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Semi-Subsistence Farms in Portugal: Key Concepts

Abstract

Drawing principally on the literature and in primary data we analyze the farm structure in Portugal and explain the duality agrarian system between Southern and Northern of the country, introduce a new concept semi-subsistence farms in Portugal. After we analyze the main reasons for agricultural households in Portugal which possess a large subsistence and semi-subsistence farming sector. The study indicates that the contribution of subsistence farming to household incomes, social and rural development is significant and have potential to development due the macroeconomic situation in Portugal. But concerning that, stronger quantitative analysis and studies are needed. Due the prevalence and importance of small farms in Portugal, the main EU Common Agricultural Policy instruments must suited to respond to the specific needs of these subsistence farmers.

Keywords: agricultural households, semi-subsistence farms, subsistence farming, rural development, Portugal

Introduction

Eurostat (2009a) data indicate that the twenty-seven member states of the EU collectively possess 9.6 million agricultural holdings smaller than 5 ha. In Portugal this equivalent value were 2.7 million small farms below 5 ha that represent about 80% of all agricultural Portuguese holdings. At the same time Portugal is characterized by a dual agrarian structure between Northern and Southern regions of the country (Hespanha, 1990). On the Southern region (Alentejo) domain the *latifundia* (big farms) while on the central and Northern regions prevalence the small subsistence farms (SSF). This asymmetric farm structure are explained by historical, geographical, agro-climatic, social, legal and statutory and political reasons, and, have impacts respectively on agricultural productivity and competitiveness on the big and medium size farms and on the other side on agricultural livelihoods in SSF. Besides the importance of farms structure in agricultural and social development and agricultural competitiveness there are no recent works in this field in SSF in Portugal. This paper tries to overcome this gap on the literature. The main goal of this paper is to analyze and explain the origin of farm structure in Portugal, in particular de SSF and relate this with the evolution and the social, economic and environmental of these farms in Portugal, principally with the SSF and the perspectives of development of them in Portugal.

Main reasons of the duality of farms structures in Portugal

Historical reasons explain the duality of farms structure between North and South of the country based on the effect of the succession law in Portugal which led with the fragmentation of farms and agricultural land, with similar effects of Code Napoleon in other Mediterranean countries like Italy and Greece. However Portugal had influences but did not adopted directly the Code Napoleon (Dos-Santos, 2013b).

The geographical reasons and agro-climatic reasons allowed the concentration of population on the North and Centre and consequently the fragmentation of the land in these regions due the succession rights. The agro-climatic reasons associated with a more rigorous climatic conditions associated with the Mediterranean sea on the South on the opposite with the Atlantic climatic conditions allow the concentration of population on the northern region and with the consequence of fragmentation land. On the other side the south, namely in Alentejo, is characterized by *planícies* that mean land without slope or reduced. The opposite occurs on the Northern region characterized by the mountain areas that partially unviable the large extensive agricultural systems and farms (Mendes and Carmo, 2013; Carmo, 2010; Carmo, 2007).

About the statutory statement in 1970, the law of the "minimum unit of culture" was implemented in Portugal, according to which, in case of inheritance the division of land

parcels whose areas vary throughout the different regions of Portugal is not allowed if the area corresponding to each heir is less than 2 ha for cereals and 0.5 ha in the case of horticulture, differences still exist between the land irrigated and the dry land conditions. Later, the Civil Code of 1999 provides that "the land suitable for cultivation cannot split into parcels of area below a given minimal surface corresponding to culture unit set for each area of the country." (Portaria 202/70 and Pinheiro et al., 2013)

The revolution of April 25th of 1974, had truly visible effects in the South, where large farms predominated, allowing the distribution of the land of the *latifundios* (big farms) to small workers, who organized themselves in cooperatives. However, its management model lacked efficiency and, associated with policy issues, this undesired situation led the vast majority to bankruptcy, subsequently the lands were redistributed to their original owners and the structure and land remained very similar to the one found before the revolution (dos-Santos, 2013b).

In 1988, the law of the land consolidation allowed the addition of small fragmented holdings in order to improve their management and the reduction of production costs on farms, turning a dispersed farm into one formed by contiguous parcels, this was accomplished through an exchange between owners. In this context, land consolidation operations took place in the North and Centre of the country, mainly in irrigation schemes in order to improve its efficiency. These operations faced a lot of struggle due to their outraged owners, who often attributed great sentimental value to the lands, especially in the case of inheritance, so this operation was never fully successful.

It is important remember that Portugal entered the 20th century as one of the poorest countries in the Western world and with one of the highest emigration rates. (Lains 2003; Blanchard, 2007). In contrast to other Western European countries, Portugal then was predominantly an agrarian society, with most of the population still living in rural areas. Portugal also displayed one of the lowest levels of human capital in the West, both in terms of literacy and enrolment rates, and thus a marked educational gap vis-à-vis other European countries. (Amaral et al., 2004; Reis, 2004, Pereira and Lains, 2010). After the accession of European Union in 1986 the country accomplish the others European states members and reduce the rural population living in agriculture.

Definitions and farm structures

A lack of data as well as the absence of a generally agreed definition constrains research on subsistence farms (SF) and semi-subsistence farms (SSF) in Portugal. The country does not have an official definition for "semi-subsistence farm" or "subsistence farm." In Portugal the concepts used include the terms farm, "family farms" (“agricultura familiar”) and small farms. Agricultural farms means a technical and economic unit within which the respective farmer, using limited resources of labor and capital, take the decisions necessary to the practice of a particular production system, with the purpose of achieving a longstanding objective - economic result (Agrogestão, 2012).

The National Statistics Institute of Portugal (INE) (2013), the Portuguese official body of statistical information classifies the farm as a "technical and economic unit using his own hand labor and inputs and must satisfy the following four conditions: i) produce one or more agricultural products; ii) meet or exceed a certain minimum size (area or number of animals); iii) be subject to a single management; iv) be located in a well determined and identifiable place.

According the criteria nature of the farmer goals, farms are classified as: family type farms and business type farms. The family type farms have as main objective the maintenance and improvement of living conditions of the household, whose members ensure the normal operation of the farm. Thus, the economic results will be based on their ability to measure the remuneration of the factors of production that are owned by the family (own resources), with particular reference to the factors land and labor.

The business type farms aim to ensure maximization of net profit of the farm, and their economic results should be related, in essence, with the remuneration of shareholders capital and the entrepreneurship ability. (Dos Santos et al., 2010a).

According to Avillez et al., (2010), farms are classified in five economic dimensions (ED) adopted in identifying the farms type, which are differentiated as follows:
- very small farms, whose SO is less than 4,000 euros / year;
- small farms, whose SO is equal and up to 4000 euros / year but less than € 25,000 / year;
- medium farms, whose SO is equal to or exceeding € 25,000 / year but less than 100,000 euros / year;
- large farms, whose SO is equal and up to 100,000 euros / year but less than 500,000 euros / year;
- very large farms, whose SO is over 500,000 euros / year.

According the FADN (2010), farms were organized based on the following economic dimensions: i) small farms, whose standard output (SO) is equal and up to 4,000 € / year but less than € 25,000 / year; ii) medium farms, whose SO is equal to or exceeding € 25,000 / year but less than 100,000 € / year; and, iii) large farms, whose SO is equal to or superior € 100,000 / year.

According to Sedlmayr (2011), the direct translation ‘family farming’ is inadequate and confusing as it may remind the reader unfamiliar with Portuguese agriculture of American or Australian family-owned industrial farms. A "family farm" refers to the small farm which produces mainly for self-consumption, and may in specific situations be market oriented. However, there are no UAA limits for these farms or other indicators.

According Davidova et al., (2012) and Wharton, (1969) subsistence is a concept indicating households who operate in a state of autarky, producing for self-sufficiency without recourse to the market. This is unusual in Europe and used mainly as a reference point to measure varying degrees of market participation. Semi-subsistence farmers participate in the market, but the proportion of output sold is typically low (Balint and

Wobst, 2006). In practice, in order to define and assess the size of the SF and SSF sector in Europe and introduce the concept in Portugal, there are three main criteria which can be applied: physical measures, economic size, and market participation (Davidova et al., 2012).

Physical measures - such as agricultural land, volume of inputs, and number of livestock define subsistence through size thresholds. McConnell and Dillon (1997) suggest 0.5 ha to 2.0 ha of cultivated land as a good proxy for semi-subsistence farms. Both Eurostat (2009a) and the Food and Agriculture Organization (FAO, 2010) define small farms as those operating on an agricultural area of 5 ha or less. However, there are doubts that physical measures, and land area in particular, are appropriate indicators due to differences in fertility of land and productivity, influenced by natural, social, and economic conditions. Additionally, one important aspect is the specialization of small farms - for example, an intensive horticultural farm of 1.8 ha may be a substantial business operation.

Economic size is widely applied for statistical and policy purposes within the EU, expressed in terms of European size units (ESU)[i]. Within the EU Farm Structure Surveys farms smaller than 1 ESU are classified as *subsistence*. In addition to this, Eurostat (2009b) defines farms with less than 8 ESU as small farms. On the basis of this measure, farms between 1 ESU and 8 ESU can be classified as semi-subsistence (Davidova et al., 2012). Within the academic literature definitions based on a market participation criterion are more common than economic size measures. While still arbitrary, the market participation criterion is fairly straightforward, taking either a consumption or a production point of view. The former focuses on the share of household consumption covered by own production to assess to what extent subsistence production can cover household needs (Ellis, 1993). However, a consumption-based approach can disregard that even a large and commercially integrated farming operation may still cover a substantial part of the food needs of the household, so it is not always appropriate in defining subsistence farms and semi-subsistence farms (Davidova et al., 2009).

The production-side approach has been widely applied since Wharton (1969) first addressed the problems caused by non-uniform definitions of SF (Davidova et al., 2009). Focusing on agricultural output markets, he argues that farm households can sell between 0% and 100% of their agricultural output. At the two extremes are purely subsistence (autarkic) and purely commercial operations with different mixes in between. With regard to this continuum, he introduced a threshold of 50% of marketed output, classifying farmers selling more than zero but less than 50% as semi-subsistence, while labelling those above the threshold as semi-commercial and commercial. Some more recent studies (Kostov and Lingard, 2004; Lerman, 2001) utilise Wharton's approach. A market participation approach, albeit with no specified thresholds, was also adopted in Article 34 (1) of Council Regulation (EC) No. 1698/2005, where semi-subsistence farms are defined as *agricultural holdings which produce primarily for their own consumption and also market a proportion of their output*.

The main reason for the absence of the term SSF in Portugal is due to the greater importance of larger commercial farms, both in terms of research and in terms of national agricultural goals policy. Due the economic and financial crisis in Portugal after 2008, the country need to produce and export more agricultural products. The main goals of Politian's makers and farmers are the increasing of agricultural production and the competitiveness and sustainability of Portuguese agriculture, but the main goals that appear are competitiveness. This justify that the vast majority of research works primarily addresses aspects related to large agricultural holdings, namely Dos Santos, (2013b), Lucas et al., (2012). Only the works by Marta-Costa, (2008) and Sedlmayr (2011) refer a subsistence agriculture cases studies.

Methodology

Our analysis is based on the accessible secondary and primary statistics about Portuguese agrarian structure and economic results. To analyze and characterize the SSF in Portugal we use as the primary sources of the Portuguese Institute of Statistics and the Eurostat database based on the agrarian structure and economic indicators for the years 2000‑2010. We use the standard research work methods in analyses, e.g. analysis and synthesis, comparisons, descriptive statistics, and graphic representation.

Semi-subsistence farms in European Union and Portugal

The size of the semi-subsistence sector in the EU-27 and in Portugal varies depending on which of these criteria is employed. Taking into consideration the EU-27 as a whole, in 2007 there were 9.65 million small farms below 5 ha (70.4% of all agricultural holdings) operating on 8.4% of UAA. In Portugal there were 2.7 million small farms below 5 ha (78.8% of all agricultural holdings) operating on 10.8% of UAA. The use of this physical measure illustrates according Davidova et al., (2012) the enormous heterogeneity within the EU-27. In 2007 farms smaller than 5 ha represented more than 90% of all farms in Malta and Bulgaria, but only 2.8% in Denmark. Regarding agricultural land, with the exception of Malta, farms smaller than 5 ha operate less than half of UAA. Nevertheless, they are important in Romania (operating 35% of UAA in 2007), Cyprus (29%), Greece (27%), and Slovenia (22%). (Davidova et al., 2012).

Table 1. Prevalence of subsistence and semi-subsistence farming in the EU and in Portugal by different criteria

	Number of farms	% of total farms	% of UAA
EU-15			
Smaller than 5 ha[1]	3 087 110	54,5	4,4
Smaller than 8 ESU[2]	3 427 010	60,5	14,7
Less than 50% of output sold	588 010	16,4	2,8

[1] No data available for farms 52 ESU for The Netherlands. This means that this figure is likely to be somewhat understated.

[2] For EU-15 data available for only Greece, Italy, and Spain; thus, aggregate for EU-27 is, here, NMS-12 plus EU-3.

EU-27			
Smaller than 5 ha[1]	9 644 850	78,8	8,4
Smaller than 8 ESU[2]	11 104 210	81,1	22,5
Less than 50% of output sold	5 888 420	43,0	12,8
Portugal			
Smaller than 5 ha[1]	2 773 122	75,6	10,8
Smaller than 8 ESU[2]	3 136 268	85,5	28,1
Less than 50% of output sold	n.a	n.a	n.a

Source: Eurostat, 2009[1]; 2009b[2]

Note: NMS . New Member State; ESU . European size unit; UAA . utilized agricultural area.

Considering economic size, in 2007 there were 11.1 million farms smaller than 8 ESU within the EU-27. Of these, 6.4 million were smaller than 1 ESU. Expressed as a percentage, farms smaller than 8 ESU accounted for just over 80% of the total number of agricultural holdings in the EU-27. In six NMSs (Bulgaria, Hungary, Latvia, Lithuania, Slovakia, and Romania) farms below 8 ESU represented 95% or more of agricultural holdings. However, in view of the land area managed, the importance of SF and SSF is much more modest. In 2007 these farmers operated only 22.5% of the EU-27 UAA.

The market participation criterion, which is probably the most appropriate basis on which to produce a farm typology when subsistence production is involved, indicates big variations across EU-27, with divides East -West and North - South. Following this criterion, SSFs are of significance mainly in the NMSs and some southern EU-15 member states, notably Italy. In seven NMSs, most farms produce mainly for self-consumption. These are Slovakia, where in 2007 93% of the farms produced mainly for self-consumption, Hungary (83%), Romania (81%), Latvia (72%), Bulgaria (70%), and Slovenia (61%). Despite their prevalence in terms of the total number of farms, SSFs manage smaller shares of UAA (Davidova et al., 2012). The absence of data in Portugal raises a difficult analysis of this phenomenon. The prevalence of subsistence farming (SF) and SSF gives rise to important debates concerning agricultural incomes and livelihoods.

The importance of subsistence and semi-subsistence farms in Portugal

In literature, there is no agreement about the role and prospects of subsistence farming. One school of thought treats subsistence and semi-subsistence farms in Europe as an

unwanted phenomenon and an impediment to rural growth. Subsistence farming has been associated with a traditional technology, inefficiency, and a use of scarce resources which could have been allocated to a more efficient use (Kostov and Lingard, 2004). Often, subsistence has also been related to poverty (Mathijs and Noev, 2004).

However, according Davidova et al., (2009) subsistence farming could be considered as an important survival strategy, not only in low but also in middle income countries, during periods of drastic economic reform and economic recession. Bruntrup and Heidhues (2002) argue that subsistence farming is a way for people to survive under difficult and risky conditions, and to cope with high transaction costs in fragile economies.

In the economic literature the persistence of subsistence farming has been explained by market failure and particularly high transaction costs (Davidova et al., 2009). As different farm households face different transaction costs, the evidence is that subsistence and commercial farms co-exist (e.g. Key et al., 2000). The general wisdom is that subsistence farms are not market integrated and market based policies cannot be effective. Recently, this isolation from the output markets and non-responsiveness to price signals has been challenged. Dyer et al., (2006) argue that subsistence households do adjust their supply to changes in agricultural output prices through multiple factor linkages when there is at least a single commercial producer in the vicinity. In Portugal there are commercial producers in most of the country principally on the Alentejo region, thus the subsistence/semi-subsistence farms may react to output price changes even if indirectly.

The main roles played by SSFs in Portugal rural context include i) mitigation of rural poverty; ii) environmental, namely, maintaining semi-natural habitat, landscape and traditional farming practices; iii) social, namely, maintaining rural communities and mitigating depopulation of rural areas; and iv) economic, particularly in the local food chains (Dos- Santos, 2013b).

Portugal is facing an economic and financial crisis that led with a biggest unemployment rate (15,8% according INE, 2014), low security systems of protection from the public government and income reduction from active workers and retired peoples. In this macroeconomic context, SSF could play and important work in mitigation of rural poverty and creation of jobs in a rural context. This is particularly important in retired and unemployment people and young people. For the first, the rural activities are frequently a new source of income and the way to mitigation poverty. They use as peri-urban plots and family small farms to produce the agricultural products for self-sufficiency. At the same time, young people without jobs opportunities outside of agriculture return to the activity of her family, frequently, supported by the Common Agricultural Policy (CAP) Rural Development measures. But the main constrain in the entry is the financial lack of opportunities and the absence of financial measures, namely, the microcredit among others financials measures (Dos-Santos, 2013b).

Other function of SSF in Portugal is the contribute of this farms in maintaining semi-natural habitat, landscape and traditional farming practices. In Portugal, it is generally recognized by politicians and researchers this SSF function. Nevertheless, the rural

population and farmers has no idea of its contribution to this function. According to Dos Santos et al., (2010b), friends and family of farmers do not recognize their function of maintaining semi-natural habitat, landscape and traditional farming practices. According these authors, family and friends consider only their productivist mindset as well as farmers themselves.

Small subsistent farms have a social contribute, in maintaining rural communities and mitigating depopulation of rural areas. The depopulation is a problem that Portugal is facing today due the low birth rate and parallel emigration of young people. This problem is particularly important on the countryside and small remoteness regions.

Economic, particularly in the local food chains could be other function of SSF in Portugal. In that moment there aren't data available about this function. The short food chains is therefore a difficult function due the competition with the oligopoly typologies of market and the agri- commercial circuits. Mahmudul (2011) estimated the production function of rice in a district of Bangladesh and conclude, that the more extension contacts between extension agents and farmers, conduct gains on productivity. That means that SSF need more support in order to obtain gains in productivity, but more strong studies are needed apply to SSF in Portugal.

The future of SSF in Portugal is unreliable. Two main features can occur. The first is the biggest farms absorb the small ones and the other perspective is the development of new SSF with the implementation of young farmers in intensive agricultural systems due the lack of jobs outside of agricultural sector. The first hypothesis finds more sense in Alentejo region where the number of farms was decreasing during the last decade (INE, 2010). The development of new projects linked with the implementation of young farmers into agriculture supported by Rural Development measures under the 2014-2020 CAP could improve the development of SSF and the short market channels of commercialization.

Conclusions

Due the lack of the concept of subsistence and semi-subsistence farms in the Portuguese literature, this introductory paper tries to overcome this gap. The paper tries to explain the main reasons of the duality of farms structures in Portugal, explain the three main criteria which can be applied to define small subsistence farms, namely, physical measures, economic size, and market participation according the referred authors, in order to define and assess the size of the SF and SSF sector in Europe and Portugal. After present the importance of subsistence and semi-subsistence farms in Portugal and conclude about the main roles played by SSFs in Portugal rural context that include a mitigation of rural poverty, maintaining semi-natural habitat rural communities, landscape and traditional farming practice, maintaining and mitigating depopulation of rural areas; and economic, particularly in the local food chains. About this functions more detailed studies are needed in order to quantify this potentials impacts in order better adjust policies of rural development under the 2014-2020 CAP policies.

References

Agrogestão (2012). Formação global em Gestão Agrícola http://agrogestao.com/ficheiros/Manual_Modulo_I.pdf (accessed: 21/01/2013)

Amaral, A., Rosa, M. J., Teixeira, P. (2004) "Is there a Market in Portuguese Higher Education", in *Markets in Higher Education*, Kluwer.

Avillez. F., Silva, E., Cunhal, A., (2010), "A agricultura portuguesa e o futuro da PAC pós-2013", Grupo de Peritos criado pelo Despacho nº 7146/2010, do Ministro da Agricultura, do Desenvolvimento Rural e das Pescas.

Balint, B., Wobst, P., (2006). "Institutional Factors and Market Participation by Individual Farmers: the case of Roménia", *Post-Comunist Economies*, 18, pp.101-121.

Blanchard, O., (2007), "The difficult case of *Portugal"*. *Portuguese* Economic. *Journal*, 6, No. 1. , pp. 1-21.

Bruntrup, M., Heidhues, F., (2002) Subsistence Agriculture in Development: Its Role in the Processes of Structural Change. *Discussion Paper*. Discussion Paper No. 1/2002, Institute of Agricultural Economics and Social Sciences in the Tropics and Subtropics, University of Hohenheim.

Carmo, R. M., (2007), "As desigualdades sociais nos campos: o Alentejo entre as décadas de 30 e 60 do século XX" . Análise Social,184, pp. 811-835.

Carmo, R., (2010), "A agricultura familiar em Portugal: rupturas e continuidades", *Revista de Economia e Sociologia Rural*, Vol. 48, nº1, pp.9-22, São Paulo

Council Regulation No. 1698/2005, "Council Regulation (EC) No. 1698/2005 of 20 September 2005 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD)", http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2005:277:0001:0040:EN:PDF (accessed on 12/11/2013)

Davidova , S., Fredriksson L., Bailey A., (2009), "Subsistence and semi-subsistence farming in selected EU new member states", *Agricultural Economics*, 40, pp. 731 -742.

Davidova S., Fredriksson, L., Gorton, M., Mishev, P., Petrovici, D., (2012), " Subsistence farming, incomes, and agricultural livelihoods in the new member states of the European Union. Environment and Planning C: Government and Policy. 30, pp. 209 – 227.

Davidova S., Fredriksson L., Bailey A., (2009), "Subsistence and semi-subsistence farming in selected EU new member states"Agricultural Economics, 40, pp. 731 – 742.

Dos Santos, M.J.P.L., Fragoso, R.M.S., Henriques, P.D.S., Carvalho, M.L.S., (2010a). "The agricultural competitiveness in Alqueva Portuguese irrigation project under the 2003 CAP Reform and the Health Check". New Medit, 9(4): 11-18.

Dos Santos, M.J.P.L., Henriques, P.D.S., Fragoso, R.M.S., Carvalho, M.L.S., (2010b). "Attitudes from Portuguese farmers to Common Agricultural Policy". Agricultural Economics, 56 (10):460-469.

Dos Santos, M.J.P. L., (2013a)." Segmenting Farms in European Union". Agricultural Economics, 59:49-57.

Dos-Santos, M. (2013b). Case study Portugal. In: European Parliament Study IP/B/AGRI/IC/2012-65: "Semi-subsistence farming: value and directions for development" Porto, Portugal: Lusófona University of Porto.

Dyer, G., Boucher., S., Taylor., J., (2006), "Subsistence Response to Market Shocks". American Journal of Agricultural Economics, 88(2), 279-291.

Ellis F, (1993), "Peasant Economics: Farm Households and Agrarian Development 2nd edition", *Cambridge University Press*, Cambridge.

Eurostat, (2008), " Farm structure in Portugal", *Farm Struture survey FS*S. http://epp eurostat.ec.europa.eu/cache/ITY SDDS/EN/ef esms.htm (accessed in 22/10/2013)

Eurostat, (2009a,) "Eurostat Agriculture database". http://epp eurostat.ec.europa.eu/cache/ITY SDDS/EN/ef esms.htm (accessed in 22/10/2013)

Eurostat, (2009b), "Ad hoc tables: farm structure survey". http://epp eurostat.ec.europa.eu/portal/ page/portal/agriculture/data/ad hoc tables farm structure survey (accessed in 12/12/2013).

FADN (2010), "FADN public Database". Available at http:// ec.europa.eu/agriculture/rica/database/database_en.cfm (accessed on July, 2013).

FAO, (2010), "FAOSTAT", *Food and Agriculture Organization*. Available at http://faostat.fao.org/default.aspx (accessed in 12/01/2014).

Hespanha, P., (1990), "A propriedade multiforme, Um estudo sociológico sobre a evolução recente dos sistemas fundiários em Portugal", Tese de Doutoramento, *Biblioteca da Universidade* da Faculdade de Economia da Universidade de Coimbra.

INE – Instituto Nacional de Estatística, (2013), "*Contas Nacionais"*. Contas Económicas da Agricultura.

Lains, P., (2003), "New Wine in Old Bottles, Output and Productivity Trends in Portuguese Agriculture, 1850-1950", *European Review of Economic History*, Vol 7 (1), pp 43-72.

Lerman Z., (2001), "Institutions and technologies for subsistence agriculture: how to improve commercialisation", *Department of Agricultural Economics and Management*,

WP 8.01, The Hebrew University of Jerusalem.

Lucas, M.R., Marques, C.A.F., Martins, M.B., Fragoso R., (2011), "Portuguese agriculture and its role in multifunctional rural development", Abstract - Applied Studies in Agribusiness And Commerce, 5(1-2), 39-46.

Key., N., Sadoulet., E., De Janvry., A. (2000) Transactions Costs and Agricultural Household Supply Response. *American Journal of Agricultural Economics,* 82(2), 245-259.

Kostov P., Lingard J., (2004), "Subsistence agriculture in transition economies: its roles and determinants", *Journal of Agricultural Economics,* 55, pp.565-579.

Marta-Costa, A. A., (2008). "A Tomada de Decisão no Planeamento da Exploração Agrária no Contexto da Sustentabilidade: O Caso da Produção de Carne Bovina Maronesa". Dissertação de Doutoramento. Vila Real: UTAD, Volume I e II.

Mathijs, E., Noev, N. (2004) Subsistence Farming in Central and Eastern Europe: Empirical Evidence from Albania, Bulgaria, Hungary and Romania. *Eastern European Economics*, 42(6), 72-89.

Mahmudul, A. Z., (2011), "Effect of Extension contact on rice productivity in some selected sites of Gazipur District". Bangladesh Journal of Agricultural Reserarch, 36(4): 723-732.

McConnell, D., Dillon, J., (1997), "Farm management for Asia: a systems approach", *FAO Farm Systems Management Series*, 13 FAO, Rome, Italy.

Mendes, M., Carmo, R., (2013), "Between two Worlds: Representations of the Rural and the Urban in two Portuguese Municipalities", *International Journal of Applied Sociology*, 3 (2), pp. 28-36.

Pereira, A., Lains, P., (2010) "From an agrarian society to a knowledge economy: Portugal, 1950-2010", *Working Papers in Economic History*, Universidad Carlos III de Madrid, WP 10-09.

Pinheiro, A. C., Neto, M., Coelho, J. C., Tristany, M. (2013): "Fraccionamento de prédios rústicos", *Softkiller*, digital.

Portaria n. 202/70, de 21 de Abril. *Diário da República I Série*.

Reis, M. M. B., (1993). Dinâmicas sociais e desenvolvimento local: perspectivas de reestruturação do espaço rural pós-latifundista. In Unterentwicklung und Selbsthilfe in europaischen Regionen, ed. Michael Vester, 81 - 114. . Hanover: Offizin Verlag.

Santos, R. (2004), "Economics sociology of the modern latifundium: Economic institutions and social change in Southern Portugal, 17th-19th centuries", *Sociologia, Problemas e Práticas*, n.45, pp. 23-52, Oeiras.

Sedlmayr, A. C., (2011). Agricultural Marginalisation in Portugal: Threats and Opportunities for Sustainable Livelihoods. A thesis submitted for the degree of Ph.D. thesis, Department of Biological Sciences, University of Essex, UK.

Serrão J.V., Santos, R.,(forthcoming), "Property Rights, social appropriations and economic outcomes: Agrarian contracts in Southern Portugal in the late eighteenth century*", Land Markets and Economic Growth in the European Countryside (13th-19th Centuries)*. G. Béaur & P. Schofield (eds.),Turnhout: Brepols Publishers. "

Wharton, C.R., (1969), "Subsistence agriculture: concepts and scope". Subsistence Agriculture and Economic Development Ed. C. R.Wharton (Frank Cass, London) pp 12 – 20.

[i] The value of 1 ESU is defined as a fixed number of euros of farm gross margin. Over time, the number of euros per ESU has changed to reflect inflation. Currently, 1 ESU equals 1200; 1 ESU roughly corresponds to either 1.3 ha of cereals, one dairy cow, or twenty-five ewes, or equivalent combinations of these (https://statistics.defra.gov.uk/esg/asd/fbs/sub/europe size.htm and Davidova et al., (2012).