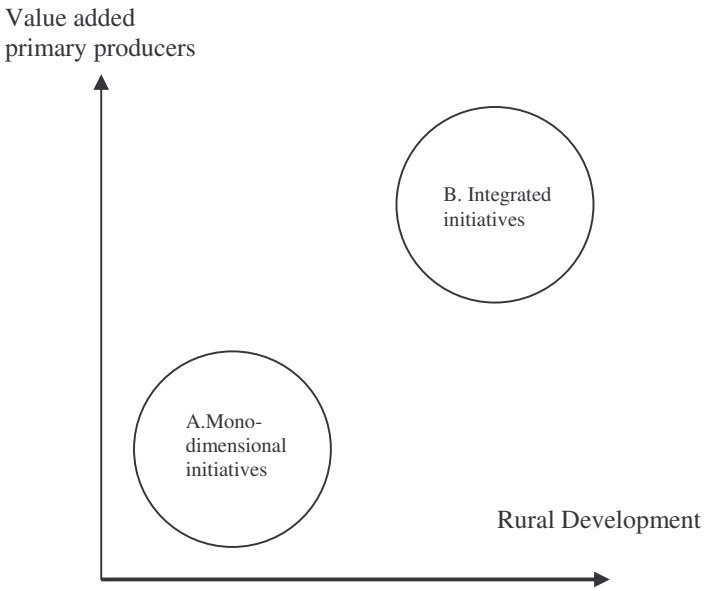
Of course also other types of initiatives can de noticed; therefore the category 'other initiatives'. For instance: the shops of the Fair Trade Organisation, the attempts to organise internet-sales and public procurement (both in a pioneer phase), etc. There are various first onsets, there is a lot of discussion on 'social responsible entrepreneurship' etcetera: there is dynamism, but as yet a lot of initiatives don't stand for something substantial and still have to crystallise out.

The above given categorisation has been applied to the fourteen initiatives that are described in Annex 1 (Table 6.1).

Table 6.1 *Summary of characteristics of fourteen FSC-initiatives*

	Short Supply Chains	Sales and market organisation	Special production	Hallmarks and brands	Regional production		New products
					e1	e2	
Distreko	X	X			X		
Green Heart Landshop	X	X			X	X	
Waddengroup	X	X	X	X	X	X	X
Green Hat	X	X		X	X	X	
Kemper Special Poultry		X	X	X			
Livar	X	X	X	X			
Ecomel		X					
Bolletje				X			
Eurepgap				X			
Nautilus		X					
Tasty Tom			X	X			
Growing for the future							
Gulpener beer			X	X	X	X	
KB, Quality assurance farm dairy			X	X			

A first look at the relation between these FSC-initiatives and rural development shows that mainly 'integrated initiatives' have a substantial positive relation with regard to rural development (integrated will say the combination of several aspects such as organic, region specific production, short supply chain etc.) (as illustrated in figure 6.1).
Especially organic farmers (±1260) often are involved in initiatives: home sales, subscription systems, region marketing etc.



A. Mono-dimensional initiatives: e.g. all industry and/or retail-led initiatives that concern many (such as Eurepgap, Bolletje, Growing for the future, but also IKB, KKM etc [see 4.1, 4.2 and 4.4]).
B. Integrated initiatives: e.g. Waddengroup, Green Heart Landshops, Green Hat, Livar (limted number of participants, between 5 and 70).

Figure 6.1 *Relation between rural development and degree of integration of dimensions of initiatives*

6.2 Four basic patterns

Underlying the rich morphology of food chains, there appear to be four basic patterns. The first one is the dominant well established pattern of extended food chains controlled by one or a few dominant players that are functioning as *loci of control* within complex and far-reaching networks. Examples are the Albert Heijn supermarket chain and the Unilever food industry. The main tendency in this cluster is the development of control and traceability systems that can be considered as a kind of assurance systems (e.g. Eurepgap, Growing for the future). In case of contaminated or otherwise inferior food products, the origins of occurring problems can easily be detected and responsibility can be delegated to those parts of the 'chain' that acted against the prescriptions and requirements associated with the different transactions within the chain. In terms of value added, there is, within these chains, a strong tendency towards further centralisation of the total value added within the loci of control. The elaboration of control and traceability systems is evidently functional to this tendency. We will refer to this first pattern or cluster as the one of the *extending and centralising food chains.*

A second cluster is composed of *diffuse, decentralised and territory-linked networks*. These networks are composed, normally, by a range of different actors: farmers, small-scale processors, shopkeepers, traders, etc., who establish a range of different interlinkages, through which, most of times, a broad assortment of regional products are circulated, elaborated and traded. Examples from the Netherlands are the *Waddengroup, the Green Heart Shops, Distreko* and the *Green Hat.* These networks are region-centered: the use the *terroir* as one of their organising principles and often function as important interlinkage with surrounding cities and/or the recreational sector. Another important feature is the *artisanal* nature of the production, processing and marketing of food products. In politico-economic terms these networks might be characterised as the *appropriation and relocalisation of value added* that is otherwise concentrated in, and controlled by, the dominant chains. The often large distance between the off-farm prices and the prices paid by consumers, as characteristic for these chains, composes the room for manoeuvre out of which these new networks emerge. The functioning, but especially the creation, of these networks presumes a clear directory role. It is often a territorial association of pioneering farmers, together with

other actors, that is functioning as such. Recent studies (as the IMPACT exploration) showed that this newly emerging pattern is wide spread throughout Europe. At the same time regulatory schemes of different nature (from both the EU and the individual member states) detain further expansion.

A third cluster or pattern might be classified as newly constructed *coalitions* or *partnerships*. These typically emerge out of the interest of SME (small and medium enterprises) that try to consolidate their market shares through the upgrading of their products. Hence, distinction *vis-à-vis* the big chains (see cluster 1) is created and maintained. Typical examples from the Netherlands are *Bolletje*, *Gulpener Beer* and the associated trader in *Boerenkaas*. From these SME, privileged interrelations with a group of suppliers are created. The latter receive a somewhat higher price and a (long-term) security for delivery, whilst the former obtain materially improved (i.e. more sustainable) and symbolically upgraded ('regional origin', 'natural', 'animal friendly') inputs that allow them to obtain a premium price in the markets. Hence, from a politico-economic point of view, the *creation of extra value added through specific forms of (partial) market regulation* is typical for this cluster. In contrast with the first clusters, the primary producers share (all be it in variable degrees) in this increase. Whilst the second cluster is basically territorial, this third one is essentially sectoral.

A fourth cluster consists of different *niches*, in which novel products, procedures and/or markets are elaborated and tested. In contrast with the other three clusters, these niches are temporal ones (also the time horizon can vary considerably). Examples are *LIVAR* (the development of a new, high quality type of pig meat) and the *Kemper Poultry*. A historical example is *Ecomel*: three previous niches for the processing of ecological dairy products that are now taken over and integrated within the Campina dairy industry. Due to the availability of own resources, the high degrees of craftsmanship, entrepreneurship and innovativeness, such *niches* emerge time and again in agriculture. Since the monetarian costs are typically low (due to the use of own resources) and benefits are associated with expectations, such *niches* can function for a considerable time. The raison d'être is evidently *the creation of extra value added through the construction of new products and markets.* When the prospects are solid, the niche nature disappears and the developed novelty will become integrated in one of the three previously discussed clusters.

The four clusters differ systematically along several dimensions. Their configuration (the pattern of interlinkages) is time and again different. They also differ in politico-economic terms – as outlined above. There are also considerable contrasts in terms of the associated *stories* (ref. origin, loci of control, levels of trust, scale, development, etc.). Equally, they differ strongly in as far as transaction costs are concerned.

Evidently, there will be, in practice, overlap, competition as well as co-existence between the different clusters. The nature of such complex interrelations is to be assessed through empirical research.

7 Issues summary in the Netherlands

7.1 Institutional changes relating to FSC's and their implications

Last years, the attention from policy regarding food-safety and environment has grown. In general the direct contact between producer and consumer as it was before – and which, to a high degree, formed the basis of trust – has largely disappeared in the more industrialised large-scale FSC's. The consumer of today is remote from the production of food. The way in which trust has to be achieved nowadays is therefore organised in quite a different way: *personal trust* is largely replaced by *institutionalised trust*.
There is an increasing amount of regulation to decrease environmental pollution and to guarantee food-safety. There is not only regulation regarding the end-product but more and more the whole production-chain becomes an object of monitoring and inspection. At the moment, there are hardly any examples of traceability through the whole food chain. Raw materials and (semi-manufactured) products can be traced by means of HACCP, but generally there is no overview from raw material to end-product. The Dutch Ministry of Agriculture wants to change this by: 1) extending the use of HACCP by producers, 2) making traceability rules more strict, 3) stimulation of the development of chain-systems, and 4) intensifying the contribution of consumers.

The position regarding the sustainability of FSC's of the Dutch government seems clear: agriculture and FSC's have to be made more sustainable. E.g. recently the minister of Agriculture put forward that the transition of the intensive livestock sector to a smaller but more sustainable sector is a prerequisite for survival of the sector and that because of intensified competition from cheap production from Thailand, Brazil and USA the sector has to be oriented to quality production for the western European markets.
But when we look at concrete policy measures the picture is not clear at all:

- When restricting regulation is concerned (environment, pesticides, animal welfare etc.) a progressive *going it alone* policy (within the EU) in the Netherlands is considered as too troublesome and harmful for the Dutch competitive position.
- The main responsibility for the realisation of sustainable FSC's is laid in the hands of consumers and chain-partners. Only if the production-column takes serious initiatives, the government will consider facilitation (levies or tax-measures to stimulate sustainable production, accompanying research, etc).
- There hardly is any active stimulation and/or regulation oriented on 'extra quality'.
- Its is unclear what the government perceives as sustainable and as quality.

It is very difficult to say whether we can await a real new policy oriented on sustainability that will lead to or stimulate the much-mentioned transition or only a gradual chance.
An important difficulty is the export orientation of Dutch agriculture and the international orientation of Dutch agro-industry. To what extent does national policy matter and have the capacity to influence perspectives of FSC's? It might be the case that the more policy is oriented on sustainability, the more the size of Dutch agriculture will be reduced (differs per sector).

Dutch government formulated the intention that in 2010 10% of agricultural land will be used for organic farming. However it often seems not to be convinced of the feasibility of this intention. Noteworthy is that the reason for this intention is not originating in the environmental effects of organic agriculture itself but in: a) the growing demand of consumers and b) the pioneer role of organic farming (of importance to make conventional farming more sustainable) (LNV, 2001: 6). LNV called into being the 'Task Force Market-development Organic Agriculture' (with representatives of farmers, retail, environmental organisations, consumers etc.) to develop business plans for the stimulation of organic agriculture. A main project is the PR campaign on TV that has to stimulate Dutch consumers to buy organic food. The emphasis of policy moves from stimulation of primary production towards stimulation of demand and co-operation in the whole chain.
Beside national funding and stimulation, most regional governments (provinces) stimulate organic agriculture in different ways (officers for stimulation of organic agriculture, funding of experiments with new crops, stimulation of co-operative regional marketing, etc.).

Farmers who want to switch to organic farming can make use of the RSBP (Regeling Stimulering Biologische Productiemethoden: Regulation Stimulation Organic Production-methods). The RSBP pays 65% of the loss of income due to this switch (during the period that already organically is produced but the product can't be sold as organic). In 2004 there is € 5,5 mln available. In 2002 152 applications were made (€ 2,7 mln) and in 2001 158 (€ 2,9 mln). In both years the available subsidy is not used completely.

In Dutch policy with regard to *rural development*, there is no specific policy aim as to the relation between FSC's and RD. In the period 2000-2006 €55 mln a year from the European Rural Development Funds (EAGGF/Guarantee section, 1999 prices) will flow to the Netherlands (European Commission, 2003: 15). It is doubtful whether the Dutch government is willing to acquire as much as money as could be possible. This because of the needed co-financing and the supposed disconnection of RD on the one hand and FSC's and the development of a 'modern' agriculture (large scale and the most 'modern' of the world) on the other. The Dutch standpoint is that the decrease in number of farms and agricultural land creates room for nature, living, leisure, transport and industries, and 'thus' for RD. To a large extent the RD-money is and will be used for the realisation of 'new nature' and other non-

agricultural projects and not for the creation of new competitiveness of agriculture (diversification, regional products etc.). This policy might result in a spatial separation between areas with a 'modern agriculture' and areas with other functions.
There is a remarkable difference between state at national level and state at lower administrative levels. The willingness to engage in rural development and to relate RD to new strategies in agriculture is higher at community or regional level than at national level.

7.2 Areas of dynamism

For a long time low production costs have been the main criterion in the strategy of Dutch agriculture and FSC's. 'Sustainable economic development' was considered synonymously to 'the capacity to compete on cost price'. But more and more new strategies can be observed and the number of market criteria increases due to a) ongoing changes in demand (slow growth of the demand for quality, a life style market and more diversity and b) the intensified competition on cost price for bulk products on world markets.

The most comprehensive dynamism can be found in small FSC's. There is a large number of relative small mainly farmer led initiatives at regional level. The variety is large. Mostly these initiatives in one way or another appeal to a) 'a higher quality' and b) locality (or 'terroir') and c) shortening of the chain and forward integration (reversal of the trend of ongoing differentiation of chains and externalisation of tasks from farms to specialised companies and institutions).
The notion and perception of quality is both broader and deeper than in 'traditional' and large FSC's. The initiatives comprise a varied mix of the following elements a) product attributes as distinctive taste and typicity, b) the production process, such as animal welfare and environmental friendliness, c) social and governance aspects, such as a more direct relation to consumers, new alliances with other stakeholders and NGO's, more autonomy and chain-control, labour quality, d) new market channels, such as farmers markets, co-operating farm-shops, subscription systems, etcetera and e) a positive relation with landscape, tourism and liveability.

Of course there is also dynamism in large FSC's. The possible changes are smaller than in the SFSC's, but because of the size the impact could be substantial. Some sectors are forced by intensified international competition on bulk markets to change their strategy. The agro-industry is more and more, as yet often cautiously, looking for product differentiation and a higher added value and/or specialisation on knowledge-based high value added products such as breeding material (seeds, seed potatoes, high-grade animal breeding products etc.). For some sectors we possibly are on the threshold of leaving the idea of the world market as a leading ordering principle. E.g. for the poultry sector (Den Hartog et al,

2003) this question prominently comes to the fore. This would imply a smaller sector but a higher added value per unit of product. (See also § 7.1). Currently it is not to predict which sector will move in which way and whether the changes lead to a real turn or only to small variations on a well-known theme (differentiation produced only at the end of the chain on the basis of homogenous raw material).

A new development is the growing number of new forms of connection and co-operation between farmer-led initiatives with industry and supermarkets. This especially concerns organic agriculture (e.g. pig-meat project Albert Heijn, large dairy industries that buy small organic processors). But there also are other examples, such as supermarket Poiesz in the north of the Netherlands, that uses regional products to distinguish itself from the large national supermarket chains and tries to attract consumers in this way.
If agro-industry and supermarket chains will copy and incorporate market concepts and approaches of the SFSC's and/or mainstream organic production a new type of problems could arise. They could take over control and added value and thus put pressure on the economic profit of small initiatives and primary producers. This effect already can be noticed in organic farming.

An area of dynamism certainly is formed by non-native consumers and 'ethnic shops' (e.g. Islamic butcheries, shops that sell foreign products). This market is dominated by small shops that are managed by non-native people and that sell a variety of 'small products'. Networks of small entrepreneurs, growers of 'small crops' and traders manage this market.

7.3 The relative performance of FSC's on sustainability and transparency

With regard to the performance of FSC's on sustainability it is only practicable to present a general assessment and impression.
The total sustainability of a sector or FSC's is very difficult to assess. For example, judging the sustainability of the greenhouse sector is a tricky assignment. When one looks to this dynamic sector from a perspective of efficiency and clean production one will see a sector that easily can compete with other agricultural sectors in terms of transparency, pesticide use, nutrient use and waste management, especially with respect to yields per hectare. However this environmental performance, there is a tension between the artificiality of the cultivation methods and the naturalness one expects from agricultural products (gas heated production under glass on substrate).
The assessment of sustainability and transparency of large FSC's is also complex because of the export orientation of Dutch agriculture, the internationalisation of FSC's, the ongoing disconnection of agro-industry from primary production and the growing share of compound processed found.

Generally speaking new small niche-oriented FSC's have a good performance on sustainability and transparency. There are a large number of varied initiatives in which sustainability and transparency are important strategic elements. There are guidelines, production protocols, code of conducts in which quality standards, ecological sustainability, regional identity, contributions to landscape and liveability etc. are included. Short chains (direct marketing, region marketing) give producers more control on the own business and stimulate product innovation and diversity. Transparency and trust are based on personal contacts and 'sense of belonging'.
The impact of these SFSC's can be substantial for some (groups of) producers and at local level. As yet, the total impact on national level is very limited. Notwithstanding the good current performance, a lot of the new SFSC's are vulnerable and have to work on a more solid and sustainable foundation.

In nearly all sectors systems for integrated chain control have been established and introduced: IKB (pigs and poultry), KKM (dairy), EUREP-GAP (supermarktet demands), NUTRACE (own tracking and tracing system of Nutreco), etc. These institutional systems are the regulating quality systems that also intend to increase trust in the total chain. Obviously agro-industry and supermarkets dominate this field. The used regulation systems seem to be a further step in the direction of industrialisation and artificialisation of production (e.g. hold animals inside, production under more sterile conditions, etc.). It is conceivable that these systems will function as a straitjacket for primary producers, as an obligatory set of regulations.
The impact on sustainability, transparency, food-safety, welfare etc. is positive but limited. It can be interpreted as a gradual improvement of current strategies and not as a real shift to quality-production and new FSC's. However, due to its production volume a small step may have effects that are worth mentioning.
As discussed before (§7.1 and §7.2) the economic sustainability of some sectors is doubtful. But the opinions are divided: e.g. some are convinced that the intensive livestock sectors will slowly disappear from the Netherlands, whereas others are convinced that due to the introduction of systems such as IKB these sectors are ahead of other countries and on the right track to develop new competitive strength and to acquire societal support.

7.4 The significance of emerging initiatives on Rural Development

New SFSC's initiatives have several effects. Firstly it leads to a higher value added per unit of product and produces additional income and employment at farm level and at local level: the current additional Net Value Added is estimated at more than €175 mln (Van der Ploeg et al 2002). Locally this effect can be substantial. For example, Roep (2002) calculated the

effects of the activities of the Waddengroep foundation (region specific production, co-operation of 50 primary producers and 30 small-scale processors, ± 150 products): the employment is almost two times higher than if the same production would be produced and processed in a conventional way (155 AWU versus 80 AWU).
Secondly, these initiatives result in a better control of the chain, more contact and co-operation with consumers and buyers, less dependency from the EU-policy and WTO etc. and, therefore, to more grip on their own future. The SFSC's above all are strong with regard to local and regional markets, tourist markets and hotels and restaurants.
Another effect is that these initiatives can contribute to a more attractive and vital countryside. Often there has been created synergy between SFSC's, nature and landscape conservation, environmental quality, other small-scale economic activity and tourism. Separately the impact of these activities is very limited, but taken together it can be substantial in local situations. The best and most clear examples can be found especially in some Less Favoured Area's (LFA) such as Waterland, the Green Hart, and the Wadden-area.
In spite of these advantages and profits, it has to be said that a lot of these initiatives are vulnerable (as regards economic stability and solidity of the organisational structure).

Considering large scale FSC's, generally there is no relation between development of these FSC's and rural development. This relation even can be negative. Strategies of the large agro-industry and supermarkets (indirectly) stimulate scale-enlargement in primary production (decrease of employment) because they seek for cheap raw materials. They even might substitute Dutch primary products for foreign primary products if those are cheaper.
There are a lot of projects of the agro-industry that are oriented on quality and added value. But quality and differentiation are produced at the end of the production process inside the industry and have no relation with differentiation on farm level. A higher added value on industry level even might have a negative impact on other levels. E.g. Dutch pig-meat companies try to increase their added value by producing fresh meat for German supermarkets and thus obtain market share to the detriment of German butchers: the result may be a higher added value for the Dutch company, but the effect probably will be a lower total added value.
Nonetheless, the industry-led initiatives to realise a higher value added, can and could have a positive effect on the income and employment of farmers. One could have in mind the projects of agro-industry and supermarkets to sell and promote organic products. There are some of these projects, but it still is an open question what size will be attained and whether they will persist.

7.5 The significance of SFSC's and their potential to be scaled up

Most SFSC's in The Netherlands are in or just have finished the pioneer phase and have to establish a more solid and sustainable foundation. It is time for a 'professionalisation step' (AKK, 2003). A certain extent of institutionalisation is a prerequisite for improvement of competitiveness, marketing and PR and the creation of more efficient logistic structures and thus for further growth and upscaling. This institutionalisation is in its infancy but there are attempts to create new forms of co-operation, coherency, alliances, collective marketing, agreements on collective labels (e.g. 'Certified Regional Product') etcetera. It is sometimes said: "to exploit and make a profit out of niches you have to be big": a lot small initiatives together can be big. As requisites to start up again region specific production in the Netherlands the AKK (Foundation Agro Chain Knowledge) mentions five fields that need improvement: 1) marketing and the development of marketing strategies, 2) logistics and distribution, 3) chain co-operation and chain-development, 4) demand oriented development of concepts and assortment and 5) product typicity and quality (AKK, 2003).
In this process of upscaling and institutionalisation, it is important to maintain or even strengthen some typical characteristics of the current SFCS's as identity and social embeddenes. Coherency, co-operation and institutionalisation have to be created without loss of characteristic properties. New marketing approaches are needed. Simultaneously, the synergy with other rural development activities (see § 7.4) and the creation of alliances with other groups have to be strengthened.
The perspectives for upscaling of SFSC's are insecure, not to predict and to a great extent dependent from the quality of the actions of all the parties involved. 'The market' and 'the consumer' are not all-determinative factors that dictate the destiny of individual companies.

The statement "to exploit and make a profit out of niches you have to be big" is applicable to large companies as well: they could function as an umbrella organisation for a variety of niche products and SFSC's (from their own company or from other producers) to realise an efficient and effective market strategy. In other words, the current 'gap' between small new farmer-led FSC's and the large FSC's could be filled up from two directions and/or through cross-fertilisation and co-operation. Co-operation between 'small' and 'large' and between groups of primary producers and processing industry might bring in new opportunities and yield a profit. Especially a more efficient distribution and processing might be profitable.

Maybe, but this is an open question, the main impact of SFSC's and organic farming is located in the use of some elements by conventional farming and large FSC's to make their production more sustainable. 'Upscaling' also could occur indirectly through the upscaling of ideas. E.g. a lot of ideas, practices and knowledge established in organic farming has found its way to conventional farming (environmental friendly techniques, the so-called 'care farms',

direct contact to consumers, the importance and knowledge of soil-ecology, etc.). Organic farming has been a fruitful nursery for conventional farming.

7.6 Bottlenecks and the opportunity for enhancing the performance of FSC's

There is some sympathy for SFSC's in the Netherlands. However, in mainstream circles (farmers unions, agro-industry, ministry of Agriculture, etc.) there is no or hardly any *conviction* that these small chains have the potential to realise a substantial market share, even reluctance can be noticed. It is thought that it continues to be marginal business, only applicable for a little group of farmers. This lack of conviction produces a negative effect on support systems (policy support, research and technology development still mainly are targeted at the mainstream FSC's) and inspiration and power from the side of farmers and processors (more discouraged than stimulated to start working on new SFCS's). The support for SFCS's at regional level is much more substantial and probably will gain strength and influence if it will be geared to new EU policy. Possibly, new EU-policy will be a stimulus; especially the new funds after 2006 that probably will be oriented on quality production with a relation to regional economy.

There is tendency towards globalisation and concentration of production in which Dutch industry has played an active role. Dutch food production systems could, until now, be characterised as efficient bulk producers and processors with a strong international market position. The need increases for competitive strategies based on quality. In some sectors the situation could be carefully indicated as a crisis, and thus as dynamic, hardly predictable and offering room to innovation.
The more globalisation makes progress, the more meaning locality and region get and the more opportunities for distinction and specific exceptions arise. In every FSC there is a specific balance between 'the regional' and 'the global'. This balance is variable. FSC's in the Netherlands until now are oriented on the global, but some are now more and more forced to leaning towards 'the regional' (what is interpreted as regional is variable).

The whole regulation complex, included new private assurance systems established by large industry and retail (Eurep-Gap, KKM, IKB etc.), seems to reduce the room for manoeuvre for primary producers and small processors, artisanal production and SFSC's (processing on farms, butchers, etc.). The growing attention for chains in food production, especially concerning food-safety, doesn't result in a closer contact between primary producers and consumers. On the contrary, it results in the development of formal systems that distantiate primary producers from consumers and don't re-define consumers interest (and suggest that "you are safe in our hands").

The co-operation and co-ordination within chains often is insufficient and inadequate. There is a lot of competition within chains instead of competition between different chains. E.g. the director of Superunie (an organisation that buys products for supermarkets with a market share of 25%) recently declared his preference for foreign food-producers because of their willingness to co-operate and to come to more long-term agreements. Possibly the need for competitive strategies based on quality might force to better within-chain co-operation.

7.7 Stakeholders' perceptions of and involvement in Rural Development

There is a growing attention for chains in food production and for sustainability. The mainstream attention is mainly oriented on the development of formal generic chain-systems as KKM, IKB, EUREP-GAP etcetera. Leading actors, especially supermarkets and processing industries and the main farmers and consumers organisations, share their support to this way of thinking and this approach in which is hardly any substantial attention for SFCS's.

For retailers image is very important. Social sustainability and environment can be relevant because of this image and to attract certain groups of consumers. Mostly to get this attractiveness only a limited part of the whole product assortment is used: for consumers who buy organic products also buy other products; the supermarket chain Poeisz, located in the northern provinces of the Netherlands, tries to distinguish itself from national supermarket chains and get the northern consumers on their side by means of selling regional products (a.o. Wadden-products). So sustainability attributes are in competition with a lot of other attributes.

The main consumer organisation (Consumenten Bond) above all keeps an eye on product prices. The smaller 'Alternative Consumer Union' (AKB) is more interested in sustainability, the production process and the societal relations and effects.
Consumers are more and more disconnected from agricultural production itself. But in periods of crises' and dramatic events such as FMD, swine fever and avian influenza there is a lot of interest with regard to farmers, animals and their ups and downs. In society there seems to be a lot of sympathy for farmers (especially for the 'normal farms', less for more industrial types of farms). But this sympathy doesn't play a role in buying behaviour of consumers and choices and strategies of industry and supermarkets. This sympathy is only exploited in advertisement.

The large processing industry, in general, aims at the supply of raw products of a uniform quality at the lowest costs. An extra and small production line for products of a special quality does not fit in the current industrial logic. It has to be mentioned that some deviancies are in development.

Some captains of Dutch agro-industry have said that they wouldn't invest in regional and organic production but that if new successful companies (esp. processors) appear on the scene, they simply should buy up these companies.

Farmers are divided. The diversity of farm business strategies is increasing, but the farmers union is not really willing to deal with this diversity. In their representation of interests they mainly focus on the traditional modernisation strategy (scale enlargement and specialisation) and integration in the large FSC's.

Around SFSC's gradually arise new small varied networks: between farmers, small processors, restaurants, reform shops, local authorities, consumers (consumer supported agriculture, subscription systems), farmers markets etcetera. SFSC's, especially organic farming, is supported by some environmental organisations.

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ANNEX 1 Catalogue of sustainable food supply chains initiatives

Database of Sustainable food supply chains initiatives (WP2)

0 - General Information

a. Name of the Initiative	DiStrEko: Distribution of regional organic products (In Dutch: Distributie Streek Ekologisch)
b. Type of Products	Potatoes, vegetables, fresh fruit, processed fruit products, dairy products: cheese, consumption milkproducts; meat, eggs

A- Organisation and governance of the "new" supply chain

1- Boundaries of the supply chain and main actors

- **main actors of the "new" food supply chain**

a. How many producers are involved	24	
b. What is the farms' size		
c. Who is the main initiator *(put a "x" in front)*	X	Producers
		First processors or pakkers
	X	Trade/wholesalers/Distributor
		Independent stores
		Big retailer(s)
		Consumers
		Consumer associations
		Environmental associations
		Other associations
d. Describe in a few sentence the main initiator	24 producers for the most part united in the association of organic producers Achterhoek (BPA) work together with a distributor/salesman concerning an innovative distribution concept.	

- **Geographic limits of production**

a. What is Geographic limits of production *(put a "x" in front)*		Local
	X	Regional
		National
b. precise the localisation and describe in few sentences the specific characteristics of the territory *(environment , landscapes, tourism ...)*	The organic products Distreko is distributing are for the most part located in the Achterhoek (a regional part of the East of the Netherlands with a lot of small scale farms). Production is linked to ecology and landscape. The region belongs with 5 million overnight stays to the top 10 of most popular holiday destinations in the Netherlands	

- **Size of production**

a. Tons	
b. Value at consumer level	Value at distribution level ± 425.000 Euro (Price on farm ±10% higher than current prices)

2- Collective organisation of the initiative

a. What is the type of collective organisation *(put a "x" in front)*		Formal private collective organisation
		Open group (code of practices, free entry of new members)
	X	Club (code of practices, selection of new members

b. What is the operating structure *(many answers possible, put a number ordered according to importance)*	2	Producers' association
		Co-operative
		Consortio or FSC collective private structure without any commercial activity
		Channel captain (processing firm, big retail)
		Certification organisation
		Regional public institution (label)
		National public institution
	1	Other: Distreko is a private owned distribution firm and is jointly developed by the producer association "BPA" and an independent entrepreneur who had experiences in the supermarket channel. Distreko can be characterised as a channel captain, this mainly because Distreko manages and controls the information flow and physical product flow between the outlets and the producers.
c. describe in few sentences the operation structure(s)(type, name) and its (their) main missions such as: definition of a code of practices, quality control, promotion, research and development, lobbying, contract templates, management of volumes , price fixing....	Code of practice: • Distribution of organic products • Transparent information system. Distreko manages an order- and invoice system coupled to internet • Logistics and distribution according the cross dock principle (producers are sorting the orders by customer and the grouping of products by customer finds place in the lorry) • Extensive management of business connections • Contracts with the members of the BPA about: product quality, delivery, payments etc. • Distreko receives a percentage (10- 15%) of the value of the distributed products. This means that it is in the interest of Distreko as well as the producers to realise a good price and to distribute large volumes. • The savings of the efficient distribution system are shared between the producers, distributor and the outlets. • Volumes and quality are determined by the demand of the selling points (Distreko does not have stocks, distributed products are already sold). The assortment groups of the BPA regulate in co-operation with the distributor growing plans, quality aspects, packaging. - Sales to 45 outlets	
3- Social history of the initiative		
➢ **Birth**		
a. When?	1999	
b. Who?	The producer association BPA together with an independent entrepreneur	
c. Where?	The Achterhoek (Winterswijk)	
➢ **Main objectives and intended beneficiaries at this time?** *(please, order)*		
a. Order to put a number in front	2	Environmental
	3	Socio-territorial
	1	Economic
b. Please precise these first motives, objectives and start difficulties	Motives: The limited economic perspective for the small scale organic producers to deliver products via the common distribution system (wholesalers, auctions) which is organised for the distribution of the bulk organic products. Objective: to develop an innovative distribution/marketing system for organic/regional products from the Achterhoek resulting in a higher price for producers and an acceptable income for at least two workers of Distreko. Start difficulties: insufficient availability of the assortment, high development costs of the distribution/information system, required energy (for adjustments of	

	the system), insufficient fit between supply and demand, distribution system is vulnerable because dependency of one person.		
➢ **Main historical key events until now**			
a. Precise the main events in the history of the initiative	1999: preparatory phase; examination to chances and bottlenecks of the Distreko distribution system 2001: start of the distribution system with 8 producers and 7 outlets 2003: expanding of the system to 45 outlets and 24 producers and broadening the concept to the delivering of consumer packages (vegetables subscriptions) next to the delivering to retail channels		
➢ **Future: main plans and intentions & bottlenecks**			
a. Describe the key ambitions, challenges in sustaining the initiative	Key ambition: To carry out the distribution for at least 30-35 organic producers (in the region are 74 organic producers) and delivering 70 outlets Challenge: • To realise a connection between Distreko and other regional distribution networks for the exchange of products, information and knowledge. • Developing a national network of regional distribution initiatives.		
b. Describe the main bottlenecks	• Time and capital needed for developing new networks and arrangements next to the operational work. • Differences (in history and professionalisation phase) between the local networks. • Distribute/produce in a more economic/efficient (scale up) and in the meantime persist in keeping up quality-standards and exclusivity.		
4 - Marketing issues			
a. What is the distribution channel *(many answers possible, put a number ordered according to importance)*	2	Direct selling (consumer packages)	
	3	Farmers' markets	
	1	Specialised stores (organic shops)	
		Big retailers	
		Catering wholesaler	
	4	Restaurants	
		Other (to be specified):	
b. What are the relevant consumer markets *(many answers possible, put a number ordered according to importance)*		Local	
	1	Regional	
		National	
		European	
		International	
c. How are the products labelled *(many answers possible, put a "x" in front and give the name of the label)*		Private label	Name:
	2	Collective brand	Name: BPA (Organic Product Achterhoek)
		Regional label	Name:
	1	National label	Name: EKO, Demeter, Acknowledged Regional Product (Erkend Streekproduct)
		European label	Name:
B- Sustainability profile			
a. Put a "x" in front of items presented by initiative's actors themselves through websites, flyers, promotion events.	**Agri-environmental**		
	X	Biodiversity	
		Preservation of specific species/races	
		Soil erosion	
		Water quality	
	X	Animal welfare	
	X	Food-miles	

		Other important aspects (to be specified):…….
	Socio-territorial	
	X	Regional employment an preservation of rural communities
	X	Food quality and typicity
		Preservation of landscapes
		Mountain (marginal) areas keeping
		Resistance to sprawl
		Agri tourism
		Other important aspects (to be specified):…….
	Economic	
	X	Producers' income
		Possible succession for farms
	X	Farmers' quality of life
	X	Higher net value per unit of product
	X	Higher net value added on regional level
		Other important aspects (to be specified):…….
b. Possible remarks on the above mentioned items (can results be measured, do initiatives statements represent reality)	• Distreko has developed an accurate information system which can measure the results on the distribution level (foodmiles, price received by producers, turnover by producer etc). • Up to now the Distreko initiative has led to a better price for the producers and a reduction of the number of foodmiles. However, the distribution volume per producer is still limited in general. • The economic results presents an acceptable income for the distributor, however this can be misleading because it does not take into account the working hours needed to start up and expanding the initiative. • The regional typicity of the products can be questioned. The products are differentiated by freshness and because they are organic and not so because the are produced according to a typical feed program or specific species/races. • The producers are receiving a higher price but they also have to make "value added costs" like sorting by customer.	
C- Institutional support		
a. Which level support the initiative *(many answers possible, put a number ordered according to importance)*		Local
	1	Regional
		Sector
	2	National
		European
b. Precise the institution and the type of support: laws, subsidies, studies, investments credit, etc.... (and opposition?)	*Up to now Distreko has received ± 88.000 Euro subsidy from different sources for different activities:* • *± 11344 Euro from the province of Gelderland for a preparatory study to the chances for a regional distribution system and for implementing the businessplan* • *± 11344 Euro from national government for developing a bussinessplan and for implementing the businessplan* • ± 65000 Euro from a national fund for the upscaling of the initiative, the exchange of the concept (knowledge and experiences) to other initiatives in the Netherlands	
c. Describe institutions and regulations created by the initiative?		

Database of Sustainable food supply chains initiatives (WP2)

O - General Information

a. Name of the Initiative	Green Heart Landshop co-operative U.A. (In Dutch: Groene Hart Landwinkel cooperatie U.A.
b. Type of Products	Dairy products: cheese, consumption milkproducts, ice cream, butter; fresh fruit, processed fruit products, arable products, cow meat products

A- Organisation and governance of the "new" supply chain

1- Boundaries of the supply chain and main actors

- **main actors of the "new" food supply chain**

a. How many producers are involved	15 producers/Green Heart Landshop owners (twelve dairy farmers, two farmers with arable production, one fruit grower) who are a member of the Green Heart Landshop co-operation. 5-15 suppliers from other regions (Wadden Islands, province of Zeeland etc).	
b. What is the farms' size	Unknown	
c. Who is the main initiator *(put a "x" in front)*	X	Producers
		First processors or pakkers
		Trade/wholesalers
		Independent stores
		Big retailer(s)
		Consumers
		Consumer associations
		Environmental associations
		Other associations
d. Describe in a few sentence the main initiator	15 farmers with professional farmshops feeling working together by means of a franchise concept (exchange products, marketing etc) could increase added value and thus income.	

- **Geographic limits of production**

a. What is Geographic limits of production *(put a "x" in front)*		Local
	X	Regional
		National
b. precise the localisation and describe in few sentences the specific characteristics of the territory *(environment , landscapes, tourism ...)*	The Green Heart Landshops are located in the Green Hearth of the Netherlands. That is the roughly the rural area between the three big city's: Amsterdam, Utrecht and Den Haag. Approximately 75% of the products are originated from this region. Production (sold in the shops) is linked to ecology and landscape. By using the name of the Green Heart the co-operative tries to couple the positive image of the Green Heart (rest, space, pleasure) to the shops and the products.	

- **Size of production**

a. Tons	?
b. Value at consumer level	*In 2002 the shops realised a total turnover of ± 1.7 million Euro.*

2- Collective organisation of the initiative

a. What is the type of collective organisation *(put a "x" in front)*		Formal private collective organisation
		Open group (code of practices, free entry of new members)
	X	Club (code of practices, selection of new members)

b. What is the operating structure *(many answers possible, put a number ordered according to importance)*		Producers' association
	X	Co-operative
		Consortio or FSC collective private structure without any commercial activity
		Channel captain (processing firm, big retail)
		Certification organisation
		Regional public institution (label)
		National public institution
		Other (to be specified):…….
c. describe in few sentences the operation structure(s)(type, name) and its (their) main missions such as: definition of a code of practices, quality control, promotion, research and development, lobbying, contract templates, management of volumes , price fixing....	Code of practice: The Green Heart Hallmark has to quarantee the quality of the shops as well as the quality of the Green Hearth products, this means: • The shop has to meet conditions with respect to the assortment, the ambience of the shop, distance between the shops etc. • Production has to meet conditions with respect to: - Production and processing in the Green Hearth (resulting in: keeping added value in the region, short distribution channel, high involvement of consumers) - Demonstrable animal and environmental friendly way of producing - Attention for region specific nature and landscape • The members of the co-operative are doing the development and management of the Green Heart Landshop concept and also are using the concept.	
3- Social history of the initiative		
➢ **Birth**		
a. When?	1997	
b. Who?	A group of four dairy farmers and the farmer lobby organisation WLTO	
c. Where?	The Green Heart of the Netherlands	
➢ **Main objectives and intended beneficiaries at this time?** *(please, order)*		
a. Order to put a number in front	2	Environmental
	3	Socio-territorial
	1	Economic
b. Please precise these first motives, objectives and start difficulties	Motives: costprice strategy is a dead end street for agriculture in the Green Heart. Producing, processing, marketing has to be done on a different way Objective: the development of a self-controlled franchise (shop) concept concerning the selling of (Green Heart) products with special product qualities through professional farmshops in the Green Heart. Shopconcept has to result in a higher price for the products and to a better income. Start difficulties: high development costs (limited availability of cheap capital), required energy (for upscaling and professionalisation), time needed to reach the "critical mass" (volumes and number of shops) needed for efficient distribution, promotion and product development.	
➢ **Main historical key events until now**		
a. Precise the main events in the history of the initiative	may 2000: expansion of the shop concept to 8 shops Nov. 2000: formation of the Green Heart Landshop Co-operative U.A. May 2001: expansion of the shop concept to 12 shops Sept. 2001: introduction of the Green Heart Dairy productline in glass package Jan. 2003: agreement for co-operation with similar farmshop concepts in the Netherlands (Boerderij Plus winkels: 7 shops; Vallei Landwinkel: 7 shops;	

	Achterhoek Landwinkel: 5 shops) May 2003: expansion of the shop concept to 15 shops		
➢ **Future: main plans and intentions & bottlenecks**			
a. Describe the key ambitions, challenges in sustaining the initiative	Key ambition: • Expansion of the Green Heart Landshop concept to at least 20 shops in 2004/5 which is needed for the privatisation of the shopconcept • Development of other marketing channels next to Green Heart Landshops where the surplus of Green Heart products can be sold Challenge: • Development of a (franchise)concept for national co-operation between professional farmshops in the Netherlands		
b. Describe the main bottlenecks	• Conflict of interests between farmers who don't have products for selling in other market channels next to the Green Heart Landshops and those who have. • Members who don't stand by the agreements • Distribution which fulfil on the requirements (costs, working method etc) of the shops • Differences in location and size between farmshops.		
4 - Marketing issues			
a. What is the distribution channel *(many answers possible, put a number ordered according to importance)*	1	Direct selling: selling products from the co-operation members and from 5-15 other regional suppliers by the fifteen farmshops	
		Farmers' markets	
		Specialised stores	
		Big retailers	
		Catering wholesaler	
		Restaurants	
		Other (to be specified):	
b. What are the relevant consumer markets *(many answers possible, put a number ordered according to importance)*	1	Local	
	2	Regional	
		National	
		European	
		International	
c. How are the products labelled *(many answers possible, put a "x" in front and give the name of the label)*		Private label	Name:
	X	Collective brand	Name: Green Heart Landshop, Green Heart product
		Regional label	Name:
	X	National label	Name: Acknowledged Regional Product (Erkend Streekproduct), Milieukeur, EKO
		European label	Name:
B- Sustainability profile			
a. Put a "x" in front of items presented by initiative's actors themselves through websites, flyers, promotion events.	**Agri-environmental**		
		Biodiversity	
		Preservation of specific species/races	
		Soil erosion	
		Water quality	
	X	Animal welfare	
	X	Food-miles	
		Other important aspects (to be specified):…….	
	Socio-territorial		
		Regional employment an preservation of rural communities	

	X	Food quality and typicity
	X	Preservation of landscapes
		Mountain (marginal) areas keeping
		Resistance to sprawl
	X	Agri tourism
		Other important aspects (to be specified):…….
	Economic	
	X	Producers' income
		Possible succession for farms
	X	Farmers' quality of life
	X	Higher net value per unit of product
	X	Higher net value added on regional level
		Other important aspects (to be specified):…….
b. Possible remarks on the above mentioned items (can results be measured, do initiatives statements represent reality)	• The initiative raised the agricultural income, however they often do not take into account the working hours needed to start up and expanding the initiative. • It can be difficult to measure which economic results are caused by the initiative and which are caused by other aspects. In addition not all the farmers have made a distinction between the shop and production activity in the accounting. • The typicity of some of the products (milkproducts, ice-cream) from the initiative with respect to regular products can be questioned.	
C- Institutional support		
a. Which level support the initiative *(many answers possible, put a number ordered according to importance)*	4	Local
	2	Regional
	3	Sector
	1	National
		European
b. Precise the institution and the type of support: laws, subsidies, studies, investments credit, etc.... (and opposition?)	Subsidies: From 1997 – 2003 the initiative has received approximately 350.000 Euro subsidies for the development of the co-operative and the Green Heart Landshop concept. The following institutions were giving financial support: • farmer lobby organisation WLTO (1997/98/99) • local banks (Rabobank) from the Green Heart (2000) • the ministry of agriculture (2000/2001/2002/2003) • province of Noord Holland, Zuid Holland and Utrecht (2000/2001/2002/2003)	
c. Describe institutions and regulations created by the initiative?	• Development of a production protocol for cheese and milkproducts from the Green Heart • Development of a shopconcept protocol • Development of a manual for the users of the Green Hearth shop concept	

Database of Sustainable food supply chains initiatives (WP2)

O - General Information

a. Name of the Initiative	Waddengroep foundation
b. Type of Products	Assortment of 135 products: Dairy (cheese, milkproducts), processed fruit-products (wine, jams, syrups etc), beer, tea, honey, mustard etc

A- Organisation and governance of the "new" supply chain

1- Boundaries of the supply chain and main actors

- **main actors of the "new" food supply chain**

a. How many producers are involved	±45	
b. What is the farms' size		
c. Who is the main initiator *(put a "x" in front)*	X	Producers
	X	First processors or pakkers
	X	Trade/wholesalers
		Independent stores
		Big retailer(s)
		Consumers
		Consumer associations
		Environmental associations
		Other associations
d. Discribe in a few sentence the main initiator	Three initiators: Sint Donatus: a mixed farm with dairy and arable crops, an organic wholesaler and the Wrâldfrucht foundation (interestgroup for growers and processors of typical fruit products) are worried about the future of agriculture on the Wadden Islands; share the same interest in developing a clear marketing concept for regional products with specific qualities (small scale, organic or alternative)	

- **Geographic limits of production**

a. What is Geographic limits of production *(put a "x" in front)*		Local
	X	Regional
		National
b. precise the localisation and describe in few sentences the specific characteristics of the territory *(environment , landscapes, tourism ...)*	The production for the Waddengroup foundation is located on the Wadden Islands (Northern Dutch coastline) and the Northern province Friesland. Production is linked to local ecology and landscape. By using the name and ideograph of the Islands the Waddengroup tries to couple the healthy/pure image of the Islands to their products and shops (since 2003 introduction Waddengold shop)	

- **Size of production**

a. Tons	
b. Value at consumer level	3.2 million Euro (1999)

2- Collective organisation of the initiative

a. What is the type of collective organisation *(put*		Formal private collective organisation
		Open group (code of practices, free entry of new members)

a "x" in front)	X	Club (code of practices, selection of new members) (since 2003 the Waddenfoundation has chosen for an opengroup structure by introduction of a new hallmark "Waddengold"
b. What is the operating structure *(many answers possible, put a number ordered according to importance)*		Producers' association
		Co-operative
		Consortio or FSC collective private structure without any commercial activity
		Channel captain (processing firm, big retail)
	X	Certification organisation and a development organisation (product and market development)
		Regional public institution (label)
		National public institution
		Other (to be specified):…….
c. describe in few sentences the operation structure(s) (type, name) and its (their) main missions such as: definition of a code of practices, quality control, promotion, research and development, lobbying, contract templates, management of volumes , price fixing....	Code of practice: Produce according the sustainability hallmark Acknowledged Regional Product, this means: • Production and processing in the Wadden region (resulting in: keeping added value in the region, short distribution channel, high involvement of consumers) • Demonstrable animal and environmental friendly way of producing • Attention for region specific nature and landscape - Licensees (45 producers, 25 processors) are contractually obliged to pay royalties, which is used to finance the product and market development activities. - Demand site is guiding for development activities (new products, new processors, new brands etc) - Delivering of ± 500 outlets.	
3- Social history of the initiative		
➢ **Birth**		
a. When?	1996	
b. Who?	Mark van Rijsselberghe (representing Sint Donatus), Henk Pilat (representing Wrâldfrucht Foundation)	
c. Where?	Texel (one of the Wadden Islands)	
➢ **Main objectives and intended beneficiaries at this time?** *(please, order)*		
a. Order to put a number in front	2	Environmental
	3	Socio-territorial
	1	Economic
b. Please precise these first motives, objectives and start difficulties	Motives: costprice strategy is a dead end street for agriculture on the Islands. Producing, processing and marketing has to be done on a different way. Objective: to develop a clear marketing concept concerning sustainability, region of origin and specific product qualities and with that realising a good price quality ration and thus added value. Start difficulties: required energy (little knowledge available concerning organic farming, processing and marketing) high development costs, unclear definition of quality, continuity of delivery.	
➢ **Main historical key events until now**		
a. Precise the main events in the history of the initiative	1996: processing of typical fruit from the Wrâldfrucht foundation into Waddenproducts, introduced under the Waddendelicatessen trademark	

	2003: launching of the "Waddengold" regional brand		
➢ **Future: main plans and intentions & bottlenecks**			
a. Describe the key ambitions, challenges in sustaining the initiative	Key ambition: to offer the agricultural farmers on the Wadden Islands and Friesland an adequate producing and trading alternative (good price, sufficient selling quantities) by a short supply chain and step by step growth Challenge: a break through of Waddengroup products within regional supermarkets		
b. Describe the main bottlenecks	Produce more economic/efficient (scale up) and in the meantime persist in keeping up quality-standards and exclusivity. Market growth is blocked because the owner of the private trademarks (who are becoming stronger than the collective trademark) is protecting his market position. There is not an adequate criterion for downsizing the assortment Its difficult to change the former agreements (with respect to price, volumes) between producers (Wraldfrucht cooperation) and distributors who are not suitable anymore in the current situation.		
4 - Marketing issues			
a. What is the distribution channel *(many answers possible, put a number ordered according to importance)*	4	Direct selling	
	5	Farmers' markets	
	2	Specialised stores (organic shops)	
	3	Supermarkets on the Wadden Islands	
	1	Wholesalers	
	6	Restaurants	
		Other (to be specified):	
b. What are the relevant consumer markets *(many answers possible, put a number ordered according to importance)*		Local	
	1	Regional	
	2	National	
		European	
		International	
c. How are the products labelled *(many answers possible, put a "x" in front and give the name of the label)*	3	Private labels	Name: Waddenzuivel, Waddendelicatessen, Wattendelicatessen, Amelandsproduct, Noord Hollands Natuurlijk
	1	Collective brand	Name: Waddenproducts, Waddengold
		Regional label	Name:
	2	National label	Name: Acknowledged Regional Product (Erkend Streekproduct), Milieukeur, EKO
		European label	Name:
B- Sustainability profile			
a. Put a "x" in front of items presented by initiative's actors themselves through websites, flyers, promotion events.	**Agri-environmental**		
	X	Biodiversity	
	X	Preservation of specific species/races	
		Soil erosion	
		Water quality	
	X	Animal welfare	
	X	Food-miles	
		Other important aspects (to be specified):…….	
	Socio-territorial		
		Regional employment an preservation of rural communities	
	X	Food quality and typicity	

	X	Preservation of landscapes
		Mountain (marginal) areas keeping
		Resistance to sprawl
	X	Agri tourism
		Other important aspects (to be specified):…….
	Economic	
	X	Producers' income
		Possible succession for farms
		Farmers' quality of life
	X	Higher net value per unit of product
	X	Higher net value added on regional level
		Other important aspects (to be specified):…….
b. Possible remarks on the above mentioned items (can results be measured, do initiatives statements represent reality)	Statements represents reality (see also Living Countrysides, 2002)	
C- Institutional support		
a. Which level support the initiative *(many answers possible, put a number ordered according to importance)*		Local
	2	Regional: province of Friesland
		Sector
		National
	1	European: (Leader program)
b. Precise the institution and the type of support: laws, subsidies, studies, investments credit, etc.... (and opposition?)	Subsidies for product and market development from the Leader + program	
c. Discribe institutions and regulations created by the initiative?		

Database of Sustainable food supply chains initiatives (WP2)

O - General Information

a. Name of the Initiative	Green Hat "gate between city and countryside" (Groene Hoed poort tussen stad en ommelanden)
b. Type of Products	Fresh fruit (apples, pears) vegetables (potatoes, onions etc), processed fruit. For future delivery of meat, dairy products (cheese, milkproducts)

A- Organisation and governance of the "new" supply chain

1- Boundaries of the supply chain and main actors

- **main actors of the "new" food supply chain**

a. How many producers are involved	70 producers	
b. What is the farms' size		
c. Who is the main initiator *(put a "x" in front)*	X	Producers
		First processors or pakkers
	X	Trade/wholesalers/distributor
		Independent stores
		Big retailer(s)
		Consumers
		Consumer associations
		Environmental associations
		Other associations
d. Discribe in a few sentence the main initiator	Two former pioneers (producers) of the Waterland meat initiative (sale and produce of regional cow and sheep meat with specific product qualities) and a distributor/salesman are convinced that integration of all sustainable initiatives in the region (by a new marketing/distribution concept) is necessary for upscaling and professionalisation.	

- **Geographic limits of production**

a. What is Geographic limits of production *(put a "x" in front)*		Local
	X	Regional
		National
b. precise the localisation and describe in few sentences the specific characteristics of the territory *(environment , landscapes, tourism ...)*	The production for the Green Hat initiative is located in the province North Holland (The rural area to the North and North- West of Amsterdam). Production is linked to local ecology and landscape. Co-operation with landscape organisations by using each others communication channels to attract customers.	

- **Size of production**

a. Tons	
b. Value at consumer level	The concept is in the experimental phase concerning the selling of fruit and vegetables by a limited number of selling points (garden centres). Turnover with this experiment (at consumer level) is approximately 50.000 Euro a year (price on farm ± 2-3 times higher than current price)

2- Collective organisation of the initiative

a. What is the type of collective organisation *(put a "x" in front)*		Formal private collective organisation
		Open group (code of practices, free entry of new members)
	X	Club (code of practises, selection of new members
b. What is the operating structure *(many answers possible, put a number ordered according to importance)*	X	Producers' association (the definitive structure will be determined during or after the experiments)
		Co-operative
		Consortio or FSC collective private structure without any commercial activity
		Channel captain (processing firm, big retail)
		Certification organisation
		Regional public institution (label)
		National public institution
		Other (to be specified):…….
c. describe in few sentences the operation structure(s)(type, name) and its (their) main missions such as: definition of a code of practices, quality control, promotion, research and development, lobbying, contract templates, management of volumes , price fixing….	Code of practice: Production according the sustainability hallmark Acknowledged Regional Product, this means: • Production and processing in the region (resulting in: keeping added value in the region, short distribution channel, high involvement of consumers) • Demonstrable animal and environmental friendly way of producing • Attention for region specific nature and landscape - Volumes and quality are determined by the demand of the selling points. The producer clusters regulate aspects like: which producer is in turn of delivery, packaging, quality aspects etc. - Extensive management of business connections, especially with the managers of the selling points - Growth by acquisition of new selling points - Sales to 4 garden centres and to a catering wholesaler	
3- Social history of the initiative		
➢ **Birth**		
a. When?	2000	
b. Who?	70 producers	
c. Where?	The province of North Holland	
➢ **Main objectives and intended beneficiaries at this time?** *(please, order)*		
a. Order to put a number in front	2	Environmental
	3	Socio-territorial
	1	Economic
b. Please precise these first motives, objectives and start difficulties	Motives: The limited possibilities to decrease costprice in this region and the limited willingness to pay, by current (anonymous) marketing channels, for products with specific product qualities. Objective: the development of self-controlled distribution and marketing concept for products with specific product qualities, resulting in a higher price. Start difficulties: delivering of year-round regional assortment, high development costs to start up experiments.	
➢ **Main historical key events until now**		
a. Precise the main events in the history of the initiative	2002: An agreement with a regional chain of garden centres to experiment with the selling of fresh-fruit, processed fruit and vegetables in their stores.	
➢ **Future: main plans and intentions & bottlenecks**		
a. Describe the key ambitions,	Key ambition: to offer the associated producers an adequate producing and	

challenges in sustaining the initiative	trading alternative (good price, sufficient selling quantities) by a short supply chain, step by step growth and scaling-up the initiative Challenge: to realise a multifunctional physical service centre near Amsterdam where city and countryside are connected. This means that societal organisations, the Green Hat organisation (logistics and marketing), a restaurant owner etc. work together and offer services to producers and consumers in the same building.		
b. Describe the main bottlenecks	The participation and involvement of so many organisations (societal organisations, government) and producers can decrease flexibility Cost of quality systems who are developed for Produce and distribute more economic/efficient and in the meantime persist in keeping up quality standards, customer service and exclusivity		
4 - Marketing issues			
a. What is the distribution channel *(many answers possible, put a number ordered according to importance)*		Direct selling	
		Farmers' markets	
		Specialised stores	
		Big retailers	
	2	Catering wholesaler	
	3	Restaurants	
	1	Other (to be specified): Garden centres	
b. What are the relevant consumer markets *(many answers possible, put a number ordered according to importance)*		Local	
	1	Regional	
		National	
		European	
		International	
c. How are the products labelled *(many answers possible, put a "x" in front and give the name of the label)*	1	Private label	Name: Green Hat
		Collective brand	Name:
	3	Regional label	Name: Waterlands Weelde
	2	National label	Name: Acknowledged Regional Product (Erkend Streekproduct), Milieukeur, EKO
		European label	Name:

B- Sustainability profile

a. Put a "x" in front of items presented by initiative's actors themselves through websites, flyers, promotion events.	**Agri-environmental**	
	X	Biodiversity
	X	Preservation of specific species/races
		Soil erosion
		Water quality
	X	Animal welfare
	X	Food-miles
		Other important aspects (to be specified):…….
	Socio-territorial	
		Regional employment an preservation of rural communities
	X	Food quality and typicity
	X	Preservation of landscapes
		Mountain (marginal) areas keeping
		Resistance to sprawl
	X	Agri tourism
		Other important aspects (to be specified):…….
	Economic	

	X	Producers' income
		Possible succession for farms
	X	Farmers' quality of life
	X	Higher net value per unit of product
		Higher net value added on regional level
		Other important aspects (to be specified):…….
b. Possible remarks on the above mentioned items (can results be measured, do initiatives statements represent reality)	Statements represents reality, with the remark that the initiative still is in an experimental phase	
C- Institutional support		
a. Which level support the initiative *(many answers possible, put a number ordered according to importance)*		Local
	1	Regional
	2	Sector
	3	National
		European
b. Precise the institution and the type of support: laws, subsidies, studies, investments credit, etc.... (and opposition?)	A large number of organisations (societal organisations, local, regional and national government) are willing to contribute to the initiative. Because of the experimental phase the type of support (financial or facility) is not clear. A lot of advice of persons involved in the marketing and distribution of food	
c. Discribe institutions and regulations created by the initiative?		

Database of Sustainable food supply chains initiatives (WP2)

O - General Information

a. Name of the Initiative	**KEMPER SPECIAL POULTRY**
b. Type of Products	Special high-quality poultry (chicken and guinea fowl)

A- Organisation and governance of the "new" supply chain

1- Boundaries of the supply chain and main actors

- **main actors of the "new" food supply chain**

a. How many producers are involved	± 30 farmers	
b. What is the farms' size	Small-scale family farms	
c. Who is the main initiator *(put a "x" in front)*	X	Producers
		First processors or packers
		Trade/wholesalers
		Independent stores
		Big retailer(s)
		Consumers
		Consumer associations
		Environmental associations
		Other associations
d. Describe in a few sentence the main initiator	One person, Herman Kemper, with an ideal to produce real, traditionally grown and tasty chickens, on animal-friendly, small-scale poultry farms. The supply chain is integrated within the Kemper Chicken production (breeding, production, slaughter, sales). The motto of Kemper is: "I prefer to have 100 farms with 1000 birds instead of 10 farms with 10000 birds".	

- **Geographic limits of production**

a. What is Geographic limits of production *(put a "x" in front)*		Local
	x	Regional
		National
b. precise the localisation and describe in few sentences the specific characteristics of the territory *(environment , landscapes, tourism ...)*	-The chicken farms are located in The Achterhoek (east Netherlands, an area with a small-scale landscape). -The guinea fowl farms mainly are situated in the southern provinces Brabant and Limburg. -There is no link with local ecology or landscape.	

- **Size of production**

a. Tons	± 15.000 chickens a week (= ± 5,5 million a year = ± 13 million KGs)	
b. Value at consumer level		

2- Collective organisation of the initiative

a. What is the type of collective organisation *(put a "x" in front)*		No formal private collective organisation
		Open group (code of practices, free entry of new members)
	X	Club (code of practices, selection of new members)
b. What is the operating structure *(many answers*	1	Producers' association
		Co-operative

possible, put a number ordered according to importance)		Consortio or FSC collective private structure without any commercial activity
		Channel captain (processing firm, big retail)
		Certification organisation
		Regional public institution (label)
		National public institution
		Other (to be specified):…….
c. describe in few sentences the operation structure(s) (type, name) and its (their) main missions such as: definition of a code of practices, quality control, promotion, research and development, lobbying, contract templates, management of volumes, price fixing....	-A well thought out crossing (secret) of slow growing chicken-breeds (9 weeks instead of 6 weeks). -100% plant-based feed (secret composition, no animal fat or protein), without anything added like antibiotics or other growth promoters. -Size of the possible sales is decisive for the size of the production (sales come first, then production is planned). -Welfare: the poultry houses all have straw or wood-dipping on the ground and a lot of natural light + two times as much room as in conventional systems. The chickens can go outside and walk in the grass or underneath trees and bushes. -Long-term contracts with the farmers involved; fixed price (there has to an income for every chain-partner: price estimation more than 2 times as high as for conventional products). -Of every flock samples are taken for the monitoring of Salmonellas and Campylobacter. With a numbering system the animals are always traceable. -Own slaughterhouse, working according to traditional methods (to prevent stress, a.o. considering taste)	
3- Social history of the initiative		
➢ **Birth**		
a. When?	1991	
b. Who?	Poultry-farmer Herman Kemper	
c. Where?	Achterhoek (eastern Netherlands)	
➢ **Main objectives and intended beneficiaries at this time?** *(please, order)*		
a. Order to put a number in front	2	Environmental
		Socio-territorial
	1	Economic
b. Please precise these first motives, objectives and start difficulties	-Motive: To produce traditionally grown and tasty chickens with a higher price, on animal-friendly and small-scale poultry farms. -Start difficulties: high investments.	
➢ **Main historical key events until now**		
a. Precise the main events in the history of the initiative	Find the 'new breed' (crossing) and 'food-concept' (both are secret).	
➢ **Future: main plans and intentions & bottlenecks**		
a. Describe the key ambitions, challenges in sustaining the initiative	-Ambitions: on the long run step-by-step growth on the basis of a growing demand. On the short run overcome the problems due to avian influenza.	
b. Describe the main bottlenecks	-Avian influenza: economic problems of the involved farmers, maybe the loss of a part of the market, etc. -recession (possible decrease of the demand)	
4 - Marketing issues		
a. What is the distribution channel *(many answers possible, put a number ordered according to importance)*		Direct selling
		Farmers' markets
	1	Specialised stores
	1	Big retailers
		Restaurants

		Other (to be specified):…….	
b. What are the relevant consumer markets *(many answers possible, put a number ordered according to importance)*		Local	
		Regional	
	1	National	
		European	
		International	
c. How are the products labelled *(many answers possible, put a "x" in front and give the name of the label)*	X	Private label	Name: Kemper
		Collective brand	Name:
		Regional label	Name:
		National label	Name:
		European label	Name:

B- Sustainability profile

a. Put a "x" in front of items presented by initiative's actors themselves through websites, flyers, promotion events.	**Agri-environmental**	
		Biodiversity
		Preservation of specific species/races
		Soil erosion
		Water quality
	X	Animal welfare
		Food-miles
		Other important aspects (to be specified):…….
	Socio-territorial	
		Regional employment an preservation of rural communities
	X	Food quality and typicity
		Preservation of landscapes
		Mountain (marginal) areas keeping
		Resistance to sprawl
		Agri tourism
		Other important aspects (to be specified):…….
	Economic	
	X	Producers' income
		Possible succession for farms
	X	Farmers' quality of life
	X	Higher net value per unit of product
		Higher net value added on regional level
		Other important aspects (to be specified):…….
b. Possible remarks on the above mentioned items (can results be measured, do initiatives statements represent reality)	Statements represent reality, with the remark that the initiative still is in a vulnerable pioneer-phase; they are now somewhere in the region of the break-even point.	

C- Institutional support

a. Which level support the initiative *(many answers possible, put a number ordered according to importance)*		Local
		Regional
		Sector
		National
		European
b. Precise the institution and	No 'institutional' support. Despite the initiative quite well answer to a lot of goals	

the type of support: laws, subsidies, studies, investment credit, etc.... (and opposition?)	formulated by a.o. the Province of Gelderland, an opening to subsidy-money always got stuck into bureaucratic procedures (resulting in frustration etc. and now as a matter of principle Kemper doesn't participate in the subsidy-circus anymore)
c. Describe institutions and regulations created by the initiative?	

Database of Sustainable food supply chains initiatives (WP2)

O - General Information

a. Name of the Initiative	**LIVAR** (Limburgs VARken*: Limburg pig*)
b. Type of Products	Special high-quality pig-meat

A- Organisation and governance of the "new" supply chain

1- Boundaries of the supply chain and main actors

- **main actors of the "new" food supply chain**

a. How many producers are involved	6 (5 pig-farmers, 1 monastery)	
b. What is the farms' size	Not relevant, for the time being the initiative concern only a small part of the farms	
c. Who is the main initiator *(put a "x" in front)*	X	Producers
		First processors or packers
		Trade/wholesalers
		Independent stores
		Big retailer(s)
		Consumers
		Consumer associations
		Environmental associations
		Other associations
d. Describe in a few sentence the main initiator	A group of 5 'normal' pig farmers who are worried about the future of pig-farming, feeling current strategy in the pig-sector is a dead end and who try to realise a specific and distinctive product with a higher price to get more control on their own future.	

- **Geographic limits of production**

a. What is Geographic limits of production *(put a "x" in front)*		Local
	x	Regional
		National
b. precise the localisation and describe in few sentences the specific characteristics of the territory *(environment , landscapes, tourism ...)*	The end-production is located on a monastery: this monastery is the specific eye-catcher/visiting card and place where a.o. top-cooks can have a look at the specific way of keeping pigs. The involved 5 pig-farmers all are located in Limburg (north/middle). There is no link with the local ecology or landscape.	

- **Size of production**

a. Tons	200 Livar-pigs a year
b. Value at consumer level	? price of-farm ± 2-3 times higher than current price

2- Collective organisation of the initiative

a. What is the type of collective organisation *(put a "x" in front)*		No formal private collective organisation
		Open group (code of practices, free entry of new members)
	X	Club (code of practices, selection of new members
b. What is the operating structure *(many answers*	1	Producers' association
		Co-operative

possible, put a number ordered according to importance)		Consortio or FSC collective private structure without any commercial activity
		Channel captain (processing firm, big retail)
		Certification organisation
		Regional public institution (label)
		National public institution
		Other (to be specified):…….
c. describe in few sentences the operation structure(s)(type, name) and its (their) main missions such as : definition of a code of practices, quality control, promotion, research and development, lobbying, contract templates, management of volumes , price fixing....	-Code of practice: a) own 'Livar-breed' (combination of old pig-breeds from several countries; tastier, more intra-muscular fat etc.). b) feed: only Dutch grown cereals, peas and beans (resulting in a better taste). c) Low-stress transport and slaughter procedures (because of taste; partnership with local slaughterhouse and with Dumeco) d) HACCP, ISO -Extensive management of business connections, especially with cooks of exclusive restaurants and some top-butchers. Step-by-step growth on the basis of extensive communication with potential customers. -Sales to ± 50 exclusive restaurants and 4 selected butchers.	
3- Social history of the initiative		
➢ **Birth**		
a. When?	1999	
b. Who?	5 pig-farmers	
c. Where?	North/middle Limburg	
➢ **Main objectives and intended beneficiaries at this time?** *(please, order)*		
a. Order to put a number in front		Environmental
		Soci0-territorial
	1	Economic
b. Please precise these first motives, objectives and start difficulties	Motives: The thought "it has to be done differently", the wish to escape from the cost-price rat-race and bad image of pig-production and to get more satisfaction and pleasure in their work. Objective: to develop a authentic quality product with distinction (taste + 'a good story') and a higher price and self-controlled market-channels. Start difficulties: The required energy (unknown field, making the switch from talking to colleagues to clients etc.) and high development costs.	
➢ **Main historical key events until now**		
a. Precise the main events in the history of the initiative	The step to make contact with the monastery: crucial for the real start of the initiative and the required exposure to attract attention of potential clients.	
➢ **Future: main plans and intentions & bottlenecks**		
a. Describe the key ambitions, challenges in sustaining the initiative	Key ambition: Step-by-step growth and scaling up to ± 5000 pigs. Challenge: expansion of the number of exclusive clients.	
b. Describe the main bottlenecks	Produce more economic/efficient (scale up) and in the meantime persist in keeping up quality-standards and exclusivity.	
4 - Marketing issues		
a. What is the distribution channel *(many answers possible, put a number ordered according to importance)*		Direct selling
		Farmers' markets
	2	Specialised stores
		Big retailers
	1	Restaurants
		Other (to be specified):…….

b. What are the relevant consumer markets *(many answers possible, put a number ordered according to importance)*		Local	
	1	Regional	
	2	National	
		European	
		International	
c. How are the products labelled *(many answers possible, put a "x" in front and give the name of the label)*	X	Private label	Name: Livar
		Collective brand	Name:
		Regional label	Name:
		National label	Name:
		European label	Name:

B- Sustainability profile

a. Put a "x" in front of items presented by initiative's actors themselves through websites, flyers, promotion events.	**Agri-environmental**	
		Biodiversity
		Preservation of specific species/races
		Soil erosion
		Water quality
	X	Animal welfare
		Food-miles
		Other important aspects (to be specified):…….
	Socio-territorial	
		Regional employment an preservation of rural communities
	X	Food quality and typicity
		Preservation of landscapes
		Mountain (marginal) areas keeping
		Resistance to sprawl
		Agri tourism
		Other important aspects (to be specified):…….
	Economic	
	X	Producers' income
		Possible succession for farms
	X	Farmers' quality of life
	X	Higher net value per unit of product
		Higher net value added on regional level
		Other important aspects (to be specified):…….
b. Possible remarks on the above mentioned items (can results be measured, do initiatives statements represent reality)	Statements represent reality, with the remark that the initiative still is in a vulnerable pioneer-phase; they are now somewhere in the region of the break-even point.	

C- Institutional support

a. Which level support the initiative *(many answers possible, put a number ordered according to importance)*		Local
		Regional
		Sector
		National
		European
b. Precise the institution and the type of support: laws, subsidies, studies,	No real 'institutional' support (nothing known about subsidies ???) A lot of advice of persons involved in the marketing of food.	

investments credit, etc.... (and opposition?)	
c. Describe institutions and regulations created by the initiative?	

Database of Sustainable food supply chains initiatives (WP2)

O - General Information

a. Name of the Initiative	ECOMEL-GROENE KOE -ZUIVER ZUIVEL
b. Type of Products	Dairy products - cheese

A- Organisation and governance of the "new" supply chain

1- Boundaries of the supply chain and main actors

- **main actors of the "new" food supply chain**

a. How many producers are involved	120 dairy farmers	
b. What is the farms' size	varies	
c. Who is the main initiator *(put a "x" in front)*		Producers
	X	First processors or pakkers
		Trade/wholesalers
		Independent stores
		Big retailer(s)
		Consumers
		Consumer associations
		Environmental associations
		Other associations
d. Discribe in a few sentence the main initiator	The main initiator is the organic dairy co-operative ECOMEL, which is an independent bussinessunit of the Campina dairy co-operative. Campina is one of the largest dairy processors in the Netherlands. ECOMEL is market leader for organic dairy products in the Netherlands. The factory is based in the south of the Netherlands and has apr. 50 employees. ECOMEL produces milk products under different brand names (Groene Koe, Zuiver Zuivel and supermarket brands (AH)). they supply to specialised organic shops, supermarkets and other processing companies in the Netherlands and in Germany, Belgium and Luxembourg. All products apply to HACCP and SKAL certification. Products of Zuiver Zuivel are also subjected to the DEMETER certification for biodynamic agriculture.	

- **Geographic limits of production**

a. What is Geographic limits of production *(put a "x" in front)*		Local
		Regional
	X	National
b. precise the localisation and describe in few sentences the specific characteristics of the territory *(environment , landscapes, tourism ...)*	ECOMEL is based in the south of the Netherlands, but its dairy farmers produce throughout the Netherlands. The territory for ECOMEL is thus the Netherlands as a whole. This means a variety of historically embedded man made landscapes from polders in the west and north to sandy soils in the east and south.	

- **Size of production**

a. Tons	36 million litres of milk, turnover
b. Value at consumer level	€27,5 million with a 20% growth of the market each year.

2- Collective organisation of the initiative

a. What is the type of collective organisation *(put a "x" in front)*	X	Formal private collective organisation
		Open group (code of practices, free entry of new members)
		Club (code of practices, selection of new members
b. What is the operating structure *(many answers possible, put a number ordered according to importance)*		Producers' association
	X	Co-operative (organic dairy farmers are owner of ECOMEL)
		Consortio or FSC collective private structure without any commercial activity
	X	Channel captain (processing firm, big retail) (ECOMEL)
		Certification organisation (SKAL)
		Regional public institution (label)
		National public institution
		Other (to be specified):…….
c. describe in few sentences the operation structure(s)(type, name) and its (their) main missions such as : definition of a code of practices, quality control, promotion, research and development, lobbying, contract templates, management of volumes , price fixing....	Website: Code of practices are defined by SKAL and HACCP. High quality production is used to bind consumers. Promotion of the products is focussed on offering the consumer strong brand with wide range of different dairy products (from fresh milk to butter, yoghurt and cheese). Reliable brand marketing. Furthermore, the use of different sale channels (both supermarkets as specialised stores) has proven to be a success.	
3- Social history of the initiative		
➢ **Birth**		
a. When?	In 2000, as a result of merging three independent small scale organic processing co-operatives as a independent business unit in the Campina holding.	
b. Who?	Campina	
c. Where?	Netherlands	
➢ **Main objectives and intended beneficiaries at this time?** *(please, order)*		
a. Order to put a number in front	3	Environmental
	2	Soci-territorial
	1	Economic
b. Please precise these first motives, objectives and start difficulties	First motive to merge was the necessity of enlargement of processing and production of dairy to compete on (international) markets.	
➢ **Main historical key events until now**		
a. Precise the main events in the history of the initiative	Phase 1 (till 2001): broad supply of products to specialised shops and only basic products in supermarkets Phase 2 (2001/2002): more products in supermarkets, development of strong brand, distribution in different channels enhanced. Investing in consumer (special offers and coupon actions). Expansion of products.	
➢ **Future: main plans and intentions & bottlenecks**		
a. Describe the key ambitions, challenges in sustaining the initiative	Expand market Develop new products for (part time) organic consumer	
b. Describe the main bottlenecks	Saturation of organic milk market	
4 - Marketing issues		
a. What is the distribution		Direct selling

channel *(many answers possible, put a number ordered according to importance)*		Farmers' markets	
	X	Specialised stores	
	X	Big retailers	
	X	Restaurants	
	X	Other (to be specified): Processing industries	
b. What are the relevant consumer markets *(many answers possible, put a number ordered according to importance)*		Local	
		Regional	
	X	National	
	X	European	
		International	
c. How are the products labelled *(many answers possible, put a "x" in front and give the name of the label)*		Private label	Name:
		Collective brand	Name:
		Regional label	Name:
	X	National label	Name: SKAL/DEMETER
	X	European label	Name:
B- Sustainability profile (follows SKAL regulation)			
a. Put a "x" in front of items presented by initiative's actors themselves through websites, flyers, promotion events.	**Agri-environmental**		
	X	Biodiversity	
		Preservation of specific species/races	
	X	Soil erosion	
	X	Water quality	
	X	Animal welfare	
		Food-miles	
		Other important aspects (to be specified):…….	
	Socio-territorial		
		Regional employment an preservation of rural communities	
		Food quality and typicity	
	X	Preservation of landscapes	
		Mountain (marginal) areas keeping	
		Resistance to sprawl	
		Agri tourism	
		Other important aspects (to be specified):…….	
	Economic		
	X	Producers' income	
		Possible succession for farms	
		Farmers' quality of life	
		Higher net value per unit of product	
		Higher net value added on regional level	
		Other important aspects (to be specified):…….	
b. Possible remarks on the above mentioned items (can results be measured, do initiatives statements represent reality)	Ecomel supports through consumer actions and saving programmes actively the preservation of meadow birds (Grutto) and the planting of trees by farmers.		
C- Institutional support			
a. Which level support the initiative *(many answers possible, put a number ordered according to*	NA	Local	
		Regional	
		Sector	

importance)		National
		European
b. Precise the institution and the type of support: laws, subsidies, studies, investments credit, etc.... (and opposition?)	Probably farmers could obtain a subsidy for converting their farm into organic under 2078/92	
c. Discribe institutions and regulations created by the initiative?		

Database of Sustainable food supply chains initiatives (WP2)

O - General Information

a. Name of the Initiative	Bolletje
b. Type of Products	Bakery products (biscuit rusk, cookies ect.)

A- Organisation and governance of the "new" supply chain

1- Boundaries of the supply chain and main actors

- **main actors of the "new" food supply chain**

a. How many producers are involved	?	
b. What is the farms' size	?	
c. Who is the main initiator *(put a "x" in front)*		Producers
	X	First processors or packers
		Trade/wholesalers
		Independent stores
		Big retailer(s)
		Consumers
		Consumer associations
		Environmental associations
		Other associations
d. Describe in a few sentence the main initiator	Bolletje has introduced a new product line "Landoogst". For this productline it use free-range eggs and wheat with restrictions for pesticide use.	

- **Geographic limits of production**

a. What is Geographic limits of production *(put a "x" in front)*		Local
		Regional
	x	National
b. precise the localisation and describe in few sentences the specific characteristics of the territory *(environment , landscapes, tourism ...)*	No specific territory	

- **Size of production**

a. Tons	?
b. Value at consumer level	? Products are sold in almost al supermarkets in the Netherlands

2- Collective organisation of the initiative

a. What is the type of collective organisation *(put a "x" in front)*	x	Formal private collective organisation
		Open group (code of practices, free entry of new members)
		Club (code of practices, selection of new members
b. What is the operating structure *(many answers possible, put a number ordered according to importance)*		Producers' association
		Co-operative
		Consortia or FSC collective private structure without any commercial activity
	x	Channel captain (processing firm, big retail)
		Certification organisation
		Regional public institution (label)

		National public institution	
		Other (to be specified):…….	
c. describe in few sentences the operation structure(s)(type, name) and its (their) main missions such as : definition of a code of practices, quality control, promotion, research and development, lobbying, contract templates, management of volumes , price fixing....	Bolletje is a bakery of biscuit rusk and cookies on an industrial scale. Bolletje buy wheat and eggproduct by its traditional suppliers with special requirements.		
3- Social history of the initiative			
➢ **Birth**			
a. When?	1999		
b. Who?	Bolletje		
c. Where?	Almelo (Town in the east of the Netherlands)		
➢ **Main objectives and intended beneficiaries at this time?** *(please, order)*			
a. Order to put a number in front	2	Environmental	
	3	Socio-territorial	
	1	Economic	
b. Please precise these first motives, objectives and start difficulties	The productline "landoogst" has a natural imago. For marketing reasons Bolletje uses eggs and wheat with higher production standards.		
➢ **Main historical key events until now**			
a. Precise the main events in the history of the initiative	Introduction 1999		
➢ **Future: main plans and intentions & bottlenecks**			
a. Describe the key ambitions, challenges in sustaining the initiative	Use of 'sustainable product' also in other products of Bolletje		
b. Describe the main bottlenecks	At the start not all the suppliers could supply the products with higher standards for sustainability but in a short time all suppliers could fulfil this requirements.		
4 - Marketing issues			
a. What is the distribution channel *(many answers possible, put a number ordered according to importance)*		Direct selling	
		Farmers' markets	
	x	Specialised stores	
	x	Big retailers	
		Restaurants	
		Other (to be specified):…….	
b. What are the relevant consumer markets *(many answers possible, put a number ordered according to importance)*		Local	
		Regional	
	X	National	
		European	
		International	
c. How are the products labelled *(many answers possible, put a "x" in front*	X	Private label	Name: Landoogst
		Collective brand	Name:
		Regional label	Name:

and give the name of the label)	X	National label	Name: Gecontroleerde teelt (Wheat)
	X	European label	Name: Free-range (eggs)
		None	

B- Sustainability profile

a. Put a "x" in front of items presented by initiative's actors themselves through websits, flyers, promotion events.	**Agri-environmental**	
		Biodiversity
		Preservation of specific species/races
		Soil erosion
		Water quality
	X	Animal welfare
		Food-miles
	X	Other important aspects (to be specified):environment in general
	Socio-territorial	
		Regional employment an preservation of rural communities
		Food quality and typicality
		Preservation of landscapes
		Mountain (marginal) areas keeping
		Resistance to sprawl
		Agri tourism
		Other important aspects (to be specified):…….
	Economic	
		Producers' income
		Possible succession for farms
		Farmers' quality of life
		Higher net value per unit of product
		Higher net value added on regional level
		Other important aspects (to be specified):…….
b. Possible remarks on the above mentioned items (can results be measured, do initiatives statements represent reality)		

C- Institutional support

a. Which level support the initiative *(many answers possible, put a number ordered according to importance)*		Local
		Regional
		Sector
		National
		European
	X	None
b. Precise the institution and the type of support: laws, subsidies, studies, investments credit, etc.... (and opposition?)		
c. Discribe institutions and regulations created by the initiative?		

Database of Sustainable food supply chains initiatives (WP2)

O - General Information

a. Name of the Initiative	EUREP-Gap (Euro Retailer Produce Working Group)
b. Type of Products	Business to business certification system

A- Organisation and governance of the "new" supply chain

1- Boundaries of the supply chain and main actors

- **main actors of the "new" food supply chain**

a. How many producers are involved	In future all producers of fresh fruits and vegetable produce which deliver produce to one of the members of the EUREP group e.g. Tesco, GB, Delhaize, Sainsbury, AH, ICA, Promodes. In 91% of the Dutch supermarkets all fresh fruits and vegetables will be EUREP-Gap certified from 1/1/2004	
b. What is the farms' size	variable	
c. Who is the main initiator *(put a "x" in front)*		Producers
		First processors or pakkers
		Trade/wholesalers
		Independent stores
	x	Big retailer(s): EUREP group e.g. Tesco, GB, Delhaize, Sainsbury, AH, ICA, Promodes, Coop (Italy).
		Consumers
		Consumer associations
		Environmental associations
		Other associations
d. Discribe in a few sentence the main initiator	See above	

- **Geographic limits of production**

a. What is Geographic limits of production *(put a "x" in front)*		Local
		Regional
	x	Supranational: all producers of fresh produce world-wide have to produce according to the EUREP-Gap standards. EUREP has extended its ambition to realise production standards to the Global Food Safety Initiative which extends to retailers outside Europe
b. precise the localisation and describe in few sentences the specific characteristics of the territory *(environment , landscapes, tourism ...)*	irrelevant	

- **Size of production**

a. Tons	?
b. Value at consumer level	?

2- Collective organisation of the initiative

a. What is the type of		Formal private collective organisation

collective organisation *(put a "x" in front)*	X	Open group (code of practices, free entry of new members) members are retailers and suppliers world-wide
		Club (code of practices, selection of new members
b. What is the operating structure *(many answers possible, put a number ordered according to importance)*		Producers' association
		Co-operative
		Consortio or FSC collective private structure without any commercial activity
	x	Channel captain (suppliers and retailers) facilitated by EHI-EuroHandelsinstitut e.V., a non-profit making, private research and education institute in Cologne, Germany. Until February 2001 EHI acted as international secretariat in the construction phase of EUREP. Since March 2001, EHI founded the independent daughter company FOODPLUS GmbH that acts from now on as global body, serves as legal owner of the normative document and hosts the EUREP Secretariat.
	x	Certification organisation on national level: All accredited Certification Bodies have received full ISO Guide 65 (EN 45011) accreditation to the scope of EUREPGAP "Fruit and Vegetables" and are fully approved to carry out EUREPGAP Certification. Various certification organisations in different countries of production
		Regional public institution (label)
		National public institution
		Other (to be specified) …….
c. describe in few sentences the operation structure(s)(type, name) and its (their) main missions such as : definition of a code of practices, quality control, promotion, research and development, lobbying, contract templates, management of volumes , price fixing....	Information from website: The normative document for certification has been developed from a European group of representatives from all stages in the fruit and vegetable sector with the support from producer organisations outside the EU. Early informal contacts with individual accreditation bodies during year 2000 helped to develop the strategy for the ambitious goal to announce the first accredited certificates in June 2001. In January 2001, all retailer and supplier members of EUREPGAP set-up a formalised representative decision making structure. A Council and a Technical and Standard Committee Fruit and Vegetable were created and given the responsibility for the continuous review process of the documents and procedures. Conclusion: EUREP jumped in the 'foodsafety and regulation gap' left by government en EU	
3- Social history of the initiative		
➢ **Birth**		
a. When?	Started as an initiative by retailers in 1997 the current version of the EUREPGAP document and procedures has been agreed among partners from the entire food chain for fruits and vegetables.	
b. Who?	retailers	
c. Where?	Facilitated by EHI Cologne, note no German supermarket has yet joined the EUREP	
➢ **Main objectives and intended beneficiaries at this time?** *(please, order)*		
a. Order to put a number in	1	Foodsafety

front	2	Worker safety	
	3	Environmental quality	
b. Please precise these first motives, objectives and start difficulties	Foodsafety is the driver of the initiative see above		
➢ **Main historical key events until now**			
a. Precise the main events in the history of the initiative	See above		
➢ **Future: main plans and intentions & bottlenecks**			
a. Describe the key ambitions, challenges in sustaining the initiative	The prospect for growth of EUREPGAP by providing international verification frameworks across a wide range of agricultural production sectors is by any estimation quite outstanding. EUREPGAP is in the pole position to become the global player in agricultural production standards and verification frameworks for fruits and vegetables. Retailers are resourcing globally and are facing increasing competition, pressure on profitability and an ever tightening regulatory environment. Food safety has lately become a top priority for many retailers. At the same time producer organisations from all continents have applied for EUREPGAP membership and look for integrated and cost effective solutions delivering reassurance on food safety. This provides an exciting opportunity for FOODPLUS/ EUREPGAP to develop a global integrity and harmonisation programme, a task that can only be successful with a strong and harmonised support of a European and ultimately global accreditation system. Extend the certification standards to all agricultural sectors: combinables, ornamentals, dairy and meat and in future also to processed food		
b. Describe the main bottlenecks	Lack of harmonisation of legal standards on European and global level. Baseline for the EUREP-Gap standards is national regulation		
4 - Marketing issues			
a. What is the distribution channel *(many answers possible, put a number ordered according to importance)*		Direct selling	
		Farmers' markets	
		Specialised stores	
	x	Big retailers	
		Restaurants	
		Other (to be specified):…….	
b. What are the relevant consumer markets *(many answers possible, put a number ordered according to importance)*		Local	
		Regional	
	x	National	
	x	European	
	x	International	
c. How are the products labelled *(many answers possible, put a "x" in front and give the name of the label)*		Private label	Name:
		Collective brand	Name:
		Regional label	Name:
		National label	Name:
		European label	Name: no (consumer) label business to business
B- Sustainability profile			
a. Put a "x" in front of items presented by initiative's	**Agri-environmental**		
	x	Biodiversity	

actors themselves through websites, flyers, promotion events.		Preservation of specific species/races
	x	Soil erosion
	x	Water quality
	x	Animal welfare
		Food-miles
	x	Other important aspects (to be specified): foodsafety
	Socio-territorial	
		Regional employment an preservation of rural communities
		Food quality and typicity
		Preservation of landscapes
		Mountain (marginal) areas keeping
		Resistance to sprawl
		Agri tourism
		Other important aspects (to be specified):…….
	Economic	
		Producers' income
		Possible succession for farms
		Farmers' quality of life
		Higher net value per unit of product
		Higher net value added on regional level
		Other important aspects (to be specified):…….
b. Possible remarks on the above mentioned items (can results be measured, do initiatives statements represent reality)	Standards are grouped in major and minor musts (most legal standards) and shoulds on for instance topics such as biodiversity where legal standards are absent	
C- Institutional support		
a. Which level support the initiative *(many answers possible, put a number ordered according to importance)*		Local
		Regional
		Sector
	x	National
	x	European
b. Precise the institution and the type of support: laws, subsidies, studies, investments credit, etc.... (and opposition?)	Only private support, in NL combined with EU funding for growers co-operatives (so called GMO gelden) to facilitate the implementation of certification systems on producers level.	
c. Describe institutions and regulations created by the initiative?	See above	

Database of Sustainable food supply chains initiatives (WP2)

0 - General Information

a. Name of the Initiative	Nautilus
b. Type of Products	Vegetables, fruits, potatoes, herbs

A- Organisation and governance of the "new" supply chain

1- Boundaries of the supply chain and main actors

- **main actors of the "new" food supply chain**

a. How many producers are involved	140 farmers	
b. What is the farms' size	varies	
c. Who is the main initiator *(put a "x" in front)*	X	Producers
		First processors or packers
		Trade/wholesalers
		Independent stores
		Big retailer(s)
		Consumers
		Consumer associations
		Environmental associations
		Other associations
d. Discribe in a few sentence the main initiator	Nautilus is a co-operative of organic agricultural producers. Nautilus was established in 1988 to strengthen farmers positions in the marketing of their products. Nautilus is now the largest seller of organic vegetables, fruits and other products in the Netherlands. They also operate on the international market by exporting products mainly within Europe. Apart from marketing, they also advice farmers in production and they plan the size of production on national scale.	

- **Geographic limits of production**

a. What is Geographic limits of production *(put a "x" in front)*		Local
		Regional
	X	National (first regional in the Province of Flevoland)
b. precise the localisation and describe in few sentences the specific characteristics of the territory *(environment , landscapes, tourism ...)*	The Netherlands	

- **Size of production**

a. Tons	Secret due to competition
b. Value at consumer level	Secret due to competition

2- Collective organisation of the initiative

a. What is the type of collective organisation *(put a "x" in front)*	X	Formal private collective organisation
		Open group (code of practices, free entry of new members)
		Club (code of practices, selection of new members
b. What is the operating		Producers' association

structure *(many answers possible, put a number ordered according to importance)*	X	Co-operative
		Consortio or FSC collective private structure without any commercial activity
		Channel captain (processing firm, big retail)
		Certification organisation
		Regional public institution (label)
		National public institution
		Other (to be specified):…….
c. describe in few sentences the operation structure(s)(type, name) and its (their) main missions such as : definition of a code of practices, quality control, promotion, research and development, lobbying, contract templates, management of volumes , price fixing....	Website Mission statement: Nautilus is the reliable and professional partner in organic vegetables, fruits, potatoes and herbs for the international fresh and industry market. Mission: representing the interest of 140 member farmers. in practice this means a continuous investment in demand driven market approach and the improvement of the quality of the organisation, the service and the products. Its goal is to improve the international market position and to strengthen and maintain sustainable relationships with buyers. Nautilus is demand driven, so farmers produce according to market needs and demands. Organising exchange of information, experiences and knowledge between member growers is an important activity of Nautilus. Tracking and tracing of products is a self developed system of chain management control.	
3- Social history of the initiative		
➢ **Birth**		
a. When?	1988	
b. Who?	Group of farmers in Province of Flevoland	
c. Where?	Flevoland	
➢ **Main objectives and intended beneficiaries at this time?** *(please, order)*		
a. Order to put a number in front		Environmental
		Soci-territorial
	X	Economic
b. Please precise these first motives, objectives and start difficulties	Improve market position of organic vegetable growers. See also 2c	
➢ **Main historical key events until now**		
a. Precise the main events in the history of the initiative	- Growth of members - Expansion to international markets - Increased co-operation with other organisation on European level	
➢ **Future: main plans and intentions & bottlenecks**		
a. Describe the key ambitions, challenges in sustaining the initiative	- Improved co-operation at European Level with other market organisations in organic products - Expansion of market (supermarkets main grower) - Improvement of chain control and quality	
b. Describe the main bottlenecks		
4 - Marketing issues		
a. What is the distribution channel *(many answers possible, put a number ordered according to importance)*		Direct selling
		Farmers' markets
	3	Specialised stores
	2	Big retailers
	4	Restaurants

	1	Other (to be specified): processors/industry 50%	
b. What are the relevant consumer markets *(many answers possible, put a number ordered according to importance)*		Local	
		Regional	
	2	National	
	1	European	
		International	
c. How are the products labelled *(many answers possible, put a "x" in front and give the name of the label)*		Private label	Name:
		Collective brand	Name:
		Regional label	Name:
		National label	Name:EKO/SKAL, Hygiene code for agriculture
		European label	Name:EUREP GAP
B- Sustainability profile (along with Skal)			
a. Put a "x" in front of items presented by initiative's actors themselves through websites, flyers, promotion events.	**Agri-environmental**		
		Biodiversity	
		Preservation of specific species/races	
	X	Soil erosion	
	X	Water quality	
		Animal welfare	
		Food-miles	
		Other important aspects (to be specified):…….	
	Socio-territorial		
		Regional employment an preservation of rural communities	
		Food quality and typicity	
		Preservation of landscapes	
		Mountain (marginal) areas keeping	
		Resistance to sprawl	
		Agri tourism	
		Other important aspects (to be specified):…….	
	Economic		
	X	Producers' income	
		Possible succession for farms	
		Farmers' quality of life	
		Higher net value per unit of product	
		Higher net value added on regional level	
		Other important aspects (to be specified):…….	
b. Possible remarks on the above mentioned items (can results be measured, do initiatives statements represent reality)	Investing in knowledge development member farmers. Traceability of product		
C- Institutional support			
a. Which level support the initiative *(many answers possible, put a number ordered according to importance)*		Local	
	X	Regional Provincial subsidy to start in 1988	
		Sector	
		National	
		European	
b. Precise the institution and the type of support: laws, subsidies, studies,	NA		

investments credit, etc.... (and opposition?)	
c. Discribe institutions and regulations created by the initiative?	NA

Database of Sustainable food supply chains initiatives (WP2)

O - General Information

a. Name of the initiative	Tasty Tom
b. Type of Products	Tomatoes

A- Organisation and governance of the "new" supply chain

1- Boundaries of the supply chain and main actors

- **main actors of the "new" food supply chain**

a. How many producers are involved	7	
b. What is the farms' size	4 ha tomatoes	
c. Who is the main initiator *(put a "x" in front)*	X	Producers
		First processors or packers
		Trade/wholesalers
		Independent stores
		Big retailer(s)
		Consumers
		Consumer associations
		Environmental associations
		Other associations
d. Describe in a few sentence the main initiator	Group of three modern tomato growers (greenhouse) whit drive to develop its one tomato with a brand.	

- **Geographic limits of production**

a. What is Geographic limits of production *(put a "x" in front)*		Local
		Regional
	X	National
b. precise the localisation and describe in few sentences the specific characteristics of the territory *(environment , landscapes, tourism ...)*	Greenhouse located around the Netherlands. No specific characteristic of territory.	

- **Size of production**

a. Tons	10 thousand metric tons
b. Value at consumer level	100 million Euro

2- Collective organisation of the initiative

a. What is the type of collective organisation *(put a "x" in front)*		Formal private collective organisation
		Open group (code of practices, free entry of new members)
	X	Club (code of practices, selection of new members
b. What is the operating structure *(many answers possible, put a number ordered according to importance)*	X	Producers' association
		Co-operative
		Consortio or FSC collective private structure without any commercial activity
		Channel captain (processing firm, big retail)
		Certification organisation

		Regional public institution (label)
		National public institution
		Other (to be specified):…….
c. Describe in few sentences the operation structure(s)(type, name) and its (their) main missions such as : definition of a code of practices, quality control, promotion, research and development, lobbying, contract templates, management of volumes , price fixing....	Tasty Tom is produced by a growers association of 7 growers. The growers association is have an meeting every month	
3- Social history of the initiative		
➢ **Birth**		
a. When?	1995	
b. Who?	3 tomato growers (greenhouses)	
c. Where?	The Netherlands	
➢ **Main objectives and intended beneficiaries at this time?** *(please, order)*		
a. Order to put a number in front	2	Environmental
	3	Soci-territorial
	1	Economic
b. Please precise these first motives, objectives and start difficulties	Main objective is to improve the margins of tomato production to develop a tomato with a good taste and a brand for this tomato. In the first year the initiative had also the objective to grow without pesticides. The growers made to many costs to ban all the use of pesticides (especially when there is a specific problem with a part of the crop. In the market was also no commitment to give a higher price for tomatoes grown without pesticides. For this reason Tasty Tom quit restrictions on the use of pesticides.	
➢ **Main historical key events until now**		
a. Precise the main events in the history of the initiative	• Restructure the marketed structure traditionally based on strict rules from the Dutch auction-marts. • Awards for the best tomato in Germany and the best agricultural-entrepreneur in the Netherlands • Articles in all kind of newspapers, magazines for woman and cooks.	
➢ **Future: main plans and intentions & bottlenecks**		
a. Describe the key ambitions, challenges in sustaining the initiative	The initiative has the ambitions to have a bigger market-share for Tasty Tom tomatoes.	
b. Describe the main bottlenecks	Main bottleneck is competition with other market gardeners. Because the success of Tasty Tom other groups are copying the concept. In the year 2000 for this reason there was an overload of this kind of tomatoes on the market.	
4 – Marketing issues		
a. What is the distribution channel *(many answers possible, put a number ordered according to importance)*		Direct selling
		Farmers' markets
	X	Specialised stores
	X	Big retailers
	X	Restaurants
		Other (to be specified):…….

b. What are the relevant consumer markets *(many answers possible, put a number ordered according to importance)*		Local	
		Regional	
		National	
	X	European	
		International	
c. How are the products labelled *(many answers possible, put a "x" in front and give the name of the label)*		Private label	Name:
	x	Collective brand	Name: Tasty Tom
		Regional label	Name:
		National label	Name:
		European label	Name:
B- Sustainability profile			
a. Put a "x" in front of items presented by initiative's actors themselves through websites, flyers, promotion events.	**Agri-environmental**		
		Biodiversity	
		Preservation of specific species/races	
		Soil erosion	
		Water quality	
		Animal welfare	
		Food-miles	
		Other important aspects (to be specified):…….	
	Socio-territorial		
		Regional employment an preservation of rural communities	
		Food quality and typicality	
		Preservation of landscapes	
		Mountain (marginal) areas keeping	
		Resistance to sprawl	
		Agri tourism	
		Other important aspects (to be specified):…….	
	Economic		
	X	Producers' income	
	X	Possible succession for farms	
		Farmers' quality of life	
	X	Higher net value per unit of product	
		Higher net value added on regional level	
		Other important aspects (to be specified):…….	
b. Possible remarks on the above mentioned items (can results be measured, do initiatives statements represent reality)	Tasty Tom tomatoes can be sold for a considerable higher price.		
C- Institutional support			
a. Which level support the initiative *(many answers possible, put a number ordered according to importance)*		Local	
		Regional	
		Sector	
		National	
		European	
	X	None	
b. Precise the institution and the type of support: laws, subsidies, studies,			

investments credit, etc.... (and opposition?)	
c. Describe institutions and regulations created by the initiative?	

Database of Sustainable food supply chains initiatives (WP2)		
O - General Information		
a. Name of the Initiative	**Unilever: Growing for the future**	
b. Type of Products	Wide range of processed food products (tea, ice, pizza, margarine ect.) with strong (international) brands	
A- Organisation and governance of the "new" supply chain		
1- Boundaries of the supply chain and main actors		
➢ **main actors of the "new" food supply chain**		
a. How many producers are involved	47 in the pilot project; planed to scale up to a mayor group of farmers world-wide	
b. What is the farms' size	Vary from 60 to 20,000 ha	
c. Who is the main initiator *(put a "x" in front)*		Producers
		First processors or packers
	x	Trade/wholesalers
		Independent stores
		Big retailer(s)
		Consumers
		Consumer associations
		Environmental associations
		Other associations
d. Describe in a few sentence the main initiator	Unilever is a multinational with operations in more than 90 countries and one of the biggest food-companies in the world. Other activities of Unilever are cleaning products and products for personal care. Unilever concentrates its activities on consumer-products and focus it's marketing on 400 international strong brands.	
➢ **Geographic limits of production**		
a. What is Geographic limits of production *(put a "x" in front)*		Local
		Regional
		National
	X	Other: World-wide
b. precise the localisation and describe in few sentences the specific characteristics of the territory *(environment , landscapes, tourism ...)*	Unilever obtain its products world-wide. The pilot project is concentrated in the United Kingdom, Malaysia, Ghana, Kenya, India, Tanzania, Brazil, Australia, USA, Germany and Italy	
➢ **Size of production**		
a. Tons	??	
b. Value at consumer level	Turnover Unilever food and beverages: 27 thousand million Euro (no data on consumer level)	
2- Collective organisation of the initiative		
a. What is the type of collective organisation *(put a "x" in front)*		Formal private collective organisation
		Open group (code of practices, free entry of new members)
		Club (code of practices, selection of new members
	X	Other: initiative of the producer of consumer goods
b. What is the operating structure *(many answers*		Producers' association
		Co-operative

possible, put a number ordered according to importance)		Consortia or FSC collective private structure without any commercial activity
	x	Channel captain (processing firm, big retail)
		Certification organisation
		Regional public institution (label)
		National public institution
		Other (to be specified):…….
c. describe in few sentences the operation structure(s)(type, name) and its (their) main missions such as : definition of a code of practices, quality control, promotion, research and development, lobbying, contract templates, management of volumes , price fixing....	See 1d. Unilever objectives	
3- Social history of the initiative		
➢ **Birth**		
a. When?	1997	
b. Who?	Unilever	
c. Where?	UK	
➢ **Main objectives and intended beneficiaries at this time?** *(please, order)*		
a. Order to put a number in front	2	Environmental
	3	Soci-territorial
	1	Economic
b. Please precise these first motives, objectives and start difficulties	Motives: • Business: to ensure their sustainable supply so the continuity of the company can be granted. • Marketing: high quality goods produced should be produced in an environmentally and socially responsible way. Difficulties: ??	
➢ **Main historical key events until now**		
a. Precise the main events in the history of the initiative	mid-1990's: working out the idea 1997: start pilot project peas 1998: start pilot projects palm oil, tea and tomato's 1999: start pilot tomatoes 2000: start deskresearch rape seed 2001: start deskresearch sunflower; roll-out of standards for palm oil and tea, drafts publicised for spinach and peas	
➢ **Future: main plans and intentions & bottlenecks**		
a. Describe the key ambitions, challenges in sustaining the initiative	• Develop and validate sustainable agriculture standards for use of all key crops • Contribute to necessary market mechanisms to support raw material sourcing from sustainable agriculture world-wide • Develop supply chain capable of delivering Unilever's key agricultural raw materials from sustainable sources	
b. Describe the main bottlenecks		
4 - Marketing issues		

a. What is the distribution channel *(many answers possible, put a number ordered according to importance)*		Direct selling	
		Farmers' markets	
		Specialised stores	
	x	Big retailers	
		Restaurants	
	x	Other (to be specified): booths	
b. What are the relevant consumer markets *(many answers possible, put a number ordered according to importance)*		Local	
		Regional	
		National	
		European	
	x	International	
c. How are the products labelled *(many answers possible, put a "x" in front and give the name of the label)*	x	Private label	Name: 400 brands: Lipton, wall's, algida, ola, bleu band, iglo, bertolli, flora, Ben & Jerry's, Findus
		Collective brand	Name:
		Regional label	Name:
		National label	Name:
		European label	Name:

B- Sustainability profile

a. Put a "x" in front of items presented by initiative's actors themselves through websites, flyers, promotion events.	**Agri-environmental**	
	x	Biodiversity
		Preservation of specific species/races
	x	Soil erosion
	x	Water quality
		Animal welfare
		Food-miles
	x	Other important aspects (to be specified): pesticides use, energy,
	Socio-territorial	
	X	Regional employment an preservation of rural communities
		Food quality and typicality
		Preservation of landscapes
		Mountain (marginal) areas keeping
		Resistance to sprawl
		Agri tourism
		Other important aspects (to be specified):…….
	Economic	
		Producers' income
		Possible succession for farms
		Farmers' quality of life
		Higher net value per unit of product
		Higher net value added on regional level
	x	Other important aspects (to be specified): continuity of Unilever
b. Possible remarks on the above mentioned items (can results be measured, do initiatives statements represent reality)	The initiative for sustainable agriculture is only low-key communicated on the web-site. On products there is no communication about the initiative. Unilever's declares that there no plans for communication to consumers in the future. An initiative from Unilever for fish (Marine Stewardship Council) is developed in a further stage. The MSC-logo is printed on fishproducts (low-key).	

C- Institutional support

a. Which level support the initiative *(many answers*		Local
		Regional

possible, put a number ordered according to importance)		Sector
		National
		European
	x	Other: none
b. Precise the institution and the type of support: laws, subsidies, studies, investments credit, etc.... (and opposition?)		
c. Describe institutions and regulations created by the initiative?		

Database of Sustainable food supply chains initiatives (WP2)

O - General Information

a. Name of the Initiative	Gulpener (regional beer)
b. Type of Products	Draught beer and specialities (total 14 varieties)

A- Organisation and governance of the "new" supply chain

1- Boundaries of the supply chain and main actors

- **main actors of the "new" food supply chain**

a. How many producers are involved	70 farmers united in the co-operative Triligran	
b. What is the farms' size		
c. Who is the main initiator *(put a "x" in front)*		Producers
	X	First processors or packers
		Trade/wholesalers/Distributor
		Independent stores
		Big retailer(s)
		Consumers
		Consumer associations
		Environmental associations
		Other associations
d. Describe in a few sentence the main initiator	The main initiator is Paul Rutten managing director of brewery "Gulpener BV". Gulpener is looking for new ways of differentiation by: a) using environmentally friendly produced inputs (wheat, barley, rye, hop) from regional farmers b) building and anchoring societal support, for their "sustainability approach", in the region. Rutten: "The key for our success is not a low costprice but sympathy for the product" The main purpose is not profit maximisation but continuation of the company (this is possible because Gulpener is an family owned company, they accept dividend payment only once in the 5 years). Independence is crucial for the (regional) identity and the commitment of the regional community.	

- **Geographic limits of production**

a. What is Geographic limits of production *(put a "x" in front)*		Local
	X	Regional
		National
b. precise the localisation and describe in few sentences the specific characteristics of the territory *(environment , landscapes, tourism ...)*	- The inputs (wheat, barley, rye, hop) for the brewery are produced on arable farms which are located in the southern part of the province Limburg (southern part of the Netherlands, an area with a hilly- small scale landscape) - Production of inputs and processing is linked to ecology and landscape - By using the name "Limburg" in the label and by introducing a new concept "Limburgs Land" the brewery tries to couple the positive image (pure/tradition/enjoyment) of Limburg to the products.	

- **Size of production**

a. Tons	Not exactly clear, in 2002 Gulpener purchased 429 ha environmentally friendly produced (with Milieukeur hallmark) brew barley from the co-operative Triligran

b. Value at consumer level	Turnover Gulpener 13 million Euro (2002)	
2- Collective organisation of the initiative		
a. What is the type of collective organisation *(put a "x" in front)*	X	Formal private collective organisation
		Open group (code of practices, free entry of new members)
		Club (code of practices, selection of new members
b. What is the operating structure *(many answers possible, put a number ordered according to importance)*		Producers' association
		Co-operative
		Consortio or FSC collective private structure without any commercial activity
	1	Channel captain (processing firm, big retail)
		Certification organisation
		Regional public institution (label)
		National public institution
		Other:
c. describe in few sentences the operation structure(s)(type, name) and its (their) main missions such as: definition of a code of practices, quality control, promotion, research and development, lobbying, contract templates, management of volumes , price fixing....	Code of practice: • Purchase of environmentally friendly produced inputs from the region and processing in the region (resulting in: traceability, keeping added value / employment in the region, short distribution channel, high involvement of consumers/citizens) • environmental friendly way of processing (using 100% green energy, reducing the use of energy by skipping pasteurisation this also results in a better taste, recycling of paper) • Good social policy for employees and strong involvement of employees by all the chain processes (resulting in motivated people, low absenteeism and a low turnover of employees) • Agreements with the farmer co-operative Triligran on a) growing programs, b) experiments with new races: Gulpener was responsible for the re-introducing of the growing of hop in the Netherlands) c) prices: farmers who are producing according the sustainability hallmark Milieukeur are receiving a 10% higher price • Stimulating the community by sponsoring corporate life and societal organisations in the region (resulting in a better liveableness of the region and the sympathy/societal support for the (higher priced) products) • Communication via website, quiding tours etc with the community on traceability (the name of the farmers are published), foodsafety, environment, tourism (to see the growing of hop, walking tours etc).	
3- Social history of the initiative		
➢ **Birth**		
a. When?	1990 's	
b. Who?	Gulpener B.V.	
c. Where?	Gulpen (Southern part of the Netherlands)	
➢ **Main objectives and intended beneficiaries at this time?** *(please, order)*		
a. Order to put a number in front	3	Environmental
	2	Socio-territorial
	1	Economic
b. Please precise these first motives, objectives and start difficulties	Motives: the wish to: a) escape from only competing on costprice b) distinquish itself from the large brewery's (Heineken, Grolsch) c) establish a re-connection with: landscape, ecology and the regional community.	

	Objective: to develop an authentic quality beer with distinction (taste, regional origin, good story, environmentally friendly inputs and processing, high commitment from society/employees) and a higher price. Start difficulties: high investment costs to put the sustainability ambitions (subscribed by chainmembers and the employees) on supply and demandchain management into practice. For example in 1998 hop was not produced in the Netherlands, growing knowledge and regulation had to be developed.			
➢ **Main historical key events until now**				
a. Precise the main events in the history of the initiative	1994: Start of an experiment with a regional beer "Dageraad" 1998: Change of the name "Dageraad" to "Limburgs Land" beer 1998 Joint shareholder of the Dageraad B.V: Dageraad manages and exploits a regional brand concept "Limburgs Land" (it consists of a broad assortment products: beer, dairy, meat. Production is linked to region, ecology and landscape). This was the starting point for the turn to integral chain management focussed on sustainabilty (re-connection with the local/regional environment and society) and taste 2001: Ambition statement (with focus on sustainability) from the employees of Gulpener 2003: National price for social responsible entrepreneurship set up by the ministry of agriculture and the Dutch processing industry			
➢ **Future: main plans and intentions & bottlenecks**				
a. Describe the key ambitions, challenges in sustaining the initiative	*Key ambition:* To develop authentic regional beer and to be sustainable in the whole (supply and demand) chain. To expand the export market for special beer Rutten wishes to have the selling of the products "exclusive" in Limburg but the regional market is to small. *Challenge:* To develop organic beer for selling under the "Limburgs Land"concept			
b. Describe the main bottlenecks	Shrinking beer market due to: a) competition from other trendy products such as breezers, cocktails etc. b) recession and therefore possible lower willingness to pay for the more expensive beers. Free riders who are also using the name Limburg but don't invest in sustainability and regional origin (purchasing their inputs from all over the world).			
4 - Marketing issues				
a. What is the distribution channel *(many answers possible, put a number ordered according to importance)*			Direct selling (consumer packages)	
			Farmers' markets	
			Specialised stores	
		1	Big retailers	
			Catering wholesaler	
		2	Restaurants/cafe's (1200)	
		3	Other (to be specified): victuallers shops	
b. What are the relevant consumer markets *(many answers possible, put a number ordered according to importance)*			Local	
		1	Regional	
		2	National	
		3	European	
			International	
c. How are the products	1		Private label	Name: Gulpener

labelled *(many answers possible, put a "x" in front and give the name of the label)*	2	Collective brand	Name: Limburgs Land
		Regional label	Name:
	3	National label	Name: Acknowledged Regional Product (Erkend Streekproduct), Milieukeur
		European label	Name:

B- Sustainability profile

a. Put a "x" in front of items presented by initiative's actors themselves through websites, flyers, promotion events.	**Agri-environmental**	
		Biodiversity
	X	Preservation of specific species/races
		Soil erosion
		Water quality
		Animal welfare
	X	Food-miles
		Other important aspects (to be specified):…….
	Socio-territorial	
	X	Regional employment an preservation of rural communities
	X	Food quality and typicity
	X	Preservation of landscapes
		Mountain (marginal) areas keeping
		Resistance to sprawl
		Agri tourism
		Other important aspects (to be specified):…….
	Economic	
	X	Producers' income
		Possible succession for farms
	X	Farmers' quality of life
	X	Higher net value per unit of product
		Higher net value added on regional level
		Other important aspects (to be specified):…….
b. Possible remarks on the above mentioned items (can results be measured, do initiatives statements represent reality)	Statements represents reality	

C- Institutional support

a. Which level support the initiative *(many answers possible, put a number ordered according to importance)*		Local
	X	Regional
		Sector
	X	National
	X	European
b. Precise the institution and the type of support: laws, subsidies, studies, investments credit, etc.... (and opposition?)	• Financial support from the ministry of agriculture by winning the national price for social responsible entrepreneurship • Financial support from the province of Limburg and the European Union for the development of the regional brand concept "Limburgs Land" • ……..	
c. Describe institutions and regulations created by the initiative?	Development of regulation (norms for the use of pesticides) for the growing of hop in the Netherlands	

Database of Sustainable food supply chains initiatives (WP2)

0 - General Information

a. Name of the Initiative	Quality assurance farmdairy chain (Kwaliteitszorg Boerderijzuivelketen "KB")
b. Type of Products	Quality system for dairy products (cheese, and liquid milk products) produced and processed on the farm

A- Organisation and governance of the "new" supply chain

1- Boundaries of the supply chain and main actors

- **main actors of the "new" food supply chain**

a. How many producers are involved	152 cheese farmers with a "KB" licence (146 are selling to cheese traders and 6 are selling to directly to consumers) 25 traders of farmercheese with a "KB" licence	
b. What is the farms' size	Unknown	
c. Who is the main initiator *(put a "x" in front)*		Producers
		First processors or packers
		Trade/wholesalers/Distributor
		Independent stores
		Big retailer(s)
		Consumers
		Consumer associations
		Environmental associations
	X	Union of farmdairy processors (Bond van BoerderijZuivelbereiders;BBZ)
	X	Association collective dairy secretary (vereniging Gemeenschappelijk Zuivel secretariaat; GemZu): lobby organisation for wholesalers in farmdairy products
d. Describe in a few sentence the main initiator(s)	Farm cheesemakers represented by the BBZ (450 members) and the traders of farmcheese represented by the GemZu (150 members) see it as a jointly responsibility (the farmers take care for the processing and the traders take care for the ripening) to develop a quality system/policy for farmdairy products.	

- **Geographic limits of production**

a. What is Geographic limits of production *(put a "x" in front)*		Local
		Regional
	X	National
b. precise the localisation and describe in few sentences the specific characteristics of the territory *(environment , landscapes, tourism ...)*	Production and processing of KB certified cheese is not linked to a territory, landscape or ecology. However, the production and processing of KB farmcheese is linked to the tradition of cheese making on the farm and the use of raw milk. The artisanal character of the small farm dairy sector is attracting tourists and is important for the image of Holland as a honest and reliable (industrial) dairy producer	

- **Size of production**

a. Tons	2003: expectation 3500 ton KB licensed cheese (total quantity farmcheese

	production in 2002: 7381 ton)	
b. Value at consumer level	Unknown	
2- Collective organisation of the initiative		
a. What is the type of collective organisation *(put a "x" in front)*		Formal private collective organisation
	X	Open group (code of practices, free entry of new members)
		Club (code of practices, selection of new members
b. What is the operating structure *(many answers possible, put a number ordered according to importance)*		Producers' association
		Co-operative
		Consortia or FSC collective private structure without any commercial activity
		Channel captain (processing firm, big retail)
	X	Certification organisation: Foundation "Quality assurance farmdairy chain"
		Regional public institution (label)
		National public institution
		Other:
c. describe in few sentences the operation structure(s)(type, name) and its (their) main missions such as: definition of a code of practices, quality control, promotion, research and development, lobbying, contract templates, management of volumes , price fixing....	Code of practice: • Qualitysystem consists of quality regulation with respect to milkextraction, cheesemaking, ripening and storing of the cheese. In addition there is a minimum set of rules with respect to animal welfare and environment. • Qualitysystem is additional to existing qualitysystems in the sector such as Chain Quality Milk (KKM) and the EU guideline with respect to hygiene. • Cheese makers and traders have a purchase agreement on: guarantee conditions, labelnumbers, price, quantity etc. Besides, they have access to each other quality system and regularly exchange information. • Closed system: cheese makers with a KB licence deliver only to traders with a KB licence, traders with a KB licence purchase only from farmers with a KB licence and do not resell KB cheese to traders without a KB licence • Task foundation KB: supply licences to farmers and traders, controlling the licence holders, apply sanctions by violations, promotion of KB cheese • Link between KB licence and a promotion levy. KB cheese makers as well as KB traders pay a promotion levy of 5 Eurocent per kg. • A listing commission of cheesemakers and traders is determining a reference price based on their marketknowledge (not based on real transactions) • Volumes are not fixed, system is not obliged for all farmdairy cheese makers	
3- Social history of the initiative		
➢ **Birth**		
a. When?	1996	
b. Who?	Union of farmdairy processors "BBZ" The association collective dairy secretary "GemZu" (lobby organisation for wholesalers in dairy products) Foundation Agro Chain knowledge	
c. Where?		
➢ **Main objectives and intended beneficiaries at this time?** *(please, order)*		
a. Order to put a number in front	3	Environmental
	2	Socio-territorial
	1	Economic
b. Please precise these first motives, objectives and start difficulties	Motives: the wish to a) preserve the tradition of farmcheesemaking b) strengthen the reputation of the farmcheese and their makers c) increase the discernment from industrial cheese d) realise a better price and a decrease of the failingcosts (return of bad quality cheese)	

	Objective: the development of a chain quality system for farmdairy products. This to respond to: a) an increasing demand of consumers with respect to foodsafety, traceability, artisanal specialties etc. b) the deregulation of the government and the discontinuation of the government protection for the Hallmark "Farmercheese" in 2004. Startup difficulties: • Hardly any thrust between the dairycheese makers and the traders • A time consuming decision process because of the involvement of so many participants with different interests.	
➢ **Main historical key events until now**		
a. Precise the main events in the history of the initiative	1996: Startup of the project "Quality assurance farmdairy chain" 1998 Formation of the Foundation Quality assurance farmdairychain (for the independent management/control of the quality system) 1999 Failure to set up the association "promotion dairy farm products" 2000 Installation of the listing commission farmercheese (for determination of reference prices for farmercheese) 2001 Installation of the information/bureau farmdairy products (for the collective promotion of farmercheese)	
➢ **Future: main plans and intentions & bottlenecks**		
a. Describe the key ambitions, challenges in sustaining the initiative	*Key ambition:* To offer the makers of farmcheese/liquid dairy and traders a (flexible and efficient) qualitysystem which is meeting the demand of the future with respect to: food safety, traceability, authenticity, innovation etc. *Challenge:* • Recognition of farmercheese as a guaranteed traditional speciality • Adjustment of the KB system to: a) organic cheese b) cheese with a regional origin c) more sustainability with respect to: ecology, landscape, animal welfare. • To connect more than 70% (368) of the 525 farm dairy processors to the KB quality system and more than 90% of the traders of farm cheese.	
b. Describe the main bottlenecks	Bottlenecks/debates • Listing commission is determining a reference price in some categories which is structural lower than the market price • Confusion by the consumer on farmercheese and industrial cheese. • KB label is more a trade label than a consumer label (it has a limited emotional value to the consumer) • Quality controls on the farm by too many different institutions • System of promotion levy is complex and not watertight • Collective (generic) promotion is not suitable for traders/cheesemakers who wants to differentiate promotion for special marketsegments. • KB system is not (yet) suitable for (new) models of quality differentiation with respect to: race, fodder, landscape, ripening, origin etc • Chain is not closed yet, KB traders resell KB cheese to not KB licensed traders.	
4 - Marketing issues		
a. What is the distribution channel *(many answers possible, put a number ordered according to importance)*	25%	Direct selling on the farm
		Farmers' markets
		Specialised stores
	25%	Supermarkets, specialised shops and farmersmarkets
	25%	35 Wholesalers/merchants

		Restaurants	
	25%	Marketing co-operative "The Producer"	
b. What are the relevant consumer markets *(many answers possible, put a number ordered according to importance)*	3	Local	
	2	Regional	
	1	National	
		European	
		International	
c. How are the products labelled *(many answers possible, put a "x" in front and give the name of the label)*		Private label	Name:
	X	Collective brand	Name: a caseinelabel which guarantee participa tion of the cheese maker to the KB system a hallmark "farmcheese" which guarantee the "farmcheese" quality after ripening.
		Regional label	Name:
		National label	Name:
		European label	Name:

B- Sustainability profile

a. Put a "x" in front of items presented by initiative's actors themselves through websites, flyers, promotion events.	**Agri-environmental**	
		Biodiversity
		Preservation of specific species/races
		Soil erosion
		Water quality
		Animal welfare
		Food-miles
		Other important aspects (to be specified):…….
	Socio-territorial	
	X	Regional employment an preservation of rural communities
	X	Food quality and typicity
		Preservation of landscapes
		Mountain (marginal) areas keeping
		Resistance to sprawl
		Agri tourism
		Other important aspects (to be specified):…….
	Economic	
	X	Producers' income
		Possible succession for farms
		Farmers' quality of life
	X	Higher net value per unit of product
		Higher net value added on regional level
		Other important aspects (to be specified):…….
b. Possible remarks on the above mentioned items (can results be measured, do statements represent reality)	• Typicity of farmercheese can be questioned at some points. There is no link in the KB system between the quality of KB cheese and race, fodder, landscape, origin etc • The effect of the KB system (better margin, lower costs) on the position of the farmers, traders is not clear yet.	

C- Institutional support

a. Which level support the initiative *(many answers possible, put a number ordered according to*		Local
		Regional
	X	Sector
	X	National

importance)		European
b. Precise the institution and the type of support: laws, subsidies, studies, investments credit, etc.... (and opposition?)	Subsidies from: • Ministry of agriculture for a) the development of the KB system and quality manual (295.000 Euro) b) implementation of the KB system and communication of KB to the consumer (…Euro?) • Dairy commodity board for the secretary of the foundation KB • ….? for the adjustment of the KB system to: regional initiatives, organic production, more sustainability	
c. Describe institutions and regulations created by the initiative?	Formation of the foundation Quality assurance farm dairy chain Manual quality assurance farmdairy chain	