

Seaweed, Status and the Symbolic Domain

Seaweed Harvesters in Portuguese Coastal Communities¹

Ellen Hoefnagel
University of Leiden

ABSTRACT This essay describes the seaweed harvest in Portuguese coastal villages. It discusses the changing status or prestige of occupational groups in such communities and these groups' reactions to those changes. First of all, an ethnography will be presented of the seaweed harvest in the north of Portugal focusing especially on the village of Castelo de Neiva. Secondly, a tentative explanation of the recent 'feminization' of the seaweed harvest will be given, by relating this phenomenon to the ideational systems of the groups involved.

Introduction

Seaweed has been harvested in Portugal for centuries. Since the end of the nineteenth century, the seaweed harvest has formed an important source of income for coastal crofters.² Today seaweed harvesting still constitutes an integral part of the composite economy of many Portuguese coastal communities. Peasants, crofters and fisherwomen exploit the resource to augment their household budget. However, the changing relative importance of the various economic activities brought about transformations in the status or prestige of these occupational groups. This article focuses on such transformations and on the responses of the coastal population of northern Portugal to those changes.

Obviously, the status of a group can only be understood in its context. Davis and Nadel-Klein state, focusing especially on female status in fishing communities:

Clearly, more attention must be directed to the technology and ecology of fishing, to the relations of fishing to other subsidiary subsistence patterns, and to the relations of production governing both fishing and other activities, before general rules about the construction of female status can be developed (1988:49).

The same thing could be said of the construction of male status, of course. Status is also inextricably intertwined with mental constructions. In order to understand the social construction of status and change in status, the relation with the ideational systems of the groups involved has to be examined from a diachronic perspective.

In general maritime anthropologists have given little or no attention to seaweed and the people who harvest it. Questions concerning the importance of this harvest for coastal communities are seldom raised. Although the

seaweed harvest has decreased or has even been totally abandoned as a craft in many European countries, it is still possible to do research on the subject of seaweed gathering. Portugal is one of those countries in Europe where natural seaweed resources are still exploited.

These Portuguese seaweed harvesters have their origins in different occupational groups: peasants, crofters, and fishers. Since circa 1880 male and female peasants and crofters harvest the seaweed by wading into the surf. Fishermen, on the other hand, have always fished for seaweed by boat, using their purse seine, therefore never having to go into the sea.

Since circa 1975 only women have been active in the seaweed harvest in north Portuguese fishing villages, while in coastal communities without fishery both women and men still exploit the resource. This enigmatic selective social change raises the following questions: Why did 'feminization' of the seaweed harvest occur in fishing communities and not in other coastal communities? Why did fishermen have a different attitude towards the seaweed harvest than the women and men of other occupational groups? The answers to these questions will be given by relating this 'feminization' of the seaweed harvest to socio-economic change and the ideational and symbolic systems of the different occupational groups involved.

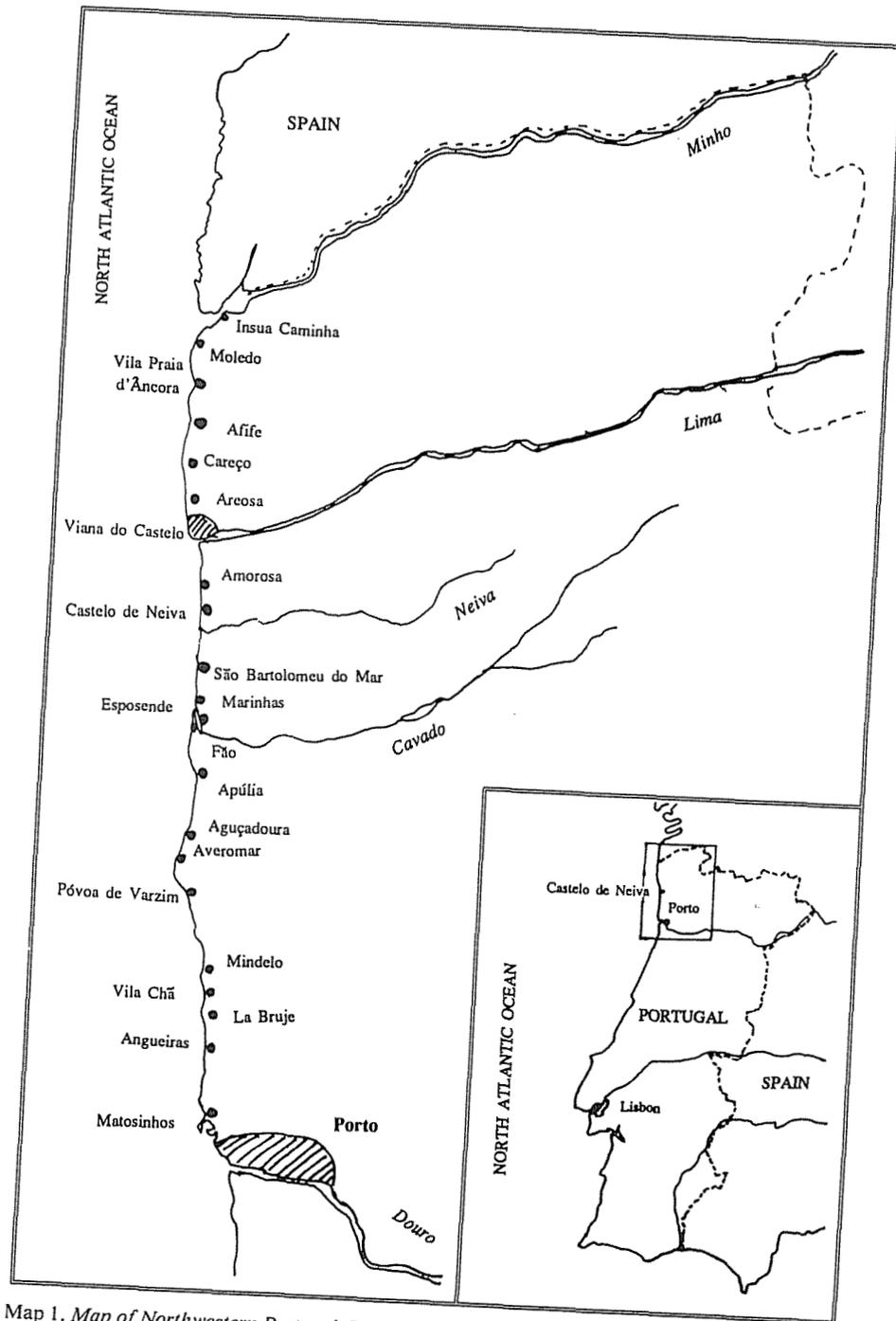
In short the purpose of this article is twofold. First, I will present an ethnography of the seaweed harvest in the north of Portugal focusing especially on one village. Second, I will give a tentative explanation of the recent 'feminization'³ of the seaweed harvest in fishing communities, by relating this phenomenon to the ideational systems of the groups involved.

The first three sections give an overview of the economic situation of the littoral of northern Portugal and of one fishing village in particular. The second part elucidates the differences between the occupational groups in class, division of labor and mental maps. The last section provides a conclusion.

The Littoral

The northern coast of Portugal is scattered with villages and small towns (see map), but not all of them have the same orientation towards the sea. In some the emphasis is on fisheries, in others on the commercial seaweed harvest. In addition, all are oriented towards small-scale agriculture. Several coastal villages have combined the three activities. Another economic pillar is migrant labor. Since the voyages of discovery of the Portuguese in the sixteenth century, the northern part of Portugal has exported labor.

Recent developments are tourism and industrialisation. From the sixties on, the tourist industry has been growing as an economic factor. For example in Póvoa de Varzim large apartment buildings have started to dominate the fishing village. Since Portugal is a member of the European Community (EC), industrial development has been stimulated with subsidies. Along the large semi-coastal road from Spain to Lisbon new factories have been



Map 1. Map of Northwestern Portugal. The Littoral is Scattered with Fishing Villages (Left) and sargaço Villages.

founded which give wage labor opportunities for the people of the littoral.

From the sixteenth century on many Portuguese have emigrated to Madeira, the Azores, South America, and Africa. These emigrations were often temporary, in order to earn money. But, of course, many of those Portuguese started a new life overseas. Emigration reached its peak from the sixties up to the mid seventies, when the northwest of Europe attracted unskilled laborers from Portugal and other south European countries.

Contrary to the south of Portugal, where large estates characterize the agricultural system (*latifundia*), northwestern agriculture is predominantly small-scale (*minifundia*) (Biro 1949:71). This age-old agricultural system also implies small landed property (*ibid.*:69-70).⁴ Northwestern Portuguese agriculture still is at a semi-subsistence level and productivity is low.⁵ In this area a tendency towards feminization is ongoing. In the district of Viana do Castelo 64% of the agricultural work is done by women (De Castro Caldas en De Figueiredo 1986:29).

In 1891 there were more than 30 fishing communities on the northern coast from Porto to the Spanish border (Cole 1988:172). Today fewer than half remain and most of these have no harbor. The small-scale fishermen often leave from the sandy beaches with their small open wooden boats. They fish only a few hours a day within a three mile zone from the shore. They use lines and hooks, nets, or cages, fishing for whiting-pout, sardine, conger, squid and shrimps. In the harbors the larger boats, *motoras*, can be found, fishing for the same species as mentioned above as well as the larger ones like sharks. They fish in an area between 3 and 20 miles from the coast. The fishermen are home every 3 to 10 days, depending on the harbor from which they leave. From the larger ports like Viana do Castelo and Matosinhos trawlers depart to fish for cod in the northwestern part of the Atlantic, staying at sea from six to as much as nine months.

According to biologists, the inshore waters of northern Portugal have been overexploited. Catches have been decreasing in the past ten years. The demand for fish, however, has increased, due to a higher prosperity, the enormous love of the Portuguese for fish and 'fruit of the sea,'⁶ and, last but not least, the growing tourism industry in Portugal. As a consequence the price of fish has risen, resulting in a higher income level for the fishery households.

The seaweed *sargaço* (*Saccorhiza polyschides* L.) has been harvested in many coastal villages to use or sell as a fertilizer.⁷ The seaweed grows on rocks under the water. Through the movements of the water, caused by wind and tides, the seaweed tears loose. The floating seaweed is taken by currents towards the coast, where it is either thrown on the beach or remains floating just in front of it.

Saccorhiza polyschides is not the only seaweed that grows on the continental shelf of Portugal. In addition to *sargaço* three smaller species are of importance to the inhabitants of the northern Portuguese coast: the algae *Chondrus crispus* (L) or Irish moss and *Gigartina stellata* (L) which contain carrageen;

and the 'agar' specie *Gelideum corneum* (L).⁸

In Portugal three factories process the agar species.⁹ The carrageens are exported, because the amounts harvested are too small to set up an industry (Palminha 1971:6-7). In 1984, 2170 tons of dried algae have been harvested in Portugal (Alves de Araújo 1987:20). Unlike the *sargaço*, the production of the three algae species has increased over the last few decades, especially in the Azores and southern Portugal. However, large amounts of seaweed are still used in the dunes north of Póvoa de Varzim. *Sargaço* has better results than other fertilizers, particularly in the potato and the onion cultivation. On other soils *sargaço* has been superseded by manure and other fertilizers.

Castelo de Neiva

Castelo de Neiva, the village where I conducted fieldwork, is a large village in the northwest of Portugal, about 50 km south of the Spanish border. It has approximately 6000 inhabitants (1986), from which 2250 are voters (1985), living in circa 750 houses. About 50 to 100 of these houses are vacation homes for tourists or local emigrants who return for the summer. The population has increased markedly since 1867 when there were 1455 inhabitants and 292 houses.

Castelo de Neiva is a village which can be classified as agro-maritime. Peasants as well as fishers are strongly represented. 'We live from the sea and the land' (*Nos vivemos do mar e da terra*), the inhabitants of Castelo de Neiva say. Fishery households partly originate from the peasantry (*lavradores*) and partly from a group which already occupied itself with subsistence fishing. In the *Inquirições* of 1220 is written that fish was being caught by peasants living in the neighbourhood of the castle at the river Neiva and other maritime villages (Veiga and Galhano 1958:14).

Most households in Castelo de Neiva are organized as plural economies. Fishery households, for example, are not only active in maritime activities, but in (semi) subsistence agriculture too. Within the fishery and agricultural sectors the households try to make the most of their possibilities by practising fishery switching, crop rotation and poly-culture. Men as well as women are integrated in this economy and their activities are equal or complementary to each other.

Agriculture, fishery, and seaweed harvest are seasonal activities. They take place in the same seasons and reach their peak during the summer. During the winter work slows down; there is no seaweed, the ocean is often too stormy to fish and nothing will grow on the land.

In the summer the beaches are populated, to a small degree, by tourists, mostly of Portuguese nationality. There is no tourist industry yet. Castelo is somewhat isolated because the large road from Spain to Lisbon does not pass by the village.

Its houses, agricultural plots, beaches, and sea are overseen by a catholic church built near the top of a small hill, the highest point of the village.

The Four Pillars of the Village Economy

Castelo de Neiva is one of those Portuguese villages where agriculture, migration labor, fishery, and commercial seaweed harvest have long been the four pillars of the local economy.

Agriculture

Nearly every household works at least one plot of land for subsistence purposes. About 450 of the circa 700 households work the fields on a commercial or semi-subsistence base. The peasants grow potatoes and cabbage; corn and beans; hay or other fodder or again potatoes successively during the year. Closer to the houses products like onions, garlic, tomatoes, and lettuce are grown. This intensive method of agriculture has been applied for ages. Hardly any fruit trees or vignards can be found in Castelo de Neiva, due to the cold winds coming in from the Atlantic. Many households keep animals, like one or two cows (as draught animals and for milk), pigs, chickens and sheep. They all stay in the stables, there is no grazing land.

As a consequence of the rising prices of rent, artificial fertilizers, and seeds, the villagers are facing diminishing economic returns from their plots of land. Whereas in 1986 every square meter of agricultural land was exploited, as was the case for centuries, in 1990 the situation had dramatically changed: about 2/5 of the plots lay fallow. Newly established factories along the road to Spain and Lisbon have attracted girls and young women as cheap laborers. This salaried work is more appealing to young women than the hard wageless work in the fields. Lacking the assistance of their daughters, the older women and men are not able to work the agricultural plots to the same degree as in earlier years. Due to the decreasing returns of the plots, day laborers are too expensive to hire for a majority of the peasants. The entry of Portugal into the European Community (EC) and the availability of subsidies has made it attractive for entrepreneurs to start (small) businesses. Agricultural development, too, is being stimulated in Portugal by the EC. In Castelo de Neiva, however, only one farmer (1990) has been successful in applying for subsidies.¹⁰

Migration labor

In Castelo de Neiva not one man can be found who has not worked abroad as an immigrant for some time. Many women have also worked as migrant laborers, but to a lesser degree than men. Several 'grass widows' are living in luxurious houses, while their husbands are working in France or Canada. These men visit their families once every year or two during Christmas or summer. Although they do not lack money these women are hardworking peasants who often bake their own bread, smoke hams, raise cattle and harvest their fields. The status of these women is related to the role village-

women play; that of hardworking women who are always busy: *uma trabalhadeira* (Cole 1988). There is an implicit connotation of being proud of being self-supporting.

The inhabitants of Castelo have created a network of families and friends abroad, particularly in France and Canada. Via this network they arrange accommodation and work (often on a tourist visa), especially in construction work. They tend to stick together and it is not even necessary to learn English or French. The illegal workers return when their visa has expired. Many of the legal 'emigrants' only return to the village after a long period of hard work abroad.

Fishery

Although the village does not have a harbor, fishing is important in Castelo de Neiva. Every day 30 to 50 small boats with a crew of two men leave from the beach to catch fish and 'fruit of the sea' (*marisco*¹¹) which is sold at the local fish auction. Besides these 'daytrippers' there are in Castelo fishermen, who operate from harbors. There are seven skippers with each a local crew of 14 men and they have different Portuguese harbors as their base (from Viana do Castelo in the north to the Algarve in the south). Other fishermen fish with skippers who do not live in Castelo de Neiva. There are also fishermen who work on Portuguese or, since 1990, Spanish trawlers near the U.S. (for cod, *bacalhão*). Some 300 out of 1100 adult men in Castelo are fishermen (1986).

Up till the seventies fishermen were poor, living just like the other crofters, *cabaneiras*, in small, primitive houses (*cabana* = cabin). They fished from small rowing boats with lines and hooks and gill nets. In 1918 the shrimp net, a small purse seine, was introduced. This net was also applied for the harvest of *sargaço*. Up to the sixties, sixteen sailing vessels were active, fishing mostly for sardines and *marisco*. From the 1950s until the 1960s 125 Castelo de Neiva fishermen went fishing for cod on Portuguese vessels on the Grand Banks of Newfoundland and Greenland.¹² In order to avoid military service, these Castelo fishermen signed a contract to fish for cod for seven years during 6 months a year.¹³ Military service was for three and a half successive years and contrary to the cod fishery one did not earn a penny. Although the cod fishery was underpaid, according to the fishermen of Castelo de Neiva, several fishery households succeeded to save some money to invest in a new house.

In 1958, the fisherman Sr. Rollo was the first to buy a 10 hp motor. Following this example, other inshore fishermen also motorized their boats. However, the motor power of the day fishery boats never increased much. In 1986 it varied between 15 and 40 hp.

The introduction of the *covo* in 1975 caused an economic breakthrough in the inshore fishery in Castelo. The *covo* is a little cage in which different species of fish and *marisco* can be caught. The cages, containing four hooks baited with sardine, are placed on the sea bottom during 24 hours. Especially

squid is caught with these cages. Due to the high market price for squid, the fishery sector attained a certain level of prosperity.¹⁴ This relative prosperity meant a greater availability of seasonal work to the village economy. The *covos*, for example, last only one year and then need to be replaced by new ones. Several households manufacture the little cages, mainly during spring. Other *arte da pesca* have been partly contracted out by the fishery household, like lines with hundreds (for conger) or thousands (for whiting-pout) of hooks that need to be baited every day during summer. In 1980, an auction-house was built on a dune in Castelo. Fishermen are obliged to auction their catch with a maritime police officer making sure they do so. However, many fishery households do not like this system because they are obliged to pay 18,6% (1986) of the catch's value for social insurances. Many fisherwomen succeed in selling the catch illegally.

Catches are usually very small. Sometimes a good year comes along, like in 1989, when a lot of squid with a high value was caught in Castelo de Neiva. The price of fish and especially *marisco* —and consequently the income of the fishers— has risen sharply during the last decades.¹⁵ Hence fishers do not belong to the class of crofters or *cabaneiras* anymore. They became a separate occupational class.

The Seaweed Harvest

The fourth pillar of the local economy has been the seaweed harvest.¹⁶ The beaches of Castelo de Neiva are good seaweed beaches. Different kinds of species of seaweed grow on rocks just off the coast. Sometimes large amounts of *sargaço* are thrown up on the beaches by the tide, and since some of the rocks appear during low tide, other species can also be harvested by hand. Another favourable condition in seaweed exploitation is the accessibility of Castelo beaches for carriages drawn by animals.

Up till the 1960s the seaweed beaches of Castelo de Neiva were full of harvesters.¹⁷ According to many informants 'the beaches looked like an ant-hill.' 'There was a nice atmosphere, we laughed and sang a lot. We even went at night, and often we went out far in the sea, the waves engulfed us,' some Castelo *sargaçeiros* (seaweed harvesters) say. The work could be rather dangerous too. All kinds of newspaper reports —the first dates from the 24th of April 1629 (Veiga and Galhano 1958:21)— give evidence of drownings or near escapes. 'When my sister was 19 she and a colleague were swept away by the waves and drowned. I grieved long over the loss, now I don't want my wife to harvest seaweed' said a fisherman from Castelo de Neiva.

Men as well as women populated the beaches and coastal waters. They wore special clothes made of undyed wool (*traje de branquette*), men wore long jackets without trousers, and women skirts and blouses from this material. These clothes were intended to protect the harvesters from the cold seawater and the cold wind.

There was a tangle of little boats, rafts and equipment. Small mountains of

seaweed appeared during the day along the coastline, marked in the sand by each harvester's personal mark. Carriages, drawn by oxen, loaded with dripping *sargaço* went back and forth between the dunes. However, a lot of the harvesters did not possess a carriage with draught-animals, they had to carry the heavy and wet seaweed in baskets on their heads. Nowadays this situation has changed in Castelo. Fewer *sargaçeiros* are working and the remaining ones are all women, the carriages are drawn by cows, and rafts and the *traje de branquette* are no longer in use. After the harvest the seaweed is spread out like a tapestry on and behind the dunes, where it is left to dry for 2 to 3 days. During drying *sargaço* loses 60% of its original weight (Veiga and Galhano 1958:63). When the seaweed is dry the tapestry is cut in pieces, the pieces are folded up into small packets, and piled up into a *palheiro*. After 10 to 14 good harvests (during one or two weeks) a *palheiro* is ready. These *palheiros* are sold directly, without the interference of middlemen, to farmers living in the sandy environment north of Póvoa de Varzim.

The demand for *sargaço* has lessened, due to the growing use of artificial fertilizers and dung. However, there still is a demand for *sargaço*, and a *palheiro* brings in a considerable amount of money. In 1985 this was 20.000 escudos (circa \$175), while the minimum wage in 1985 was 19.000 esc per month for men, and in 1989 the price of a *palheiro* had doubled (the lowest factory wage was 25.000 esc per month in 1990). Several women are successful in selling more than five *palheiros* a year. At the end of the seaweed season the Castelo beach quarter is therefore scattered with *palheiros*, up till the time the farmers are coming to buy them, which mostly occurs in December.

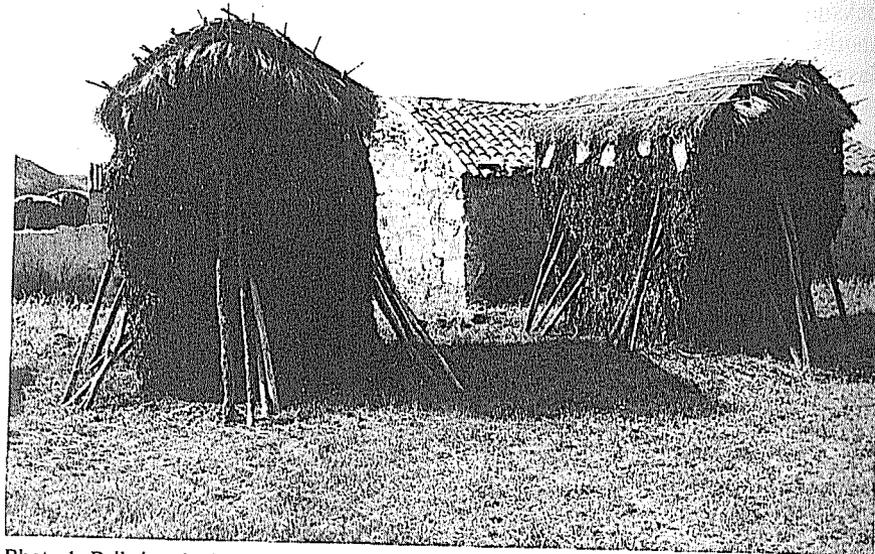


Photo 1. Palheiros in Castelo de Neiva

Seaweed Harvesters: A Separate Class

For centuries inhabitants of coastal northern Portugal have collected seaweed from the Atlantic Ocean. The first document which gives an account of seaweed dates from 1308 (Veiga and Galhano 1958:9). This document stated that only the inhabitants of Póvoa de Varzim were entitled to harvest the seaweed (*sargaço* or *argaço*) that washes ashore on the municipal coasts. The fact that this had to be regulated indicates the importance of the *sargaço* for the coastal people. The *sargaço* was used as a fertilizer for the intensive agriculture on soils behind the dunes.

From 1880 on the demand for *sargaço* increased as a result of the discovery of its fertilizing properties on very marginal sandy soils. This discovery was of great importance for those who had no place left in local agriculture and who tried to build up an existence on the coast. This development occurred in many coastal areas in Europe in the course of the 18th and 19th centuries. Löfgren writes with regard to Sweden: 'Since the number [of peasants] grew faster than local agriculture was able to employ them, they turned to subsistence fishing, often combined with small scale exploitation of marginal land resources' (1979:86). Paul Jorion points out that in North Atlantic coastal areas 'losers in the modernization of agriculture who had been reduced to crofting in the poor and salty coastal areas [added summer fishing to their pursuit of scarce resources]' (1982:514).

Modernization and population growth occurred in the north of Portugal at the end of the 19th century (Soeiro de Brito 1960:31). The 'losers in agriculture' formed a new, poor and low social class, called *cabaneiras*. They made their living from subsistence agriculture and fishery and from the sale of seaweed to the peasants, the *lavradores*. Small villages and new quarters were founded by the *cabaneiras*, such as Palheiras de Mira near Mira (Soeiro de Brito 1960), Amorosa near Chafè and Pedra Alta near Castelo de Neiva. The creation of these hamlets also attracted fishing households. These also belonged to the social class of the *cabaneiras*:

Fishing households emerged in Vila da Praia [pseudonym, EH] during the nineteenth century due to local inheritance practices that endeavoured to keep intact the *casa* (the agricultural household including all land, buildings, animals and other property). The *pescadores* (fishermen and women) historically were the sons and daughters of *lavradores*, those sons and daughters who had not inherited the *casa* (Cole 1990:27).

The *lavradores*, the higher class, remained in the villages, some miles from the sea. From the 1880s on they have been cultivating crops on the marginal sandy soils near the coast, using large amounts of *sargaço* as manure. Many of those peasants harvested *sargaço* themselves, but the quantity they lacked was bought from the *cabaneiras*. Other *lavradores* abandoned the seaweed exploitation (Veiga and Galhano 1958:18). This group became important customers of the *cabaneiras*, too. The peasants also started to experiment

with artificial fertilizers that were introduced at that time.

The social division between *cabaneiras*, including fishery households, as said before, and *lavradores* is also expressed by other aspects than spatial distance. Crofters have been poorer, not being able to rent or own any or much land. (Peasants have been renting plots of land, too.) Subsistence agriculture was not sufficient to support the crofter's household. Increasingly they directed themselves to the marine resources, of which the collecting of seaweed became an important source of income. An essential difference between the two classes was the ownership of carriages and draught animals. Another feature is a tendency towards endogamy: even in 1986 82,4% of the men from the Castelo dayfishery households and 70,1% of the women were of fisher descent, and about 90% of the dayfishermen and 99% of the dayfisherwomen were born in Castelo. Cole states with regard to the fishing households of the *cabaneira* group:

Members of this land-poor group set-up households dependent on fishing and emerged as a low status group in the parish hierarchy, a subordinate status of which the fishermen were always aware. Social relations in the Vila da Praia were characterized by antagonism between the *lavradores* (landowning peasants) and the *pescaidores* (land-poor fishermen) (1988:187).

The hierarchy between the two classes¹⁸ was also expressed by the language of Castelo de Neiva: the word *cabaneira* had a pejorative connotation.

Change and Division of Labor

In 1958, the division of labor in the seaweed harvest was different per region, class, gender and harvesting method (Veiga and Galhano 1958). The peasants used tools inspired on agricultural techniques. The seaweed that occasionally appeared in large amounts was raked from the surf. Rafts and small boats were also used to rake the *sargaço* out of the water. Scythes were used to cut off the plants from the rocks. Fishermen introduced nets in the seaweed gathering (Veiga and Galhano 1958:31). The *ganhapão*, a very large handnet, became popular by the *cabaneiras*. Fishermen themselves used their purse seine (shrimp net). It is striking to see that every *sargaço* village had its own type or form of rake, handnet, raft and boat.

Lavradores who harvested *sargaço* for their own use could be differentiated by region. South of the river Cavado (see map) only male peasants were active, using the *ganhapão*, or harvesting from boats using rakes and scythes. Between the rivers Cavado and Lima male and female peasants harvested side by side; while north of the river Lima, due to the emigration of the men, mainly the women of this class worked in the *sargaço*. Men and women of the class of *cabaneiras* worked everywhere side by side in the surf or on rafts or boats. Men and women of the fishery households also worked together from boats with nets. Women also harvested from rafts or went into the surf with



Photo 2. *Sargaçoira* with large handnet or *ganhapão*.

the *ganhapão*. Fishermen, on the other hand, never went into the water. In coastal villages without fishery both men and women still exploit the seaweed resource with a handnet, rake or tractor. However, since approximately 1975, the division of labor has changed in fishing villages. Fishermen and male peasants and male crofters do not work in the seaweed anymore. There is a sexual division of labor at sea now: men do the fishing and women harvest the seaweed.

The economy of northwestern Portugal has changed markedly. Tourism has put its stamp upon many coastal villages. This offers some job opportunities during the summer, and more income for the fishery households due to the sale of their catches and the renting out of houses. First, fishing households (*cabaneiras*) were forced by demographic developments to exploit marginal land and sea resources. Nowadays, beaches and dunes, and fish and *marisco* have become of great economic importance, and luck has turned for the 'losers in agriculture.' New occupations came into existence, too. Construction work, for instance, has become an important job opportunity for men. Near the large cities, like Porto, men and women have long been working in factories. This kind of work is becoming available for Castelo women since Portugal's entry into the European Community (1986), because the EC is stimulating industrial development. Men of Castelo de Neiva are seldom employed in those factories because women form a cheaper labor-force. This tendency has also been noticed by Cole: 'In 1985, 76.7% of Vila da Praia [near Porto, EH] residents working in factories were women' (Cole 1987:2).

The agrarian sector in Castelo de Neiva does not offer a future according to the sons and daughters of the peasants, let alone the harvest of seaweed.¹⁹ Fishery, on the other hand, has a great attractive power upon young men of both the fishing households and the peasantry. Temporary emigration seems to be even more appealing, due to greater financial opportunities. These developments have been occurring more or less to the same degree in other northern Portuguese coastal communities.

As said, Castelo de Neiva has a very good *sargaço* beach. In 1958 there were 200 or 300 *sargaçeiros*, both men and women. In 1986 forty *sargaçeiros* and in 1990 only thirty were harvesting the seaweed, and since circa 1975 these were exclusively women. These women come from the peasant class as well as the class of fishers/*cabaneiras*. Although the decrease in the number of exploiters has occurred in many villages, the feminization did not. After visiting almost all of the original seaweed beaches in 1990,²⁰ I discovered that feminization was complete only in fishing villages (concerning the *sargaço*). In other coastal villages both men and women were still collecting seaweed.

How is it possible that in fishing villages all men (peasants, fishermen and *cabaneiras*) abandon the harvest of *sargaço*, whereas in other coastal villages, where there is no fishery of any importance, this phenomenon does not occur? Sally Cole stresses that fisherwomen of the fishing village of Vila da Praia 'monopolised the harvest of seaweed and the production and sale of seaweed fertilizer' (Cole 1990:23). However, she does not describe this process towards feminization.

An obvious explanation could be that all men in fishing villages are now working in the fishery related economy as fishermen, fishmonger, fishing preparer (*arte da pesca*), boatbuilder, or otherwise. However, this is not so. The peasantry is still very large and many peasants are poor. Even *cabaneiras* can still be found, but the men of these very poor families do not harvest *sargaço* anymore. The largest part of the *cabaneiras* merged into, on the one hand, the peasantry and, on the other hand, into the new class of fishers. Due to the money earned by temporary emigration, many of the *cabaneiras* were able to buy some means of production and lease agricultural plots, so that the distinction between peasant and crofter faded. Small-scale dayfishery is a part-time occupation, which gives the fishermen the opportunity to work during the afternoon in another occupation. Of course, some time is spent on fish preparing, but this applies mainly to boat owners' households. Crew members occasionally work in construction work or agriculture or do other small jobs. Sometimes they even do not work at all, while they (especially young fishermen who fish with their father) do not have much money to spend. None of these men harvest *sargaço* any longer since approximately 1975, although an income can be earned by it.

The people of Castelo de Neiva do not have an explanation for this attitude, they simply state: 'men the fish, women the *sargaço*, that's the way it is,' forgetting that only 15 years ago the situation was quite different. The explanation of the 'feminization' of the *sargaço* exploitation in fishing

villages can be found in the combination of the economic developments and the socio-cultural boundaries between the different groups involved.

The socio-cultural boundaries were manifest in the seaweed harvesting methods, as we have seen above. Peasants worked with equipment inspired on agricultural tools, while fishers introduced nets. Men and women from the *cabaneira* class and fisherwomen collected the seaweed by raft or boat, but mostly worked with the large handnet in the surf. Fishermen, on the other hand, always used their boats and nets, and never went into the water. 'They thought it humiliating for a fishermen to go into the water,' according to Veiga and Galhano (1958). Getting wet is a taboo for fishermen.

Taboo, Symbolic Domain and Status

Anthropological literature indicates that people perform rituals or observe taboos in order to cope with danger, risk and ambiguity. The Castelo fishermen taboo can be elucidated by referring to the anthropological literature on taboos.

'Ambiguous categories attract the maximum interest and the most intense feelings of taboo' states Leach (1964:39). Indeed, seaweed can be classified as an ambiguous category. For it is not a real plant – it has no roots for example – and it does not grow on the field. But it also is neither an animal, nor a fish. It rather looks like a plant, but it can not be cultivated (it is not in Portugal, see note 2). On the other hand, it can be harvested with agricultural tools. But seaweed can be fished for, too, with fishing equipment. Is it an agricultural or a maritime activity? This depends on your point of view, as we will see.

Another element of the study on taboos is also related to ambiguity, namely:

[...] taboos in maritime communities are part and parcel of rites of territorial passage (van Ginkel 1987:65). Taboos are ways of coping with transitions from one physical and cognitive domain to another (ibid.:62).

Seaweed has been harvested in an area very close to the coast, an area that also can serve as fishing ground, but, more importantly, is the territory from which the fishermen leave to go fishing. It is a 'territorial passage' area between land and sea: a symbolic domain.

Anxiety-reduction which is related to personal danger and economic risk (Malinowski) is a third element in the study on taboos. An important feature in fishery communities is the danger of drowning often combined with the loss of boat and gear. In northern Portuguese fishing communities the fear for drowning is highly realistic. However, this applies to the seaweed harvest to a much smaller degree. In Castelo de Neiva several fishermen-widows can be found, whose husbands were lost at sea. During my fieldwork in 1986, Castelo fishermen found a capsized fishing boat of Póvoa de Varzim,

without any trace of the crew. Two weeks later two of the three corpses washed ashore in Spain. One of these drowned fishermen was the son of a fisherwoman who one month earlier had lost her husband by drowning. In 1989 three Castelo fishermen went overboard, only one survived. In the same period no seaweed harvesters drowned. These recent cases of drownings of fishermen near the Castelo de Neiva coast make it imaginable that this has been going on for ages.²¹

Castelo fishermen avoid getting wet. Getting wet, going into the sea, is as if it were 'tempting fate' or 'asking for trouble' (asking for drowning). Remarkably, five kilometers south of Castelo de Neiva, at the other side of the river Neiva in São Bartolomeu do Mar, a ritual which is called *o Banho Santo* is held every 24th of August. Coastal people and inhabitants of the Neiva valley attend the ritual. This Holy Bath has a positive and beneficial as well as a negative effect on the participants of the ritual. *O Banho Santo* is meant for young children who suffer from anxiety or epilepsy (Veiga and Galhano 1990:73).²² The children have to be engulfed by three waves in the arms of a man or woman who is wearing the *traje de branquette*, the clothes made of undyed wool of the *sargaçeiros*. This engulfing has a beneficial effect on the children, they are supposed to recover from their anxiety or epilepsy afterwards. So, there is a positive relationship between the sea and health. However, there is at the same time a negative effect. Manuel Miranda da Costa Pereira, namely, points to the repercussion of this Holy Bath ritual for the people (1986:225).²³ On this same day, the 24th of August, the day of saint Bartolomeu, the 'devil' breaks loose in S. Bartolomeu do Mar, *o Diabo à solta*. Besides the beneficial effect of the engulfing, the act of going into the sea has its negative consequences, it is tempting fate. As a precautionary measure, garlick is sown into the clothes of the children and 'the engulfers' are paid a fee.

The *sargaçeiros* are safeguarded against this risk because the surf is their territory, for them it is not a symbolic domain but a place to work. That is why the men and women who hold the children in the surf are wearing the *traje de branquette*, in order to safeguard the children. They wear the *traje de branquette* to fool the 'devil,' who belongs to the symbolic domain. For fishermen the surf is a territorial passage area, the open sea is their territory. There is a need for fishermen to fear the consequences of going into the surf, to enter the symbolic domain.

Illustrative for this taboo in 1986, at a time when all Castelo men had abandoned the harvest of *sargaço*, was the fisherman who helped his wife and daughters with the seaweed harvest by unloading the carriage beyond the dunes. He waited beyond the dunes for the carriage, drawn by a cow, that his wife or daughter brought from the beach. He never entered the beaches for the harvest of seaweed, only for the fishery. Even young boys who play in the sea, during the seaweed harvest in the proximity of their mother, are not allowed to do this anymore from the age of circa ten onwards. Whereas young daughters are stimulated to help their mothers harvesting seaweed,

sons are forbidden to do so. Instances of people who encroach upon the margins of these symbolic boundaries can be elucidating. Once I saw a widow beckoning her adult son to help her carry the heavily loaded handnet from the sea. The son absolutely refused even to enter the water with one toe. When the handnet was unloaded on the beach he loaded it on a carriage in order to bring the *sargaço* to the dunes, where he waited for enough seaweed to load again. In Castelo I have seen a fisherman entering the sea only once, far away from the village. He behaved like a modern tourist whose style of life appealed to him very much.

The harvest of seaweed became lucrative at the end of the nineteenth century. This meant an opportunity to increase income for the very poor coastal people, *cabaneiras* and fisherfolk. However, fishermen had to find a solution for the taboo/poverty dilemma. Due to their poverty-stricken circumstances they were forced to harvest the 'ambiguous' seaweed in this 'symbolic domain.' Because, as we have seen, 'getting wet' is synonym with 'asking for trouble,' fishermen could not harvest the seaweed by going into the surf. So they went by boat, avoiding to get wet. The ambiguous character of the seaweed was lessened by considering it as 'wild' and by 'catching' it with fishing gear. By using their boats, they even had an appropriate means of staying in the area of territorial passage. Although the harvest of seaweed has an agro-maritime character, fishermen classified it as a strictly maritime occupation.

Women, peasants and *cabaneiras* did not have to observe these taboos.



Photo 3. The seaweed exploitation, an agro-maritime activity.

They did not go further into the sea than was strictly necessary for the collecting of seaweed. The surf has become their territory. That is why the 'baptizers' of *o Banho Santo* wear the clothes of the seaweed harvesters in order to be legitimately in that territory which otherwise could have its repercussions. The meaning given to the seaweed harvest is different per group involved: Peasants, harvesting the seaweed for their own use in commercial agriculture, see it mainly as an agricultural occupation, using adjusted agricultural tools, whereas women and crofters, harvesting the seaweed on a commercial base and the land on a subsistence base, consider it to be an agro-maritime occupation. Fishermen, as we have seen, classify the harvest of seaweed as strictly maritime.

Interestingly men from other occupations than fishing have incorporated the fishermen's taboo over the years. Male peasants and crofters, who have been living in fishing communities, have left the seaweed exploitation. The largest part of the class of *cabaneiras* has merged into the class of peasants and of fishers. In coastal villages without any fishery of importance, the distinction between *cabaneira/lavrador* has faded, too. Men in those villages could not incorporate the fishermen's taboo, because the taboo does not exist; there are no socio-cultural boundaries between peasants and fisherfolk. Illustrative in connection with this are the developments in Afife, a coastal non-fishing village circa 15 km north of Castelo de Neiva. In this village the seaweed harvest was, in 1958, an almost one hundred percent female occupation due to emigration of males (Veiga and Galhano 1958). Nowadays both men and women work as seaweed harvesters again. There are no fishermen to cope with, the 'significant other' does not exist and hence no feelings of taboo. As the Dutch sociologist Schuyt states:

Concrete behavior or events become meaningful through and within a specific ideational system, which is maintained by a certain group in competition with another group's ideational system (Schuyt 1986:57).

In coastal villages without fishermen there is no competition between the discussed ideational systems because only crofters and peasants are working in seaweed harvest.

The next question to be answered is: why did non-fishermen in fishing villages incorporate the fisherman taboo of 'not getting wet'?

Economic developments within the fishery and stagnation in agriculture caused a change in village class hierarchy. The fishing households have overtaken the *lavrador* in the social hierarchy of the village. The fishers are nowadays more successful than the peasants. Formerly, *cabaneira* was a term of abuse, nowadays fishermen say of an inept fisherman 'ah, it is a *lavrador*.' Men identified themselves with the successful fishermen and, just like them, did not want to enter the sea anymore. This was not for the reason of anxiety reduction or other fishermen's motives, but because it did not fit the image of being a successful entrepreneur or a well-to-do man any longer. Change in

group relations and attitudes occurred:

If relations between groups change, the ideational system can change and, next, the meaning given to concrete behavior or events can change (Schuyt 1986:57).

The taboo has a different meaning for each group, fishers, male peasants and crofters. This is comparable to the ideas of Anthony Cohen concerning the different meanings that symbols and rituals can have for different groups or individuals:

[rituals] have an 'official' form and rationale, but their participants may well find in them quite different meaning and experience [...] they afford to their participants to assimilate the symbolic forms to their individual and idiosyncratic experience and social and emotional needs (1985:53). Because symbols are malleable [in a certain way, EH] they can be made to 'fit' the circumstances of the individual (ibid.:18).

The non-fishermen were worried about their status and especially the *lavradores* with their worsened economic situation suffered from loss of status. They now have an occupation with diminished prestige. They cannot afford to do work which would lessen their prestige any further. The economically successful fishermen already left the harvest of seaweed, which in fact was too ambiguous and therefore humiliating, and the other men followed them, in order to keep up with them. This is the reason why men, first fishermen and somewhat later the peasants and crofters, do not enter the sea any longer, by which 'feminization' arose: women stayed.

The Castelo women, coming from a fishery, crofter or peasant household, had one thing in common: they often had to support their families, sometimes for long periods, without the assistance of their husbands. Men often migrated or went fishing for extended periods of time. Women had to cope with that fact and developed an identification pattern different from men. They developed an image of themselves which crossed class boundaries: being a 'good woman' became synonymous with being a 'hardworking woman,' *uma trabalhadeira*, in agriculture, seaweed, *arte da pesca* and the household. The women of the coastal villages have long been supporters of the local economy. The commercial exploitation of the seaweed resource provided a cash income, which made them in a way independent from men. Nowadays wage work in factories is coming in fashion, and women too seem to change their attitudes towards agriculture and the harvest of seaweed.

Conclusion

By relating the actions of different groups within a community to their ideational systems in a dynamic and contextual perspective elucidates: 1) that changes occur within an apparently 'traditional' society; 2) the course these changes follow; and 3) the reason for those changes.

Once there were too many hands available in the local economy, but nowadays there is according to *o presidente da freguesia*, the mayor, a shortage of labor in Castelo de Neiva, due to the availability of salary paying jobs in factories, in construction work, and abroad.

Formerly maritime resources were underexploited and agricultural plots overexploited. Nowadays there is overexploitation of fish and *marisco*, and underexploitation of agricultural land and seaweed resources, although there is a demand for agricultural products (on a national scale) and seaweeds (on a national and an international scale).

All these changes must be understood in relation to the ideational system, and thus the valuation of actions. In this article I have argued that the feminization of the seaweed harvest in fishing communities is related to the identification of non-fishermen with fishermen. This identification pattern has caused an imitation of a ritual of avoidance of the fishermen, the taboo of going into the sea. This taboo was felt by many coastal groups, expressing itself in the ritual of *o Banho Santo*. But the *sargaçeiros* were safeguarded from this, because the surf is their territory. However, the male *sargaçeiros* gave another meaning to the taboo, in accordance with their identification pattern. The motive of this identification of male *sargaçeiros* is to be found in the economic prosperity of the local fishermen while local agriculture stagnated.

Thus, male seaweed harvesters acted economically 'irrational' due to changes in Castelo's group relations and dynamics in the ideational systems.

Nowadays the Castelo youth relate seaweed and agriculture to the poverty-stricken lives of their parents and grandparents. It is associated with 'subsistence,' while money is now available and luxury goods are appealing. Although money can be earned by harvesting seaweed, the image of 'those hard old times' comes with it. The old occupations do not have prestige anymore. The consequence may be that the work of the Portuguese *sargaçeiros* will fade into oblivion.

Acknowledgments

I would like to thank Rob van Ginkel, editor of *MAST*, for his valuable comments and suggestions as well as Romke van der Veen, University of Leiden, for his constructive criticism. I am also grateful to Willeke Hoeke and Henk Wagenaar, both University of Leiden, who helped improve the English text.

Notes

1. The research upon which this article is based was carried out in the spring and summer of 1986 and in June of 1990, with the financial support of the Dr. C. van Tussenbroek Fund.

2. In the past seaweeds have also been harvested in many other European countries. Milovan Gavazzi (1974) mentions Iceland, the Faroe Islands, Sweden, the Baltic countries, the Hebrides, Orkney, Ireland, the Aran Isles, the Channel Isles, Brittany, Portugal, Spain, and the countries surrounding the Mediterranean and the Adriatic. Seaweed has long been used in agriculture as a

fertilizer, but it can also be applied in certain industrial products. Seaweed is gathered outside Europe as well; the Japanese use large quantities, especially as vegetables.

For centuries successful efforts have been undertaken to cultivate and industrialize seaweed. 'The exact date of the beginning of the seaweed culture is not known, but the practice is quite old and probably began in Tokyo Bay between 1624 and 1651...' (Chapman and Chapman 1980:99). Today it is cultivated in countries all over the world and experiments are continuing. However, maritime circumstances are not always suitable for cultivation. Therefore, the 'wild' seaweed resources are exploited where seaweed washes ashore, where it grows near the coast, or where divers can reach the plants. Attempts are being made to make optimal use of this renewable resource: 'Up to the present, seaweed resources have not been fully exploited although this situation is being approached in respect of the agarophytes. However, due to the continued growth of the world's population, resulting in increasing pressure for food and energy, seaweeds, which form an annually renewable resource, are likely to become increasingly important' (Chapman and Chapman 1980:253).

3. As will become clear, the 'feminization' of the seaweed exploitation was caused by the withdrawal of men from this endeavour.

4. The agricultural situation in northwest Portugal still is the same: 60% of the agricultural land of the district of Viana do Castelo consists of concerns that are smaller than two hectare; 25.9% are between two and five ha.; 10.6% are between five and twenty ha.; 2.1% between 20 and 50 ha.; and only 1.4% has a surface of more than 50 hectare (De Castro Caldas and De Figueirido 1986:33).

5. 'In 1972 [...] the yield of corn in Portugal was 1.330 kg per hectare compared to 5.390 in Italy' (Apalhão cited by van Wezel 1985:16). In comparison to Spain and Greece, two other southern European EC-members, the yield of corn of Portugal is only 1/3 and the yield of potatoes 2/3 per hectare (Wienberg 1984:422).

6. In 1985, the Portuguese consumed 30 kg of fish and 'fruit of the sea' per capita.

7. *Saccorhiza polyschides* (L.), is an annual brown seaweed with a length of 3 to 4,5 meters. It is a high quality fertilizer. 'Fresh seaweed contains the same amount of nitrogen and twice as much potassium as manure' (Angel 1977:3).

8. Carrageen is a gum or mucilages and agar is a gel. The algae are widely used in the cosmetic/pharmaceutical and food industries, and have been exploited in Portugal since 1939 (Palminha 1971:1). At the end of the 20th century seaweed is used as fodder, manure, fuel, human food, as well as natural emulsifiers, gums or mucilages and gel.

9. The three factories are owned by Portuguese/Spanish/Japanese joint ventures.

10. This depends on total surface size, plots are allowed to be scattered over the area.

11. *Marisco* is a general term for shell-fish, crab, lobster, squid, shrimps, etc.

12. For a detailed description of this fishing, see Cole (1990).

13. The Portuguese State (under the dictatorship of Salazar) recruited fishermen to catch cod in order to decrease imports of cod. Cod or *bacalhão* is the main component of a traditional meal in Portugal (see also Cole 1990).

14. The *covo* is not in use in every fishing village. In these other villages, however, economic prosperity occurred too, due to tourism and the increase of prices for fish and *marisco*.

15. The turnover of the local auction of Castelo gives an indication of the increase in income of the fishery households: In 1985 this was 23.170.000 escudos; in 1986 this was 24.441.000; in 1987 44.400.000; in 1988 54.000.000; and in 1989 64.000.000 escudos.

16. The small seaweeds have not been harvested as long as *sargaço*, only for about 50 years. In 1986 and 1990 the small seaweed harvest in Castelo de Neiva was carried out in five boats, crewed by 2 or 3 women. In Castelo de Neiva eight tons of algae have been harvested per year. This could have been much more, according to the middlewoman. In 1977, *Gelidium* brought in 20

escudos/kg, in 1986 45 escudos and in 1990 150 escudos. The carrageens brought in 12.50 escudos (1977) and in 1990 100 escudos per kg. In 1986 two women together collected 226 kg of dried carrageens in four days.

17. It is not possible to harvest the *sargaço* the whole year around. The harvest starts in spring when the first *sargaço* washes ashore at the end of April or May. The harvest ends in autumn. The early *sargaço* is called *folha de maio*, and is rich in iodine. It is sold dry by the kilo via middlemen to the pharmaceutical industry. At the end of May or the beginning of June when the *sargaço* contains less iodine, it is harvested to use it in a dried form as a fertilizer.

18. The nobility and priesthood were identified as classes, too, in that time. Hierarchically they are above the classes of *lavradores* and *cabaneiras*. This article does not pay attention to their roles.

19. In some villages the harvest of seaweed was abandoned totally, for example in the fishing village Ancora. In Insua Caminha this is because of the disappearance of the seaweed, due to the construction of a new jetty. However, in Moledo and Afife, the local government leases stretches of beach to dry *sargaço* to the harvesters. In Moledo it even is so full of *sargaço*, that this system is necessary to avoid quarrels. In Afife peasants harvest seaweed with the aid of tractors, they transport it, in dried state, with lorries to the Póvoa de Varzim region. These *lavradores* are sometimes trying to harvest seaweed with their tractors on other beaches. This is prohibited. To be allowed to harvest the seaweed, one needs a licence, that is only valid for that particular beach.

20. These are: Insua Caminha, Moledo, Vila Praia d'Ancora, Afife, Careço, Areosa, Amorosa, Castelo de Neiva, S. Bartolomeu do Mar, Marinhas, Fão, Apúlia, Aguçadoura, Averomar, La Bruje, Mindelo, Vila Chã, Angueiras.

21. In 1990, the day fishery boats were equipped with radios, which will hopefully improve safety.

22. According to Miranda da Costa Pereira (1986) the children suffer from stammering, shyness, skin diseases, or epilepsy.

23. Miranda da Costa Pereira (1986) points to a relationship between sweet water (the river Neiva), and salt water (the ocean). He postulates that the people of the valley of the river Neiva might be afraid that the ocean would flow into the river, causing damage to the agricultural plots.

References Cited

- Alves de Araújo, J.
1987 *O essencial sobre o litoral Português*. Portugal.
- Angel, H.
1977 *Seaweeds on the seashore*. Great Britain: Jarrold & Sons Ltd.
- Birou, P.
1950 *Le Portugal*. Etude de Géographie Régionale. Paris.
- Chapman, V.J. and D.J. Chapman
1980 *Seaweeds and their uses*. London: Chapman and Hall.
- Cohen, Anthony P.
1985 *The Symbolic Construction of Community*. Chichester: Ellis Horwood Limited.
- Cole, S.
1988 Social Change in a Portuguese Fishery. In: J. Nadel-Klein and D.L. Davis (Eds.), *To Work and to Weep*. St. John's: ISER, Memorial University of Newfoundland. Pp. 169-90.
- Cole, S.
1990 Cod, God, Country and Family: The Portuguese Newfoundland Cod Fishery. *Maritime Anthropological Studies* 3(1):1-30.
- de Castro Caldos, E. and E. de Figueirido
1986 *Agro-Sistemas. Caderhos do Noroeste. Minho terras e gente*. Braga: Universidade do Minho. Pp. 20-39.
- Gavazzi, M.
1974 Die Nutsniessung des Tangs in den Volküberlieferungen der Europäischen Meeresküsten. In: *In memoriam António Jorge Dias* I. Lisboa. Pp. 123-38.
- Jorion, P.
1982 All Brother Crews in the North Atlantic. *The Canadian Review of Sociology and Anthropology* 19(4):513-25.
- Leach, E.
1964 Anthropological Aspects of Language: Animal Categories and Verbal Abuse. In: E.H. Lenneberg (Ed.), *New Directions in the Study of Language*. Massachusetts: MIT Press. Pp. 23-65.
- Löfgren, O.
1979 Marine Ecotypes in Preindustrial Sweden: A Comparative Discussion of Swedish Peasant Fishermen. In: R. Andersen (Ed.), *North Atlantic Maritime Cultures. Anthropological Essays on Changing Adaptations*. The Hague: Mouton. Pp. 83-109.
- Miranda da Costa Pereira, Manuel
1986 A Crença dos Povos do Vale do Neiva no Banho Santo de S. Bartolomeu do Mar. In: *Actas do Colóquio 'Santos Graça' de Etnografia Marítima IV*. Câmara Municipal da Póvoa de Varzim. Portugal. Pp. 219-26.
- Nadel-Klein, J. and D.L. Davis
1988 Terra Cognita? A Review of the Literature. In: J. Nadel-Klein and D.L. Davis (Eds.), *To Work and to Weep*. St. John's: ISER, Memorial University of Newfoundland. Pp. 18-51.
- Palminha, F.
1971 *Exploitation et utilisation des algues marines sur le plateau continental Portugais et dans les Iles de l'Archipel des Açores*. Junta de Investigações do Ultramar. Lisboa: Centro de Biologia Aquática Tropical.
- Schuyt, C.J.M.
1986 *Filosofie van de sociale wetenschappen*. Leiden: Martinus Nijhoff.
- Soeira de Brito, Raquel
1960 *Palheiros de Mira. Formação e Declínio de um Aglomerado de Pescadores*. Lisboa: Instituto de Alta Cultura.
- van Ginkel, R.
1987 Pigs, Priests and other Puzzles. Fishermen's Taboos in Anthropological Perspective. *Ethnologia Europaea* XVII:57-68.
- van Wezel, R.
1985 *Bouwen en wonen in een illegale wijk van Lissabon*. Universiteit van Amsterdam. Dissertation.
- Veiga de Oliveira, E. and F. Galhano
1958 *A Apanha do Sargaço no Norte de Portugal*. Universidade do Porto: Instituto de Antropologia.
- Veiga de Oliveira, E., F. Galhano and B. Pereira
1990 *Actividades Agro-Marítimas em Portugal*. Lisboa: Publicações Dom Quixote.
- Wienberg, D.
1984 Information über die portugiesische Landwirtschaft. *Berichte über Landwirtschaft: Zeitschrift für Agrarpolitik und Landwirtschaft* 1984:422-45.