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# HERDSMEN, A CHANGING PROFESSION

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SUMMARY - Traditional extensive grazing systems in Southern Portugal relying exclusively on herdsmen that live in permanence with the animals are in peril, since herdsman is the least attractive among rural professions.
Recently, namely after the entry in the EEC in 1986, and taking advantage of the UE structural funds, infrastructures aimed at extensive livestock production, such as fencing and water supply have been installed, but still far way from covering the territory.
The paper aims to provide a systematic understanding of the changing characteristics of the herdsmen profession and functions. It proposes a model framework to highlight the driving forces of the reported changes, using a case study in South Alentejo (Portugal) as an illustration.
The results of a survey to 25 farms in the municipality of Ourique and inquiries to 37 employees working with livestock show a mosaic of situations ranging from remnants of the traditional herdsman to another type of worker, the so called polyvalent which is able to use the machinery and work in a more sophisticated working environment. They are generally better paid and have living conditions closer to other more urban professions, in some cases a working schedule and a free day per week.

Key words: *herdsmen, work and living conditions, extensive grazing systems, Southern Alentejo*.

## INTRODUCTION

This paper has two main concurrent goals. One aims to provide a systematic understanding of the changing characteristics of the herdsmen profession and functions [1] and the other, essentially empirical, aims at describing the most relevant features of the extensive grazing systems on the Southern Portugal through a case study.

In section 2 we will propose a model framework to identify the driving forces that provoke the changes as well as the logic that is underneath its interconnections using the Portuguese case as an illustration. This will oblige to consider each case (that could be a country or a region) situated in its precise historical socio-economic and cultural context that directly or indirectly influence the profession.

Section 3 starts with a brief characterization of the area where the empirical study was made as well as provides a short description of the main characteristics of this profession in Portugal at the beginning of the XX century that will serve to highlight the deep changes that guard and extensive livestock herd management had suffered along this period, comparing it with the current situation. This description highlights the importance of the changes on the one hand, and it allows calling the attention to the extremely high differences that can be noticed inside a particular country such as Portugal, which suggest that they can be generalized when a cross-country compari-

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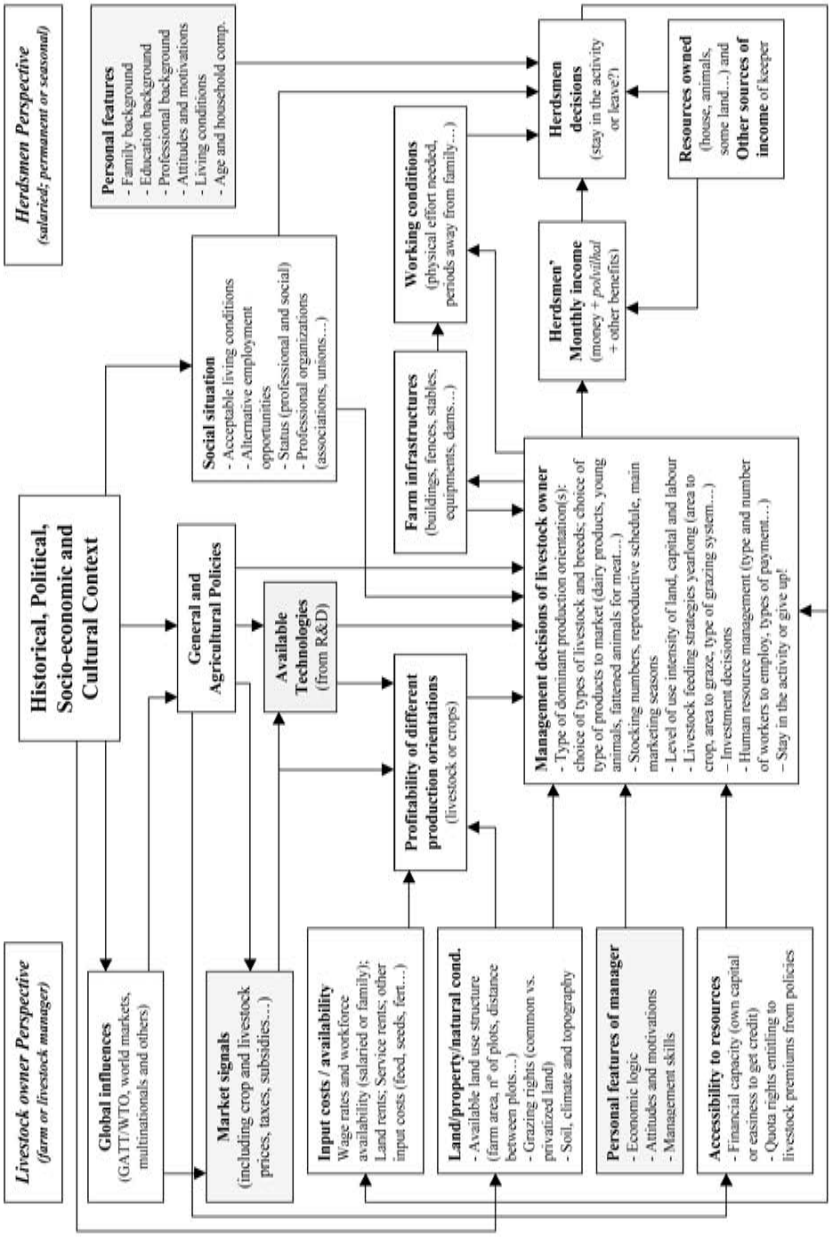


Diagram 1 - Determinants of change on extensive livestock systems and herdsmen working/living conditions.

son is made, even if this is out of the purposes of this paper [2].

In section 4 we will highlight recent changes illustrated by the panorama of the different situations founded on expert knowledge and on a survey to farmers and herdsmen.

Finally, in section 5, we will draw some conclusive remarks.

## THE DETERMINANTS OF CHANGE

In this section a framework will be proposed to approach change on extensive grazing systems (EGS) [3], focusing particularly on the changes that originate deep transformations on the herdsmen profession. This framework seeks to identify the main forces that provoke changes on EGS, to provide an explanation of the main interconnections between the influential factors and to identify the driving forces of the process. This framework situates the systems in its precise historical, political, socio-economic and cultural context, which is necessary to understand the relevance of the particular determinants that directly or indirectly influence the professions involved on these EGS. To facilitate a schematic overview of the referred interconnections it is useful to have a look at Diagram 1.

Diagram 1 aims to be an aid for reasoning and should be not considered as a fixed scheme or even less a deterministic one. In this Diagram the arrows do not represent obligatory and exclusive causal relations, but instead only intend to show the direction of the most important influences affecting management decisions on the extensive livestock grazing systems. It seeks in particular to represent cases of EGS based on salaried relations between the farmer (or the livestock owner) and the herdsmen, as it is in the Portuguese case that serves as illustration. If one wants to address the particular case of family farming or of own-account pastoralists it is necessary to erase or re-qualify some of the mentioned influences, namely the ones that make appeal to the wage level.

Considering the historical, socio-economic and cultural context is vital, since many extensive livestock grazing systems are intrinsically linked to historical and cultural patterns that are clearly beyond the strict economic rationality that prevails and is determinant in the industrial countries. That is, the first central box of the Diagram 1 reminds us that the overall context constitutes the essential background needed to understand not only the existing differences from country to country but also the sense and direction of the movements of change.

Appealing to the overall context box means to pay attention to a number of features that characterize a particular country, region or society. Focusing primarily on democratic capitalist societies, it seems obvious that the type of political organization and its forms of legitimation have an influence on the definition of policies. Furthermore, it also influences the degree of socio-economic development (measured by the structure of GDP) as well as the importance of the State intervention, but it goes beyond this level, involving other features such as:

- the weight of market driven regulations and the type and importance of public goods policy;
- heritage and other propriety rights;
- the openness of the economy to international trade;
- the role of working unions;
- the type of education system and R&D policies;

[2] We were stroke by the fact that trying to organize the references about shepherds we make appeal to an Australian friend and obtained as an answer that no such thing exists any more in Australia that could be described as a shepherd. What is similar to that profession are workers or livestock owners that maintain the surveillance of their herds with the aid of four-wheel drive vehicles or by helicopters.

[3] In the context of this article, extensive grazing systems are understood as production systems in which the majority of livestock needs along the year are satisfied by natural grazing resources (Crespo, 2003).

- the type of social policies (health, social security);
- the importance of environmental considerations on the economy and the society.

The overall context is essential to understand the general socio-economic orientation of each specific country, particular in what concerns policy determination and what are the socially acceptable living conditions for the population and the workers. However, especially in this global age, if we want to understand the path of evolution we also need to include global variables on the analysis, namely the variables related to international trade and its forms of regulation.

After these background considerations our thesis is that in market-oriented industrial countries there are two first-level determinants of change and one secondary level.

The first level determinants are the *market forces* and the *personal features* either of the decision-maker or of the herdsmen.

By market forces we mean the mix of market trends, institutions and regulations that determine the market signals (market driven or administrative prices, subsidies, taxes, …) transmitted to the economic agents.

Market signals such as the level of prices, wage rates, land rent and input costs constitute, on the one hand, an obvious determinant feature of the profitability of livestock production and of the profitability differentiation between the different livestock production orientations. On the other hand, market signals are very important on the conditioning of, among other things: the use of the existing alternatives among the available technologies; the decisions about what type of breed will be target for production, as well as the decision to enter, continue, intensify, extensify or abandon livestock production.

The other first level determinant comes from the personal characteristics of the herdsmen and of the decision-makers, usually the livestock owners. These personal characteristics rely heavily on the overall context, but also depend on the specific types of general (educational) and agricultural policies (extension and training).

The available technologies are considered as a second level determinant due to three main reasons: 1) because they are strongly influenced by market signals, 2) because available technologies and technological development are intimately linked to the institutions involved in the process (Summers, 1983) and 3) because they also greatly depend on the specific ecological conditions of a particular region.

The importance of the available technologies for extensive grazing systems can be measured by an example: the adoption of an old technology, fencing. Nowadays, fencing is much more a mean to assure a work-saving pasture and herd management than the primordial guarding function that it had in the past. But this technology also illustrates that the term available only means the existence of enough knowledge to adopt the technology. Its effective adoption nevertheless also needs that other historic, economic and social conditions are ripped to adopt it, which is not the case for fences in many environments.

Returning to Diagram 1, the box of the available technologies shows the crossed influences of market signals and policies. In fact the research and development (R&D) process of a new technology results in most cases from clearly identified goal-oriented projects aimed at particularly vested interests [4] and not from a side effect of scientific development. Those goal-oriented projects are greatly dependent on market signals and on the functioning of the institutions that produce it, either public or private.

Finally, the dependence of agricultural technologies on the ecological conditions is so obvious that it does not need further explanation.

Considering what has been described above, each livestock owner takes his man-

[4] As Friedland (1984) exemplifies with the bias on research funding at the University of California in Davies favoring exclusively large capitalist farmers and no research funds being devoted to develop technologies to small family farms.

agement decisions about the type of livestock production (that is the choice of breeds, the level of production intensity, feeding alternatives, and so on) based essentially on market and technological determinants. These management decisions also need to integrate two other features: the decision maker's management skills, which go beyond mere attitudinal features to integrate education, training and extension conditions (in the boarder sense including advisory and consultative services) that depend indirectly from the overall context and from the agricultural policies; and a frequently forgotten aspect, the decision maker's economic rationale or logic. This last determinant needs further explanation.

Considering the economic rationale means that the decision-maker is not a computer reacting solely to market signals, but he is a social actor embedded on a society that influences his decisions. That is, the decision-maker does not have to follow any kind of predetermined economic behaviour, such as maximizing profits, but on the contrary decision-makers can have a wide range of behaviours, some of them quite at odds with the profit maximization paradigm. In the Portuguese case, we can easily identify two different broad types of behaviour among farm owners that keep a salaried relation with the workforce: on the one side, we can find the more typical capitalist that innovates and invests; but on the other side we can also find the latifundist rentist rationale (in the case of the farmer also being the landowner) that is extremely risk-averse and seeks to minimize costs and management efforts even realising that the final result he will get is much inferior to the one it could be expected [5]. This situation is economically understandable because this rentist type of decision makers can count not only with out-of-farm income, but essentially on large hectarage, meaning that lower profits per hectare could mean an overall profit that is considered compensatory enough for his management time and risk. We voluntarily exclude from this reasoning the question of family farming since our examples come mainly from the salaried farms. However, it must be stressed that family farming also has its own economic rationale that differs from the typical capitalist or from the rentist rationale [6].

But extensive livestock production does not depend only on market signals, on the characteristics of the decision-maker, and on the available technologies. It depends also on the accessibility to financial resources and quota rights, as well as on the feeding resources available and on the possibilities to have access to them. This is highly dependent on the existence of common pastures or on the possibility to acquire pastures, to rent land or to acquire the rights to graze cereal stubble. That is, yearlong feed resources management does not depend only on own resources but also on out-farm resources, therefore being greatly influenced by the propriety rights and by the alternative uses that landowners are willing to give to their proprieties. These aspects are greatly dependent on the overall context and on particular policies that change from country to country.

Finally, extensive grazing systems greatly depend on the ways that livestock owners and herdsmen interpret market signals. These perceptions have a common ground resulting from the relations between farm infrastructures, the working conditions and work availability. Livestock owners' decision to improve or not improve farm infrastructures, having obvious reflects on the working conditions, depend greatly on the available work force and its wage rates and other types of payment. In its own turn these aspects depend greatly on the herdsmen's

[5] Baptista (1993) shows the evolution of the tradtional latifundia of southern Portugal through a bifurcation that distinguishes the modern capitalist farms and the risk averse latifundists.

[6] It is well known the extensive literature on the economic logic or rationale of family farms, allowing us to skip the presentation of relevant references.

personal features, on the social acceptable living conditions, the alternative employment opportunities, as well as on the social and professional status of this activity.

By using this framework it is then possible to have a systematic approach to the extensive grazing systems linking economic to historical, social and cultural aspects that, on the way or another, greatly influence the direction of the changing paths.

## CASE STUDY: EXTENSIVE LIVESTOCK SYSTEMS OF THE SOUTH OF PORTUGAL

### *Characterization of the study area and Historical overview*

Short description of the territory

Southern Alentejo hinterland is characterized by an intensive and old humanization. The resulting character of its landscape is therefore highly use-dependent. In fact, a natural landscape that should be dominated by more or less dry forests of *Quercus* was progressively replaced by an extensive mosaic of open arable fields of rain-fed cereal or extensive pastures and park like more or less open formations of *Quercus suber* or *Quercus rotundifoliae* – the "Montados" [7]. Degrading grazing areas tend to develop shrub cover dominated by *Cistus* species. Only occasionally can some Mediterranean temporary ponds or more or less perennial rivers be found.

"Campo Branco" is the central part of the study area and considered presently as a rural territory with high environmental value (protected under European Union (EU) Birds Directive and Natura 2000 network). This area (mostly located in the municipalities of Castro Verde and Mértola), but also the surrounding ones (like most of the municipalities of Ourique and Almodôvar), represents an edapho-climatic and economic situation that is common to many areas in southern Portugal (see Map 1). Its climatic (very harsh Mediterranean features, meaning average annual temperature of 16.1 °C with relatively cold winters concentrating most of the average 450-600 mm/year rain-


Map1 - Map of the study area [1].

[1] The shaded area represents the Portuguese study area in the context of the UE project LACOPE_EVK2-2001-00259; from west to east this includes the municipalities of Ourique, Castro Verde, Almodôvar and Mértola.

[7] Typical Iberian agro-forestry-grazing systems that in Spain are known by the name of "Dehesas".

fall, and very hot summers with long rainless periods) and soil conditions (predominantly very poor and shallow dominant schistic soils) were never suited for intensive agriculture, because of the very limited water and nutrient availability. Nevertheless the relief is very soft and plane, this region being a wide plateau with maximum height of 300 m.

Therefore extensive land use systems were always dominant in the region (already since Roman colonization), and also very related to the large dimension of the private land property as well as to the economic rationale of the landowners. These extensive systems combined cereal production, in a more or less long rotation, with grazing of the stubbles or the fallows.

Historic overview of extensive livestock production and its actors

These extensive grazing systems were structured for centuries in order to take advantage of the natural resources typical of these Mediterranean areas, and relevant literature shows the importance that they always had in the south of Portugal [8]. In a first phase, until the XIX$^{th}$ century, these systems were based on the mobility of the herds through transhumance, either in the case of communal (*aduas*) or of private herds. This was possible because of the importance communal land had at the time, namely the possibility to use the common pastures in specific times of the year (*compáscuo*) [9]. According with the above-mentioned literature, these systems used undifferentiated labour force, with low training, without a hierarchy of functions and performing mainly routine undifferentiated tasks, which essentially consisted in keeping and conducting the herds from pasture to pasture. These herdsmen got very low wages and had extremely poor living conditions representing the lower layer on the social pyramid. In fact, their particular skills and expertise, obtained by trial and error and usually orally transmitted, were not recognized and therefore not rewarded.

Along with the transition from the Ancient regime to the Liberal regime (from the XVIII$^{th}$ to the first half of the XIX$^{th}$ century) the full consolidation of the individual propriety rights' regime brought along the end of the different forms of common propriety and rights of passing. The establishment of private *latifundia* in the south of Portugal brought along a change in the dominant type of extensive livestock system: the transhumance patterns were reduced and a more localized type of grazing system was established relying primarily on internal mobility inside the "new" estates, or recurring to forms of small distance transhumance to other properties in summertime. This transhumance aimed at taking advantage of the post-harvest resources on the cereal fields (straws and stubbles) against the payment of a fee for having the right to graze these feed resources on a time of the year of great scarcity. This more localized extensive livestock system implied a greater differentiation of tasks, and consequently of the functions performed by the herdsmen (namely the shepherds), as well as a more intense labor use.

This extensive livestock system prevailed almost unchanged from the XIX$^{th}$ century until the beginning of the sixties, when it entered into a crisis that was detonated by the claim for better working conditions, namely the struggle of agricultural workers for better wages and an eight-hour journey. This was followed by the rapid growth of the agricultural and rural population exodus, taking advantage of the increasing labor demand from more dynamic sectors of Portuguese economy as well as from rich European countries that hosted the large contingents of Portuguese emigration. Consequently agricultural wages increased, substantial areas of agricultural land were aban-

[8] Conde de Ficallho (1899) and Silbert (1966).

[9] Ribeiro (1941), Martinho (1978), Lourenço (1981) and Pascual (2001).

doned and the "old" extensive livestock system based on intensive labour started to be replaced by more mechanized livestock systems based in less labour-intensive working processes. This change brought along the emergence of a new type of herdsman, more polyvalent and able to perform all types of tasks besides just keeping the animals. At the same time the "old" herdsmen (namely shepherds) still continued to play an important role in many farms but now obtain better wages, have better living conditions and their social status does not show the same lag to other professions that used to have (although it's still low).

*Functional and wage differentiation in the salaried herdsmen activities*. On the XIX$^{th}$ century an Author described that "*Being a shepherd means having a peculiar profession that lasts for a whole life (…) In Serpa I know families in which all men, with rare exceptions, are shepherds for successive generations*" (Conde de Ficalho, 1899). This author praised the shepherds from Alentejo, considering them good workers; smart and knowledgeable of livestock needs, of how to conduct the animals in order to achieve an optimal use of pastures, and of how to protect them in harsh times.

This expertise, the growing livestock numbers and the more localized grazing system induced a functional differentiation in the herdsmen. The main criteria for the division in different herds made by the livestock owner were the type of livestock, the gender and the age group to which animals belonged. This shows that it was recognized that the different groups of animals had different needs for feed and care, and that they grazed differently. Each type had different persons in charge of particular functions, either in a permanent or seasonal basis, receiving each function their own designation. This led to a large number of professional designations (that will not be translated) that feed popular knowledge and culture, even nowadays. A short description is presented in the Table 1.

Generally, for each type of livestock, the "*Maioral*" was the overall responsible for all the animals belonging to the livestock owner, particularly the reproductive females. When there were several herds he delegated the responsibility of each herd to an "*Entregue*". Both usually had the help of a "sec-

Tab. 1 - Functional differentiation in the livestock herding activities.

| Type of livestock | Adult Males | Reproductive females | Dairy females | Non-reproductive animals | Fattening animals | Young animals |
|---|---|---|---|---|---|---|
| **Bovines** | Boieiro | *Vaqueiro* or *Maioral* + Aid | – | Alfeireiro | *Açougueiro* | *Novilheiro* |
| Status | Permanent (working oxes) | Permanent | – | Permanent if herd is large enough | Seasonal (Jan-Jun) | Seasonal |
| **Sheep** | Aid | *Carneireiro* + *Maioral* + Aid | Shepherd or | Alavoeiros Aid | *Alfeireiro* + | – - |
| Status | Permanent | 1 permanent per herd | In milking period only | Permanent or temporary | – | - |
| **Pigs** | – | *Entregue das porcas* | – | Entregue do alfeire | *Vareiro* + Aid + *Zagal* | Farroupeiro |
| Status | – | Permanent | – | Permanent | *Montanheira* (Oct-Jan) | Permanent (< 2 yrs. old) |
| **Goats** | – | *Cabreiro* or *Maioral* + Aid | | Alfeireiro | – | Chibateiro |
| Status | – | Permanent (*Maioral*) and Seasonal (Aid) (Oct-Mar) | | Permanent if herd is large enough | – | Seasonal (Mar-Aug) |

Tab. 2 - Wage differentiation according the functions and livestock type.

| Type | Function designation | Monthly wage | Non-monetary wage [a] |
|---|---|---|---|
| **Bovines** | Maioral | 72 000 réis<br>or 52 000 to 54 000 réis<br>or 62 000 to 63 000 réis | -<br>1 mare<br>1 cow |
| | Açougueiros | 4 000 to 5 000 réis | - |
| | Novilheiros | 4 000 to 5 000 réis | - |
| **Sheep** | *Maioral* or Shepherd | 24 000 to 27 000 réis | breeds of 60 to 80 sheep + 1 donkey and its breed [b] |
| | Other shepherds<br>(*Entregues*) | 4 500 to 4 800 réis<br>1 000 to 1 100 réis | Donkey and its breed<br>breeds of 40 to 60 sheep + 1 donkey and its breed |
| | Alavoeiros | 4 800 to 5 000 réis | 1 cheese (70-80 gr.) per day |
| **Iberian Pigs** | *Maioral* of hores | 24 000 to 27 000 réis | breeds of 1 female donkey and of 1 female pig |
| | Maioral of hores | *1 385 réis* | *25 kg of wheat flour + 0.75 lt of olive oil + 13 piglets + 2 female pigs + 1 piglet/breeding season + allowance to sow 50 kg of broad beans + 50 kg of chick peas + wheat* [c] |
| | Maioral of alfeires | *1 385 réis* | *13 piglets/year* |
| | *Ajuda* (aid) | *1 135 réis* | *25 kg of wheat flour + 0.75 lt of olive oil + 7 piglets / year + allowance to sow 50 kg of broad beans + 50 kg of chick peas + wheat* |
| | Farroupeiro | 5 000 réis | – |
| | Vareiro | 4 500 to 5 000 réis | – |
| **Goats** | *Maioral* or *Cabreiro* | 4 000 to 5 000 réis<br>or 2 000 to 3 000 réis | –<br>1 donkey + 12 goats<br>or 15 to 20 kids |

**Source:** Picão (1903), concerning the area of Elvas, and Caldas (1903) for the area of Serpa, the wages in the Serpa area are represented in italic.
[a]Payment in food, clothes and right to feed their own animals, known by "*pegulhal*" or "*polvilhal*"
[b]The milk coming from the "*polvilhal*" sheep belonged to the farm owner, while the wool and lambs would benefit the worker.
[c]The workers provided the seeds and all the work, while the landowner received 1/4 of the production and was also responsible for the harvest

ond rank" herdsman, the "*Ajuda*" or aid, and sometimes (namely in the case of pigs) of a "*Zagal*", a young and inexperienced apprentice.

Some of the specific designations were given to seasonal herdsmen, like the "*Alavoeiro*" (in the milking period of sheep), the "*Açougueiro*" (keeping fattening animals for slaughtering) or the "*Vareiro*" (herdsman of fattening Iberian pigs in the acorn period). These usually had different seasons of work yearlong, including herding livestock, extracting the cork or other agricultural activities.

To this marked functional differentiation corresponded also an extremely important wage differentiation. In Table 2 are shown the payments given to each type of herdsman in the beginning of the XX$^{th}$ century.

The first great differentiation was observed between the permanent and the temporary workers, the former being much better paid than the latter.

Another interesting distinction derives from the higher wages conceded to sheep

and bovines herdsmen. It seems to have existed a salary gradient, where the bovine herdsmen were the most highly paid, followed by the shepherds, then by the pig herdsmen and finally by the goat herdsmen. It is logical that bovine herdsmen could count on premium wages since, in that period, labour and transportation were extremely dependent on the good conditions of the bovines.

Table 2 also shows some evidence of the complexity and variability not only of wages between types of livestock and functions, but also according to the geographic locations.

These monthly wages can also be compared with the daily wages granted to temporary workers, ranging from 240 to 340 réis (Reis, 1992) to ordinary handworkers (sowing or cutting shrub) and 600 réis for a crew responsible on temporary construction (Justino, 1990) [10].

Another figure that is the icon of the Ribatejo region [11] is the *Campino*, a particular kind of bovine herdsman in charge of the particular breed (*Raça Brava*) aimed at bullfighting shows.

*The living and working conditions of the herdsmen.* Despite the wage levels being the higher amongst the agricultural workers, the particular living conditions associated with this activity were some of the harshest. The majority of women were strongly resistant or even rejected to marry with men dedicated to livestock herding.

In Alentejo region the herds usually didn't get back to shelters (*currais*) near the villages in the night, sleeping all year in the pasture areas. According to Conde de Ficalho (1899), "*The life of a shepherd may seem idle but it's actually a hard life. The stormy winter nights sleeping in the fields, the terrible Alentejo sun in summer, often without a shadow to take cover, the long distances walked on foot from property to property or in the time of livestock fairs, all this demands from the shepherds of this region a particular robustness that can only be achieved from the apprenticeship as 'Zagal' from early childhood …*".

The nutrition of the herdsmen was frequently the responsibility of the latifundist. A typical situation would be for the weekly diet of a herdsman to be composed of 9 to 10 kg of bread, 315 g of bacon, 35 to 50 cl of olive oil, 2 lt of vegetables and 7 small cheeses. The goat herdsmen wouldn't receive any olive oil during the milking period, since they could consume the milk they wished.

The herdsmen used to sleep in the pasture fields in primitive constructions, small huts or shelters, close to the livestock-folds (*malhadas*) (Oliveira *et al*., 1988). The huts and shelters had usually a conical shape, and were made of stone or wood and covered with scrub. The only ways to warm up in the cold winter nights were the fire and the blankets. This type of living conditions, and not the wages, made the herdsmen to be considered the workers with the lowest social status and one of the least interesting professional activities.

## THE EXTENSIVE LIVESTOCK SYSTEMS IN THE PRESENT

### *Survey objectives*

The main objectives of the research were to:

- characterize the profession of herdsman in the present and to provide a picture of the diversity of situations that can be found in order to identify the main changes that took place in the professional situation of

[10] That is, 240 * 28 = 6 720 réis per month; 340 * 28 = 9 520 réis per month; 600* 28 = 16 800 réis per month, which even if they find work during all the year, which was a mirage for temporary workers, still show a great lag comparing to permanent workers.

[11] Located north of the Alentejo region, and with considerably better soil and climate conditions for agriculture and livestock production.

the herdsman of the South of Portugal during the XXth century;
- based on the comprehensive framework of diagram 1, to provide an interpretation of the main determinants of these changes by identifying some of the most relevant interrelationships between the changes in the production systems and the ones that happened in the herdsman profession during the last decades.

*Methodology*

The method followed to obtain data was a questionnaire made directly by the authors of this article to the owners or managers of twenty-five farms in the *Ourique* municipality. The process of farm identification was made in a visit to the area in January 2004, in which the presidents of five sub-municipalities (*freguesias*) of *Ourique* helped to identify a list of all the livestock owners and respective herdsmen presently in activity and some of their features like the type of livestock, the area or the number of employees. With this information an initial set of potential farms to inquire was chosen, in order to include the maximum diversity of situations possible, either concerning the type of farm/livestock owner or the type of herdsmen.

The choice of the five *freguesias* of *Ourique* [12] had to do with the fact that this territory is located in a transition area between a predominantly open land area, with some good soils and larger-sized farms, and another areas in which the "*Montado* system" prevails [13], with poorer schistic soils and a smaller average size of farms. This feature naturally creates a wide diversity of situations to be studied, which could be generalized to many other points of the Alentejo region in further researches. The good local contacts the authors have in this area were also an important criterion in the choice of *Ourique*.

During the month of February 2004 the previously chosen farm managers were questioned about their farm features [14], working conditions and processes, feeding strategies and rationale behind the management decisions they take. Afterwards it was asked for the possibility of inquiring their employees (permanent and temporary) concerning their personal background, their living conditions and their ideas about their socio-professional situation.

In terms of methodology, this is an exploratory analysis that doesn't attempt at a statistical validity (although the authors think, from personal experience and expert knowledge provided by contacts in different points of the country, that the situations in many other parts of Alentejo where the extensive livestock systems predominate are relatively similar in the present), but rather seeks to explore and capture the diversity of situations and changes occurring in the southern fields and try to understand the influential factors and the interrelationships between variables.

*Results of survey and secondary data: main changes in the situation of herdsmen*

The outcome of the survey has also included a set of main change trends occurring presently in the extensive livestock systems of southern *Alentejo*. These were synthesized through a qualitative analysis of the questionnaire results, an evaluation of the secondary statistical data and expert knowledge. It must be stressed that these changes are obviously interrelated, impact each other

[12] *Conceição* and *Panóias* (in the predominantly open-land area), *Garvão*, *Santa Luzia* and *Ourique*.(in the predominantly "*Montado*" area).

[13] Agri-forest-livestock systems (see reference from Coelho), where the forest component is predominantly composed of Cork (*Quercus suber*) and Holm Oak (*Quercus rotundifolia*), both providing acorn in the fall period for extensive livestock production.

[14] The initial list had to be slightly changed due to the impossibility of questioning some of the previously chosen farm managers. Nevertheless the replacements were made in the perspective of assuring that the maximum possible diversity of situations could be included.

Tab. 3 - Age and education of salaried herdsmen by type of herdsmen (in %).

| | | Age (%) | | | Education (%) | | |
|---|---|---|---|---|---|---|---|
| | N° | > 30 | 30-50 | > 50 | 4 ys or less | 4-9 ys | More than 9 ys |
| N° of farms | 25 | | | | | | |
| Salaried herdsmen | 37 | 8 | 46 | 46 | 84 | 11 | 5 |
| Bovine herdsmen | 6 | 17 | 50 | 33 | 100 | 0 | 0 |
| Shepherds | 8 | 0 | 25 | 75 | 88 | 13 | 0 |
| Pig herdsmen | 5 | 0 | 0 | 100 | 80 | 0 | 20 |
| Goat herdsmen | 1 | 0 | 100 | 0 | 100 | 0 | 0 |
| Polyvalent | 17 | 12 | 65 | 24 | 76 | 18 | 6 |
| Mentally retarded | 2 | 1 | 1 | 0 | 2 | 0 | 0 |
| East European | 2 | 0 | 1 | 1 | 0 | 0 | 2 |

and may be determined by the same factors. Nevertheless, an effort will be made to individualize the most relevant changes and associate them with the most important factors.

The features of herdsmen

The questionnaires were made to thirty-seven permanent salaried herdsmen from twenty-five farms. The relative abundance of the different types of herdsmen could be considered close to represent the relative abundance of each type of worker that can be presently found in the study area (although the sample was not designed to be statistically significant).

The abundance of polyvalent workers shows that this is the most requested type nowadays, especially in the farms that have several types of livestock and of production orientations, but also in the farms that only have one type of livestock. It was only possible to interview one seasonal worker (a pig herdsman), the remainder being permanent workers.

The non-polyvalent workers are mostly the ones that still keep a strong traditional character in the way they perform their work, being exclusively occupied with a single type of livestock. In some cases they work in farms that just have that type of animals but in other cases they work in farms with large enough herd size to justify one specialized worker to be in permanence with the animals. “Pure” shepherds and bovine herdsmen could be found in the area more easily than “pure” goat or pig herdsmen, also because very few farms are specialized just in pigs or goats (usually they are present in mixed livestock farms).

Furthermore, the data presented in Table 3 show that more than fifty per cent of the herdsmen interviewed were younger than fifty years old, and that eight per cent of them were even under thirties. Bovine herdsmen seem to be on average younger than shepherds but the group of the polyvalent workers was the one with a higher proportion of elements with less than fifty years old.

At the same time, and although the levels of formal education were quite low among the interviewed herdsmen (eighty four per cent with four years of school or less, many of them without even having the ability to read or write), the polyvalent workers were still the group with better figures. This is certainly associated with the need for better qualifications that their role demands, namely in what concerns to the operation of machinery in more sophisticated farming environments. Although not represented in table 3, the number of herdsmen with agricultural professional training in livestock or machinery activities was also extremely reduced – very few had more than “practical knowledge” transmitted from colleagues or from the family.

Tab. 4 - Monetary and non-monetary earnings by type of salaried herdsman (in euros).

| **Type** | Function designation wage (euros) | Monetary monthly | Non-monetary wage |
|---|---|---|---|
| **Bovines** | *Maioral* I | 430 | 14 cows in *polvilhal* + water, light, wood and house |
| | Aid I | 400 | 3 goats + 1 sheep in *polvilhal* + food and house |
| | *Maioral* II | 600 | - |
| **Sheep** | *Maioral* I | 450 | 130 sheep in *polvilhal* |
| | *Maioral* II | 350 | 179 sheep in *polvilhal* |
| | *Mairoal* III | 600 | 100 sheep in *polvilhal* |
| | *Maioral* IV | 350 | Shelter + food + laundry |
| **Goats** | *Maioral* or *Cabreiro* | 600 | 8 goats in *polvilhal* + house, food and l,aundry |
| **Iberian pigs** | *Entregue das porcas* (keeping hores) | 500 | 6 piglets per breeding + water, light, wood and house |
| | Entregue das porcas | 625 | All food, water, light, wood and house + 1 trip/year to Romania |
| | *Vareiro* (seasonal for *montanheira* period) | 950 | – |
| **Polyvalent** | Tractor drivers | 25 to 35/working day | – |
| | Polyvalent I | 800 + 10 per heifer | 2 pigs/year + wood |
| | Polyvalent II | 700 | 1 cow in *polvilhal* |
| | Polyvalent III | 675 | 10 cows in *polvilhal* |
| | Polyvalent IV | 600 + prize per sale | house, food and laundry |

The earnings

The information presented in table 4 was selected from the cases inquired in the survey. Since several herdsmen had very similar features, the ones presented here represent an illustration of the diversity that could be found.

As it can be seen from Table 4 there are significant variations between the workers responsible for each type of livestock. These have more to do with the several forms of payment than with the type of livestock, although the polyvalent workers are on average better paid than other workers. Generally, the larger monetary wages are paid when no other compensations are given like a house to live (including water and electricity), the existence of *polvilhal*, a number of young animals per breeding or cooked food for every meal.

Furthermore, in the majority of the cases inquired the salaried herdsmen didn't spend any vacations although they have the right to do so. Most opted for receiving an extra salary for the vacation month (either because they need the money or because it's not easy for their bosses to find replacement for one month and they don't wish to create any type of tensions), that together with the two other extra salaries (Christmas and Summer subsidies) permits that the herdsmen may obtain fifteen salaries per year. Apart from this, in all the cases interviewed the discounts for Social Security was made, and some of the older herdsmen received not only the monthly wage but also a monthly retirement pension.

The herdsmen that had animals in *polvilhal* derived also some extra income from the sale of the young animals corresponding to their share in the livestock owner's herd, but also the premium subsidies due (for bovines, sheep and goats) in the case of the existence of quota rights.

The only case of a seasonal pig herdsman (the *vareiro*) that was interviewed revealed to be one of the best paid per month, although he just worked four months per year (from October to January). This is certainly related

to the difficulty of the job, which consisted in keeping Iberian pigs in a "*Montado*" area without fences.

As it can be easily understood, this type of profession is relatively well paid comparing even to other sectors of the Economy. It must be recalled that the 2004 minimum wage in Portugal is 365.60 euros and it is widely practiced for unskilled labor force in the construction and service sectors. The main comparison to be done with herdsmen is the number of working hours and the lifestyle: while most other types of work have an eight hour-schedule per day and five or six days per week, most of the interviewed herdsmen worked seven days per week without a fixed schedule.

When asked to compare their activity with working in the construction, commerce or industry, the main features pointed out were the demand on time and the "dirtiness" of the work of herdsman (not only due to the direct work with animals but also due to the exposition to the rainy and cold weather in winter and the very hot temperatures and sun in summer). Some of the younger herdsmen interviewed were not particularly happy with their present professional situation, especially those that were doing it because of loosing another job (three herdsmen lost their job in the industry sector when the firms where they worked in closed and they decided to come to the study area to find a job), and they wished to change to another type of work mainly as truck drivers or in the construction in case an opportunity comes up.

On the other side, part of the interviewed herdsmen, particularly the older ones, nevertheless said to enjoy very much the feeling of freedom the work gives to them and the direct contact with nature. The arguments of "*somebody has to do this job*" or "*there is a room for everybody in the society*" were also heard for several times, and some even said "*I don't imagine myself doing something else, like sitting inside an office or a shop the whole day!*".

A particular case was the two interviewed herdsmen from Eastern European countries: one from Romania and the other from Ukraine. Their education qualifications were much higher than the ones of the majority of the other herdsmen, both having completed technical secondary school in agriculture in their home countries. Their professional background started there, where they had different jobs in agriculture and in industry sectors, coming to Portugal looking for "*a better life*". It was also curious to note that both were relatively well paid and had good living conditions in comparison with the majority of the other herdsmen interviewed, and their managers expressed to be happy with their work performance.

Another particular case was of two mentally retarded workers that did all types of work related to livestock but always under the orientation of other workers. Both were totally dependent on the manager who supplied house, food and all types of care, although they didn't belong to the family. According to what we heard in the area this is a relatively frequent situation, and can be partly explained by the assertion often heard that "*only old and crazy people want to be herdsmen (namely shepherds)!*".

The lack of labour force to herd livestock was one of the main complaints heard from every manager, which can explain the emergence of these two very contrasting groups: the foreign highly qualified workers and the mentally retarded.

The living conditions

Each of the herdsman (but also the farm managers) was questioned about his living conditions, namely the property of own house, the conditions of the house where he spent most of the time, the persons living with him and hobby activities.

Table 5 presents some of the living conditions for each type of herdsman. It can be seen that a relevant proportion of the herdsmen don't have any own-house and live in a house or shelter that belongs to their manager.

The fact that herdsmen have own house doesn't mean they live in it most of the year, since it's often the case where the herdsman

Tab. 5 - The living conditions of salaried herdsmen by type of herdsman (in %).

| | N° | % With own house | % Sleeping most of the year in house/place with poor conditions | % Sleeping most of the year without partner |
|---|---|---|---|---|
| **Salaried herdsmen** | **38** | | | |
| Bovine herdsmen | 6 | 66 | 100 | 83 |
| Shepherds | 8 | 75 | 50 | 50 |
| Pig herdsmen | 5 | 40 | 0 | 0 |
| Goat herdsmen | 1 | 0 | 100 | 100 |
| Polyvalent | 17 | 53 | 0 | 47 |
| Mentally retarded | 2 | 0 | 0 | 2 |
| East European | 2 | 0 | 0 | 0 |

lives away from his own house and apart from the wife and kids. This happens mostly in the case of shepherds, but also some bovine herdsmen, which still have the traditional profile and live in the pastures close to where the livestock is. These herdsmen usually sleep alone, in a small house with one division, in old wagons or in huts made of metal, thus generally not having electricity (the light comes from petrol or fire made with wood). The water they use is cold and kept in large bottles [15], and their beds are usually covered with several hot blankets in order to stand the colder nights. Generally the herdsmen that still live in these conditions have their own vehicles (or use their managers') and go shopping their own food and other goods in the closest village. They meet their families not more than once a week, either going to their own houses or the wives coming to meet them.

One important aspect that distinguishes most of the interviewed polyvalent workers and pig herdsmen from most shepherds and bovine herdsmen was that the former had better living conditions and often lived with their families in the villages. Living in a village permits to have a better social life and some of the most conscious farm managers that employ salaried herdsmen mentioned that they don't want their workers to live away from families and thus try to create working conditions that allow them to sleep at home every night. The forty seven per cent that slept most of the year without a partner were not because of difficult work conditions but rather because they were not married and frequently lived with other family members.

When questioned about hobby activities most interviewees claimed the work occupied all their time and therefore they didn't have any hobbies besides reading the newspaper or female magazines or watching TV at night. The ones that had one free day per week sometimes went hunting, fishing, taking care of their kitchen plots, go shopping with family or simply to meet friends in the cafés, but almost none derived any extra income from their hobbies.

The transhumance season

Of the twenty-five farms interviewed, five of them still do or until recently did transhumance with their sheep to the summer stubble pastures (mostly wheat) in the region of "Barros de Beja" (see Map 1). In these cases the experience and information about this practice were asked to the farm managers and/or to the herdsmen involved.

The longest transhumance path followed took around 70 km, and five to six days journey, mostly on foot through the fields and sandy secondary roads. The departure usu-

[15] One of the most striking cases found was of a shepherd who lived the whole year with the animals, slept in a moveable hut and didn't have his own house. In this case the manager took hot food to him every day and it was pretty much the only person he saw for days.

ally takes place from late June to early July (after the cereal harvests) with herds that can take up to one thousand sheep or more, and the return can be in late September (before the plough of the land for the winter cereal sowing) or even just in January. The shepherd guiders are experienced, they have to know very well the path and previous agreements with various landowners along the way have to be made for the sheep to be able to stop for food. Furthermore they have to find shadows in the hottest parts of the day, as well as drinking water for the animals and proper places for the herd to be kept during the nights. The private property to where the herd goes in the destiny area has to be agreed for a price per hectare that presently can vary from twenty to thirty euros per hectare depending on the quality of the stubble (wheat is more expensive than oats).

On the days of journey several cases were detected. One of the managers, that used to accompany the shepherds by van, said he and his employees took most of the meals in restaurants and slept in the van. In other cases the shepherds took their own food ingredients (bread, bacon and ingredients to make soup) and personal belongings in a horse, and cooked hot meals for dinner by themselves in small portable gas ovens. These shepherds usually slept with the sheep, under some tree without shelter since the summer nights are usually warm in Alentejo summer. One of the main tasks during the night can also be to defend the herd against wild animals like wild dogs or foxes.

When they arrive in the destiny area they usually stay in shelters or small houses belonging to the landowner there, often without electricity and piped water.

The justifications for the practice of the transhumance in the present were discussed with the farm managers. They all referred to the very poor feed conditions of natural pastures in the study area in summer, which cannot sustain the herds. Therefore this practice is an answer to a strong constraint of feed, although they couldn't say if this was more economic than buying supplement (industrial feed, straws or hay) in the market.

The main reasons put forward were actually sanitary. The schistic soils of the study area create a lot of dust in summer, which is considered damaging for sheep's health. The clay soils in "Barros" don't present this problem and adding to the better quality of the stubble the managers say that "when the sheep return from Beja in autumn they come fat and healthy". Another reason is the "sanitary emptiness" that allows for many microorganisms responsible for diseases to decrease in the winter and spring pasture areas.

Finally it should also be said that there are still some own-account shepherds doing the summer transhumance. They are small livestock owners without salaried employees, more abundant in the past, that still need to do transhumance because they own small amounts of land in the study area relatively to the size of their herd. For them it's an important feeding strategy to practice the summer transhumance.

Tab. 6 - Inquired farms divided by type of animals, main productive orientation and number of reproductive females.

| | N° farms with: | Main productive orientation | Reproductive females (heads) | | | |
|---|---|---|---|---|---|---|
| | | | **0-100** | **100-250** | **250-1000** | **> 1000** |
| Bovines | 17 | 11 | 4 | 7 | 0 | 0 |
| Pigs | 21 | 2 | 2 | 0 | 0 | 0 |
| Sheep | 17 | 10 | 1 | 2 | 4 | 3 |
| Goats | 7 | 2 | 0 | 2 | 0 | 0 |

The working conditions

Another point of the questionnaire respected to the working conditions of the herdsmen, namely the amount of physical effort needed to perform the different herding activities. Some of the tasks debated with the herdsmen and the managers were:

- *The distribution of feed supplements to animals* (grains of cereal, industrial feed, on-farm made mixtures, or bales of straw or hay) – this is one of the main daily tasks the herdsmen have to perform, but there are marked differences between different types of livestock:

– *Bovines*: for this type of livestock the distribution of feed supplements is needed in the scarcity seasons, especially in autumn and winter (roughly from late September to late February). In the seventeen farms inquired with bovines (all based on suckler cows for heifer production [16]), nine of them had "modern feeding systems" while the remainder eight used more basic systems. The "modern" systems are here understood as mechanized systems were the amount of human effort is minimal: the herdsmen, mostly polyvalent, carry all type of supplements in tractors with carrying devices working with large-round hay or straw bales or with uni-feed equipments that distribute the supplements directly into the feed places. The more basic systems are mainly based on the small bales that are transported in vans or wagons but demand herdsmen to carry them on the back or on wheelbarrows inside the fenced areas or to the open pasture areas. Nevertheless there is the idea that bovines are the type of livestock that demands less feeding effort, using mostly green pastures or forage crops in spring and stubble of different crops in summer.

– *Pigs*: the feeding system for Iberian pigs has two main phases: the regular period (February to September) and the "*Montanheira* period" (October to January). In the first one the pigs are nowadays mainly kept inside "camping", meaning fenced areas with shelters, water supplies and feeding places. In this period they are fed mainly with cereal grains and industrial feed (or mixtures of both), and the herdsmen just distribute daily these products inside the fences. The physical effort needed is to carry the feed in bags on the back or in wheelbarrows, and in buckets to the back of a wagon or van and then un-carry them in the same way inside the fences – in all the farms inquired this was the case and it usually demands considerable daily effort, that some managers considered excessive and are thinking about forms to modernize it. Most of the herdsmen doing this job were polyvalent and made other tasks in the farm. In the "*Montanheira* period" the fattening pigs go either to fences in "*Montado*" areas to eat the acorn (and for this they don't need herdsmen in permanence, the polyvalent just has to conduct them to the area) or they go to open areas and for that they need a specialized pig herdsman, usually employed on a seasonal basis, that has probably the most difficult task of all the different types of herdsmen and therefore one of the best paid.

– *Sheep and goats*: The situation for these is similar to that of bovines (also here the main production objective is the production and sale of lambs or kids), although most of the farms don't supply industrial feed or grains in the scarcity period. The supplements given are mostly small bales of hay or straws, none of the farms inquired used large round bales in the case of sheep. Therefore the distribution of supplements to sheep demands more human effort than in the case of bovines. On the other side, the sheep and goats are the type of livestock more dependent on grazing pastures (green pastures or forage crops in winter and spring, and dry pastures or stubble in summer), and in a great

[16] Either pure *Charolais* or *Limousine*, or crossings of these exotic breeds with Alentejo regional breeds like *Alentejana* or *Mertolenga*. In none of the farms inquired the production objective was fattening.

proportion of the cases used to totally or partly doing it in open land (as it was the case of goats) – the presence of shepherds was therefore frequent, especially in the inquired farms with more than one thousand heads, which were divided in separate herds each with a *maioral* shepherd in charge. In the situations of fenced pastures the constant permanence of a herdsman is not needed, so the system is less labour-intensive.

– *The water supply to animals* – on only one case (the goat producer) the old system of carrying buckets of water from a well to the watering places was still prevalent, and demanded a substantial physical effort. In all the other situations, especially the livestock owners with most of their land fenced, the only work consists of periodically filling up a five thousand liter deposit (or larger) from wells with a motor pump, and connecting it either to automatic watering places near to where the animals are or filling up regular watering places (more frequently in summer than in winter). In the case of bovines and sheep, it is also frequent the presence of small dams where the animals can drink freely, the same working for the properties with natural watercourses. Therefore the general result of the questionnaires was that one of the most important changes that happened in the last ten to twenty years in the study area's livestock farms was the generalized adoption of automatic systems and the construction of dams that reduced human effort to a minimum.

– *The guarding and conduction of the animals* – the progressive fencing of the pastures, either with barbed wire, with special sheep net or with electrical moveable fences (especially used in the case of bovines, but also very effective to pigs), has been occurring and will continue to occur in the next few years with the support of the European Union (EU) subsidies for farm infrastructure. This has a major impact in the working conditions of the herdsmen, as it was reported by themselves as well as by the managers, particularly in what respects to the progressive replacement of the traditional type of herdsmen by polyvalent workers (which is mentioned by the managers as an important need). The implementation of schemes of rotational grazing, the use of cattle crush to separate animals and, in one case, the conduction of cattle from fence to fence with a 4x4 motorcycles (mirroring the example of the Australians), are also innovations that are causing important changes in the extensive livestock systems by changing dramatically the working conditions of herdsmen in what relates to the guarding and conduction of animals.

## CONCLUSIVE REMARKS

The framework described on the Diagram 1 and the description of the empirical approach based on the Portuguese case study accomplished the two main goals of this paper. In order to conclude it nevertheless some aspects need to be highlighted.

From the theoretical point of view the proposed framework seems to have the merit to focus on the driving forces according with the following hierarchy: the first level determinants, that is the market-driven influences that are integrated by the personal features either of the decision-makers (that is the point of view of the capital) and of the herdsmen; and the second level determinants, the available technologies.

This framework, besides having a good explanatory power, may serve as a guide to find a systematic way to approach the determinants of change and at the same time, by making appeal to the global influences and to the historical, socio-economic and cultural context, prevents deterministic "temptations", such as to over evaluate the technological aspects.

The empirical description illustrates and support the theoretical framework, but it also provides a systematic description of the evolution of the herdsmen profession, show-

ing the diverse mosaic of situations that we can find in Portugal in the present. That is, we found examples of an up to date modernity (as for the case of a fenced and well infra-structured farm were herdsmen are polyvalent workers using 4 x 4 motorcycles) as well as examples of the traditional herdsmen that live with the animals and, in spite of its presently good remuneration levels, still are at the bottom of the social status. From this point of view the slow trend for the replacement of the traditional herdsmen living with the animals in very poor conditions by a polyvalent worker provides a good illustration of Portugal as a part of the World semi-periphery [17] or, in another way, a country where most features of modernity coexist with many others that do not exist any more on the most developed countries.

After finishing this attempt to study and understand the living and working conditions of the herdsmen and the determinants of change involved on the evolution patterns of these professions we came to terms to a great lack of knowledge about what is happening in the different parts of the World. This suggests that cross-country comparisons need to be developed, which could be a part of an up to date research agenda. Cross-country comparisons that at least should address the differences and similarities of the working and living conditions of the herdsmen as well as an attempt to approach the questions developed on Diagram 1.

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[17] Santos (1985:872) characterizes semi-peripherial societies in the European context "by a certain lack of coincidence between the relations of capitalist production and the relations of social reproduction. This lack of coincidence consists of the backwardness of the relations of capitalist production, of the relations between capital and labor within production, in comparison with the relations of the dominant model and practices of consumption".

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