

Social and economic impact of a PDO cheese (“Queijo de Nisa”) on the local cheese production and processing (North of Alentejo, Portugal)

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Introduction

The “*Queijo de Nisa*” is a traditional Portuguese half-hard cheese made from raw sheep milk, coagulated with a plant rennet (*Cynara cardunculus* L.) and with a ripening period longer than 45 days, which received a Protected Designation of Origin (PDO) in 1995.

Besides the PDO cheese, in the same geographical area other half-hard cheeses are also produced, primarily by the same firms, from raw mixed sheep and goat’s milk coagulated with an animal rennet. The name, Nisa, comes from the municipality of Nisa, which has been the most important and traditional centre of cheese economy in North of Alentejo (Graça, 1988). The geographical production area of “*Queijo de Nisa*” is in a less-favoured area of eight municipalities in the North of Alentejo and the regional dairy herd has 30,750 “merino” sheep, shared by 241 farmers. Agriculture plays a dual role, as provider both of food, and rural environmental and cultural services. It includes high nature-value farming systems, such as keeping sheep, goats and beef cattle, on wooded agro-pastoral land and Mediterranean scrub.

In the geographical area we have identified three different types of cheese dairies, among processors of “*Queijo de Nisa*” and other processors. We have surveyed all the cheese dairies and we present the results of that survey. We compare these different types of cheese dairies in order to analyse the social, economic and territorial differentiation related to them.

Processors of PDO “*Queijo de Nisa*”

The socio-economic characteristics of the thirty-two cheese dairies studied in the region of PDO “*Queijo de Nisa*” are listed in Table 1.

In the catchment of these nine processors, there are two types: six micro and craft enterprises and three small industrial enterprises which present the following differences. The ownership and control of the type A enterprises are in the hands of its family members. In the type B enterprises, control is exercised by the owners as the patrons of the business; they are local associations in which people hold direct membership and are able to participate in the affairs of the firm; these associations were created in the 1990's by milk producers or independent processors. The A-type enterprises use family labour and hired labour, with an average of 4.2 workers per unit; in the B-type enterprises, the hired labour is very dominant, on average they have 18.7 workers per unit. A-type enterprises operate during a working season from December to June, while type B enterprises work all the year. Most micro-enterprises ripen the cheese in ripening rooms with a natural atmosphere. The type-B enterprises ripen the cheese in

rooms with equipment for temperature and humidity control;

Processors of non-PDO Cheeses

These C-type enterprises are very similar to the craft processors in type A. The more relevant characteristics (Table 1) are that the units have, on average, 3.1 workers per unit that have not received formal training. There is less innovation for new installations and new technology for ripening the cheese. In general, these cheese dairies are more associated with their own milk production in comparison with the cheese dairies which manufacture PDO cheese.

Socio-economic impact of the cheese-making activity

As can be seen from Table 2, the total marketing value of the cheese produced by these 32 cheese dairies was evaluated at 665,836 thousand PTE, 1997 prices). That total value is shared among the cheeses as 9 per cent of PDO “*Queijo de Nisa*” and 91 per cent of the other cheeses. The production of PDO and non-PDO cheeses is concentrated in the three B-type industrial enterprises which have several partners. They make up 9% of the total number and are responsible for the marketing of 91.3 per cent of the PDO “*Queijo de Nisa*” and 41.8 per cent of the other cheeses.

With regard to the employment generation (Table 3), the dairy activity provides work to 153 persons (122.7 AWU), including cheese-makers, and factory, office and driver/distribution workers. These people are seasonal and full-time workers, the former are pre-dominant in the enterprises A and C and the latter are very dominant in the cheese dairies B, among which a very high proportion are women.

In the municipality of Nisa, that gave the name to the PDO cheese, are concentrated the greatest number of the cheese dairies: 72 per cent of total number of firms, all of type A, 33 per cent of type B and 70 per cent of type C (Table 4). However, the processors located in Nisa make only a small contribution (20 per cent) to the quantity of PDO “*Queijo de Nisa*”.

During the period 1991-97 the number of cheese dairies decreased by 30 per cent, from thirty-three to twenty-three (CMN, 1993). This decrease was due to two phenomena which happened simultaneously: (i) the retiring from cheese-making of some old craft processors, owing to the requirement to have a legal licence for cheese-making and (ii) the appearance of new firms - one of type A and three of type C - created from the association of individual processors whose succession is guaranteed by the presence of young descendants.

In the same period, the decreasing of number of cheese firms in Nisa was followed by an expansion of the number of

Table 1. Socio-economic characteristics of the 32 cheese dairies in the region of PDO “*Queijo de Nisa*” (% of processors).

Criteria	9 processors of PDO cheese		23 processors of non-PDO cheese
	6 of type A (%)	3 of type B (%)	type C (%)
Legal form:			
independent proprietorships	100		87
partnerships		100	13
Labour:			
only family	17		70
predominantly family	50		
predominantly salary	33	100	30
Vocational and formal training:	17	100	4
Succession:			
successor	50	67	35
no successor			39
unknown	50	33	26
Concerning the future cheese production, the owner thinks he will:			
increase	17	67	30
maintain	66	33	48
reduce			9
stop			13
unknown	17		
New installations for cheese making	100	100	22
Ripening room with atmosphere control	33	100	4
Origin of milk:			
only milk from the own farm	17		48
only from purchased milk	50	67	22
from own and from purchased milk	33	33	30
Time of manufacturing:			
December - June	100		83
all the year		100	17

Table 2. Value of cheese leaving the processor in the area of “*Queijo de Nisa*” by the types of processors (k Euro - 1 Euro = 200.4 PTE).

Cheeses	Processors of PDO cheese						Processors of non-PDO cheeses		Total
	Type A		Type B		Total		Type C		k Euro
	k Euro	%	k Euro	%	k Euro	%	k Euro	%	
PDO <i>Nisa</i>	25.6	8.7	270.7	91.3	296.3	100	–	–	296.3
non-PDO	132.8	4.4	1,266.5	41.8	1,399.3	46.2	1,626.9	53.8	3,026.2
Total	158.5	4.8	1,537.2	46.3	1,695.6	51.1	1,626.9	48.9	3,322.5

Table 3. Composition of workforce in the area of “*Queijo de Nisa*” by the types of processors.

Types of processors	Family			Salary				Total	
	M	W	MW	M	W	MW	MW	%	per cheese dairy
Number of workers:									
A-type processors	7	5	12	1	12	13	25	16.3	4.2
B-type processors	4	4	8	9	39	48	56	36.6	18.7
C-type processors	20	23	43	5	24	29	72	47.1	3.1
Total	31	32	63	5	76	90	153	100.0	
AWU:									
A-type processors	3.7	2.7	6.4	0.5	6.8	7.3	13.7	11.2	2.3
B-type processors	4.0	4.0	8.0	9.0	39.0	48.0	56.0	45.6	18.7
C-type processors	13.7	15.6	29.3	3.1	20.6	23.7	53.0	43.2	2.3
Total	21.4	22.3	43.7	12.6	66.4	79.0	122.7	100.0	

M - men; W - women; AWU - Annual Work Unit.

workers: from 82 in 1991 (CMN, 1993) to 127 in 1997 (more than 55 per cent). In this last year, 47 per cent were salaried workers (42 per cent are women) as a result of the creation of three C-type partnership firms, whose greater size has obliged them to hire workers. In the near future, it is possible that these last firms will develop from the C-type to B-type through the processing of PDO cheese.

Marketing of cheese by the producers

Several marketing routes for PDO and non- PDO cheeses by producers are shown in Table 5. Half of the craft cheese producers (type A) sell directly all the PDO “*Queijo de Nisa*” directly from the dairy. Their cheeses are the most expensive, and they are often demanded by local and urban consumers, who belong to the higher social strata, take particular enjoyment for traditional cheese and have been friendly customers

for many years.

The industrial B-type enterprises are the only producers that sell the PDO “*Queijo de Nisa*” to distributors in cities that channel their cheese to the supermarkets. The craft cheese dairies (types A and C) are more engaged in local marketing, as well as restaurants, small shops, municipal fairs and direct selling at villages.

Conclusions

The share of PDO “*Queijo de Nisa*” in the total amount of cheese produced in the eight municipalities of its geographical area is still low, but this PDO has a short production time, since 1995. All of the nine producers declare that exhibitions, conferences, cheese-tasting occasions and promotional booklets, which have been organised in order to make the PDO “*Queijo de Nisa*” more known, have introduced a general vitality into

Table 4. Composition of workforce (number of workers) and value of cheese at processor gate (thousand PTE, 1997 prices) in the municipality of *Nisa*, by the types of processors.

Types of processors	Number of cheese dairies	Total amount of PDO cheese (kg, 1997)	Value of cheese (k Euro, 1997 prices)		Number of workers		
			PDO cheese	Other cheeses	Family	Salary	Total
Processors A	6	1,729	26	104	9	13	22
Processors B	1	3,037	48	587	8	21	29
Processors C	16			1,099	40	26	66
Total	23	4,766	74	1,791	57	60	117

Table 5. Dominant marketing routes for PDO “Queijo de Nisa” and non-PDO cheese by processors (% of processors).

Marketing route	PDO “Queijo de Nisa” (%)		Non-PDO cheese (%)
	Type A	Type B	Type C
Only direct selling to consumers at gate cheese dairy	50		
Regional distributors	17	17	39
Moving selling at villages			13
Municipal fairs	50	17	39
Local restaurants			26
Local small shops	17		26
Distributors in cities – Supermarkets		100	

the cheese regional market which have improved the sales of all the other cheeses and have made their region more widely known.

The marketing of craft cheese - A- and C-type firms - does not have vertical co-ordination problems, because there are very limited marketing activities, and often many production and marketing functions are performed by the same actors. In the case of some craft PDO “*Queijo de Nisa*” processors, there is domestic co-ordination (Boltansky & Thévenot, 1987) with the consumers, which is based on past deals, their proximity and the expertise of the producer.

The B-type cheese dairies use high capital investment in new installations and equipment. These firms have introduced some characteristics of specialisation and division of labour (Kohls & Uhl, 1990), namely (i) increased interdependency of the sheep milk producers, the distributors and the supermarkets, (ii) increased volume of trade and thereby increased importance of marketing, and (iii) a tendency towards larger cheese processors and concentration of production. The PDO cheese and the technological developments in dairy processing associated with the other types of cheeses, which reduce costs along with increasing volume, are propelling the trend towards fewer and larger dairy processing plants and a more concentrated cheese-processing regional sector.

In the municipality of *Nisa*, the low quantity of PDO “*Queijo de Nisa*” produced and the increased number of dairy workers in the 1990’s is related to: (i) the displacement of one PDO cheese economic value from its more “traditional” origin to less “traditional” areas and to small industrial dairy enterprises and (ii) the interest of many cheese dairies of *Nisa*, particularly in its parish of *Tolosa*, in the cheeses from mixed sheep and goats milk, with lower production costs and lower ripening period (< 45 days), which generate a faster turnover of income for the families.

Taking into account the intention of the common agricultural and rural policy for Europe (CARPE) to create sustainable economic activities in rural areas and to encourage local people for producing high quality and differentiated products (European Commission, 1997) and the future of the regional cheese economy in Northern Alentejo, the central question is to know how the craft and industrial actors are going to co-ordinate their actions for building up the technical and social criteria in order to promote the qualities of DOP “*Queijo de Nisa*” and of the other cheeses.

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References

- Boltansky L. & L. Thévenot (1987). Les économies de la grandeur. Cahiers du centre d’études de l’emploi, 31: 137-173.
- CMN (1993). Estudo de caracterização económica do concelho de *Nisa*, Plano Director Municipal, Câmara Municipal de *Nisa*, *Nisa*.
- European Commission (1997). European economy. Towards a Common Agricultural and Rural Policy for Europe, Reports and Studies No.5, p55.
- Graça, J. (1988). Identificação e melhoramento do “*Queijo de Nisa*”, Direcção Geral da Pecuária, Lisboa, p54.
- Kohls R. L. & J. N. Uhl, (1990). Marketing of agricultural products, Macmillan Publishing Company, New York, p207.