# The flooding of the foodshed: how cheap imports undermine local food systems in rural Portugal

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**Comunicação apresentada no VII CIER – Cultura, Inovação e Território**

## Abstract

*Industrialization of the farming sector and trade liberalization have made small-scale farms economically unviable in the Portuguese mountain areas (Black, 1990). These changes have important social, economic and ecological impacts and are leading to a steep decline of rural communities. Recent fieldwork has shown that the establishment of supermarket chain stores played a key role in accelerating the decline of agriculture in these areas because cheap imports undermine local food production and trade. Using the concept of the foodshed (Kloppenburg, 2005) the historic changes of the agri-food system are reviewed and the implications for endogenous and sustainable development of the rural areas are analysed.*

**Key words:** agri-food market chain, agricultural marginalisation, foodshed

## 1. Introduction

Rural and agricultural marginalisation correspond to a demise of rural communities and farming respectively, that can be due to lack of economic viability and/or ecological degradation (Kousis, 1998). Pinto-Correia *et al.* (Pinto-Corrreia, 2006) have shown that rural and agricultural marginalisation do not necessarily occur together in Portugal. However, in rural areas where agriculture is the main economic activity, the decline of farming is likely to result in rural marginalisation as well, if no alternative income sources are developed. This is the case for 25% of the Portuguese continental territory (Breman, 2005), corresponding mainly to the mountain areas of central and northern Portugal (Alves, 2003).

Although the territorial dynamics and trends have been studied (Alves, 2003, Avillez, 1997, Baptista, 1995, Breman, 2005, GPPAA, 2004, Moreira, 2001, Pinto-Corrreia, 2006) and the potential for the development of various economic activities in the affected areas has been investigated (Afonso, 2001, Alberto, 2001, Almeida, 2001), the development and assessment of integrated courses of action lag behind current research (Breman, 2004). Since appropriate policy action requires that the problem is well understood, this paper reviews recent agricultural developments in Portugal and identifies key factors triggering agricultural and rural change.

Portuguese agrarian society was relatively well-preserved up to the 1980's (Black, 1992) owing to the limited nature of industrial development in the country during the dictatorship (i.e. until 1974). Prior to Portugal's accession to the EEC 23% of the national workforce was employed in agriculture (Domingues, 2004).Until then rural families generally divided their labour force between agriculture on small-holdings and temporary wage-labour in industry and construction (Riegelhaupt, 1973, Varela, 1992).

Prior to Portugal's entry in the European Community, Portuguese agriculture used to be highly protected from external market competition. A state board existed for most of the major commodities, and exports and imports were subject to authorization from the competent board. The accession of Portugal to the

European Economic Community (EEC, further to be called EU) in 1986 led to profound structural, social and cultural reform (Royo, 2003). The opening of the market presented a big challenge to Portuguese agriculture. As a result of the implementation of the single market and reduction of transition measures due to Common Agricultural Policy (CAP) reform, income per agricultural labour unit decreased by 40% in less than 3 years (between 1991 and 1993) (Domingues, 2004). For a sector that had been extremely protected, a rapid opening of the market and radical changes in the way the sector worked did not allow time for farmers to adapt to the new conditions and demands (Domingues, 2004). Especially so as Portuguese peasants had little experience of self-mobilization, as they had been kept powerless and politically irrelevant for over 40 years of continuous dictatorship (Pina-Cabral, 1987).

These important political and economic changes are rarely mentioned when strategies to reverse marginalisation trends are discussed. Therefore, it is likely that the measures put forward do not address the drivers of marginalisation, but rather seek to attenuate the symptoms, while the driving forces of marginalisation stay in place. The aim of this study was to deepen current understanding of the complex issues needing to be addressed by any attempt to guide the Portuguese countryside onto a path of sustainable development. Because of its largely *exploratory* focus, a Grounded Theory approach was used in this study (Glaser B.G., 1967, Charmaz, 2006) to investigate the dynamics of change within the agri-food sector in marginal mountain areas of Portugal.

As agriculture used to be the main economic activity in the study area (GPPAA, 2004) it was hypothesised that changes in the agri-food system lie at the core of recent transformations. Foodshed analysis was used to study recent changes, and as a framework for assessing the sustainability of the local agri-food system. A foodshed comprises the entire catchment area from which food is sourced, in allegory to the well-known concept of the watershed. The basis of foodshed analysis is mapping where the food consumed in an area comes from (Kloppenburg, 2005).

There are both practical and normative reasons to use the framework of foodshed analysis. A series of ecological, socio-economic and social justice based arguments exist in favour of proximity based food sourcing. These arguments are based on the workings of feedback loops of nature-society interactions. Direct feedback mechanisms exist when nature-society interactions occur at a local level: the problem is created, perceived and acted upon. Whatever occurs close to home is more likely to be taken into account when we make decisions, than far removed effects of which we may not even take notice. When the problem is not perceived, because it occurs in a geographically removed area or the problems are not easily traced back to their origin, there is no incentive for people to change behaviour, and degrading processes are allowed to continue. Another important argument in favour of proximity-based agri-food systems is related to the risks associated with leaving the satisfaction of essential human needs to forces out of the control of the concerned population. Trade is no doubt very important to provide a variety of goods and services that cannot be produced locally. However, depending entirely on unpredictable international markets, distorted by political interventions and economic interests, to provide for basic needs is considered by many as too great a risk (Norberg-Hodge, 2000). Also environmental costs of transportation speak against the dependency on a global agri-food system (Sachs, 2007). Food transport

currently accounts for an important share of global greenhouse gas emissions (DEFRA, 2005). On the basis of these arguments, foodshed analysis explicitly seeks to contribute to the construction of proximity based agri-food chains (Kloppenburg, 2005) as the most sustainable form of organising the food system.

Subsequent sections of this paper will first present the findings of the fieldwork carried out. These findings allowed for the conceptual reconstruction of the mechanism of agricultural and rural decline in the mountain areas of central and northern Portugal. Next, this theoretical contribution will be discussed and put in context, using relevant information from the literature. The paper concludes with a discussion of how the presented evidence might be applied to develop solutions that place these areas on a more sustainable development trajectory.

## 2. Methods

The study area selected corresponds to the mountain areas of central Portugal, defined as *Rural fragile/Agriculture fragile* by Breman and Pinto-Correia (Breman, 2005), where marginalisation trends are most severe.

A Grounded theory (Glaser B.G., 1967) approach was used. This research perspective allows for the open-ended exploration of the problem at hand and is well suited for the aim of the study – i.e. exploration of the factors underlying change in Portuguese mountain areas rather than hypotheses testing. The Grounded Theory approach allows for the integration of different types of primary data, and integration of data collected using different data collection tools (in this case, a questionnaire, observations, informal interviews with rural and agricultural development agents and, secondary data and literature review). The comparative analysis of the data is the method used for its integration (Glaser B.G., 1967).

A questionnaire was used to investigate current food sourcing habits of consumers and their views on the role of agriculture (n=101). Respondents could be placed along a continuum based on the extent of their involvement in farming. At one end of this continuum lay farmers and at the other, consumers of agri-food products who had no role in food production. For the purpose of this study it was held necessary to retrieve information on the different groups on this continuum. Therefore purposive sampling was used, interviewing farmers at farmer's meetings and conducting the questionnaire with full-time employees, in addition to chance encounters in nine towns in the study area.

The data was analyzed assuming that food produced by the household, by its relatives or purchased from local farmers was "local food". Food sourced at markets was assumed to be mainly locally produced, while food purchased at shops was deemed to have a small local preference and therefore representing a shorter food chain than food from supermarkets, which were assumed to be indifferent to proximity of food sourcing, thus using, in all probability, relatively long supply chains. These assumptions were based

on observations of origin labels of fresh foodstuffs in supermarkets and shops and informal conversations with market stall holders and shopkeepers.

Based on the theoretical framework developed after the fieldwork, secondary data sources were consulted. These were used to triangulate primary data. The last step was to review the literature that had become relevant as the theory emerged, to find if similar relationships had been found in other contexts and to set the results in a wider perspective.

## 3. Results

### 3.1 Current food sourcing

As can be seen in Figure 1, below, it was found that the sample population sources more than half of its food needs from supermarket chain stores (57%), but still 25% of the food consumed is produced locally: 17% is produced by consumers themselves and 7% of the overall food consumption is produced by relatives of consumers, who usually share their harvest for free. Only 1% of the food consumed is purchased directly from local farmers. Markets (11%) were more popular than small shops (6%) for food sourcing (see Figure 1).

41% of individuals were engaged in domestic food production and met up to 85% of their household food needs themselves. However, only 13% of the total produced more than 50% of their food needs themselves. These individuals were either full-time farmers, retired or housewives.

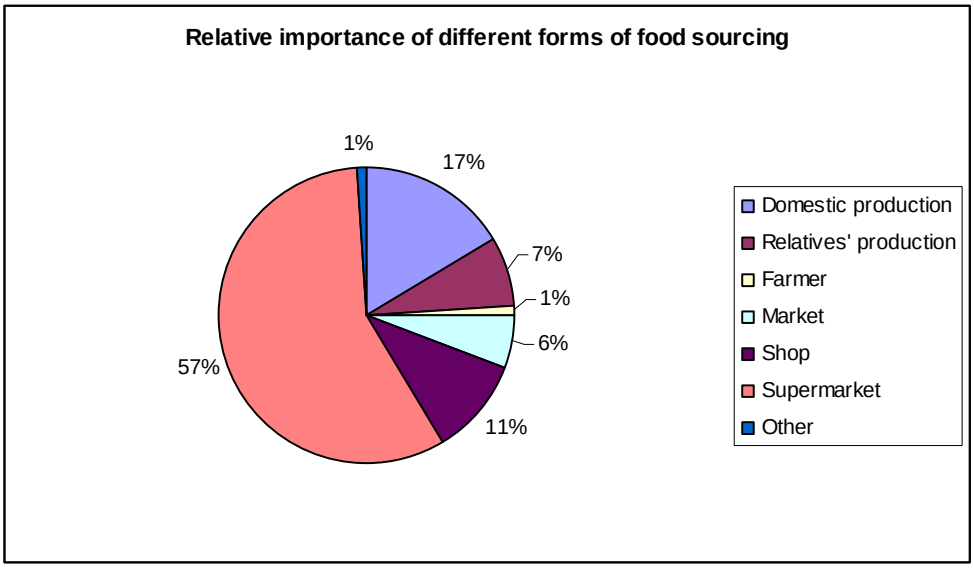


Figure 1 – Proportion of food sourced from each food source type, in the sample population (n=101).

The consumers sampled were grouped into 4 different categories, according to their relation to food and farming:

a) Farmers – individuals working full-time in agriculture (7%);
b) Domestic producers - individuals engaged in domestic food production (excluding farmers) (34%);
c) Consumers receiving food from relatives - individuals not engaged in domestic food production but receiving local food from relatives (25%);
d) Non-farming consumers - individuals who relied entirely on the market to source food (35%).

The graph below (Figure 2) shows where each of the four different consumer groups source their food from. Farmers never sourced food from other farmers and relied almost exclusively on supermarkets to purchase the foodstuffs they do not produce themselves. Domestic producers sourced food from local farmers most frequently out of all the groups. They also relied more on markets and shops and less on supermarkets for food sourcing. Consumers receiving food from relatives and consumers entirely dependent on the market showed a similar pattern of food sourcing habits, with one small difference: all non-farming consumers used supermarkets, whereas not all Consumers receiving food from relatives did. The amount of food that people not engaged in farming received from their relatives varied widely, the average was 29% of weekly food consumption, and the highest contribution reached as much as 80% of domestic food needs in one case.

Of the 41 individuals engaged in domestic food production only 4 were under 30 years old, which suggests that the younger generation engages less in farming. In the sample there also was a tendency of increased reliance on the supermarket with higher levels of education.

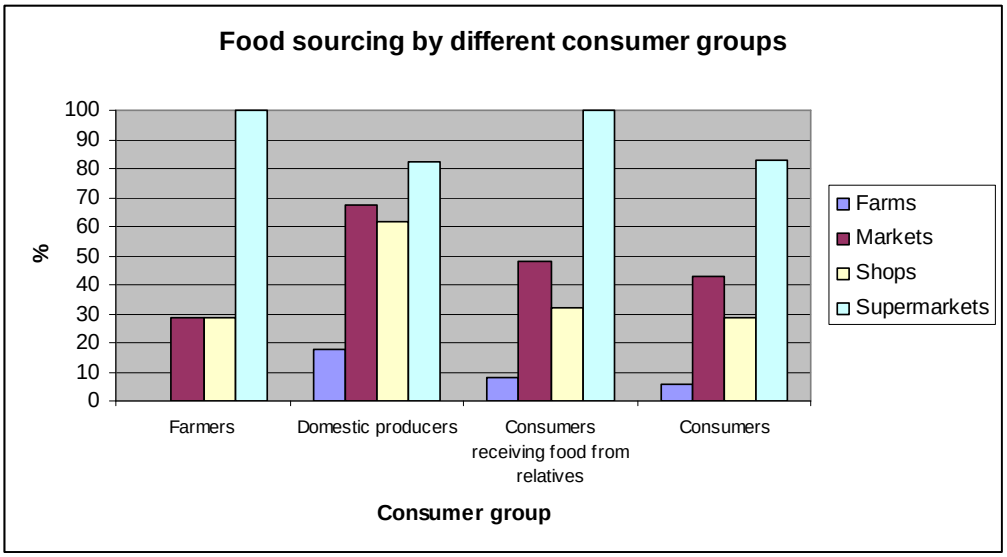


Figure 2 – Food sourcing habits (Farms, Markets, Shops and Supermarkets) of different consumer groups (Farmers, Domestic producers, Consumers who are relatives of farmers and non-farming Consumers). The graph describes the percentage of consumers from each consumer group sourcing food from any of the 4 types of food sale.

The graph shows clearly that food is rarely sourced directly from local farmers and that supermarkets are the first choice for food sourcing for all consumer groups.

### 3.2 Perspectives of local people

The active demand for local, sustainably produced food seems to be low, although a theoretical awareness of its advantages exists. This is noted by the fact that 76% of consumers said that they want to buy (more) produce directly from local farmers. In part the low market demand for local food is explained by the fact that 58% of consumers are engaged in domestic food production themselves. The reasons respondents cited for their engagement in domestic food production were mainly attachment to the land and economic reasons. One retired farmer explained: "*People are obliged to work in farming because the retirement allowances are too low*." The same seems to hold true for wages – they are so low that domestic food production plays an important economic role to support livelihoods.

Most consumers agreed that purchasing food directly from farmers is good for the local economy, however, their willingness to practically support farming in the area was low. Even if they said they would like to purchase food regularly from a local farmer, many were unwilling to spend extra time and money to do so. Only 10% of the consumers interviewed said they would make an extra effort to purchase food directly from local farmers. The majority preferred the convenience of shopping at supermarket chain stores. They said "*The supermarket is cheap and convenient*", "*I like shopping at the supermarket*", "*I'm satisfied with what I get at the supermarket*" and one noted "*Farmers take more money than the retailers*". A minority of consumers however showed a clear avoidance of supermarkets. Two merchants explained they would not shop at supermarkets "*because it's them who pull us down*" [*são esses que nos botam abaixo*]. They said they were willing to make an extra effort to purchase food rather than to go to the supermarket, because "*we have to support each other*" (meaning, small businesses and farmers).

None of the farmers interviewed sold to supermarket chains, as supermarkets require farmers to package their produce and deliver it at central storage halls. In one case a supermarket chain was interested in marketing regional produce in its stores in Viseu, but it required that the farmers would take the produce to the central stores in Alcanena (some 250Km away) prohibiting small-scale farmers from being involved (Jacinto, P. and Gomes, J. *pers. comm*.).

Awareness of consumers regarding several aspects of food production and agricultural systems was high. The connection between agriculture and landscape value was evident to most consumers, and some complained that land abandonment is leading to a decline of appreciated features of the landscape. There was almost unanimous agreement among consumers that "*farmers in this area have difficulties in making a living*". Several farmers complained "*In earlier times, wholesalers would travel through the villages at the end of summer and purchase our production at the farmgate, but there is no one who wants our*

*produce now…*". A domestic producer gave an account of "*having opened the wine barrel and let 200 Litres of wine run down the road into the gully*". Such stories were not uncommon, a farmer explained: "*The prices we are offered are ridiculous, it seems people are making fun of us. Me, I prefer to feed the potatoes to the pigs than to sell them below production costs.*"

### 3.3 The emerging theory: The vicious cycle of agricultural marginalisation

From the results above it became clear that consumers are aware of the current situation and the role of agriculture in their area. However, they prefer to buy cheap foodstuffs from the supermarkets instead of spending the extra time and money involved in getting produce from local farmers. Farmers produce most of the foodstuffs they need themselves and any additional purchases need to be bought at the lowest possible price, due to income limitations. Therefore, farmers turn to supermarkets to buy the extra food they need, as they provide the cheapest option.

The expansion of supermarket chains has led to a shift away from local or proximity-based food sourcing to a centralised retailing system, which is largely indifferent to the origin of goods. Sourcing decisions in this system depend on a narrow economic rationality: products are obtained from those places and farming systems which provide lowest cost possible to the retailer.

Financial resources are drained out of the rural communities through a vicious cycle in which no one is able to invest in local food production (see Figure 3 below). Since the entry of Portugal in the European Union in 1986, supermarket chains expanded quickly in territories where predominantly regional agri-food systems had been in place. Supermarket chains have their own, usually international, supply and retailing networks, independent of local farming and distribution systems. As a result of the establishment of supermarket chain stores, it was suddenly it was cheaper and more convenient – not to mention a perceived sign of progressiveness and modernity - to buy food at the supermarket chain store. People bought less food from local shops, markets and farmers. Many local shops had to shut down and those who remained open for business bought less from their wholesale suppliers and from farmers. As a consequence, farmers were not able to earn enough to buy from other farmers, markets and shops and had to go to supermarkets themselves to buy cheap goods. As farmers' income declined because they could no longer sell their produce, they also had to continue or increase their domestic production to reduce household expenditure. This explains why subsistence agriculture is very common, although commercial agriculture is almost inexistent.

The circulation of financial resources within rural communities decreased, as money started to be drained out of the community by supermarket chain stores. This mechanism is self-enforcing, creating a vicious cycle: poor consumers rely on cheap goods; cheap goods are imported, meaning that the little available cash available flows out of the already impoverished community, making it even more reliant on cheap goods.

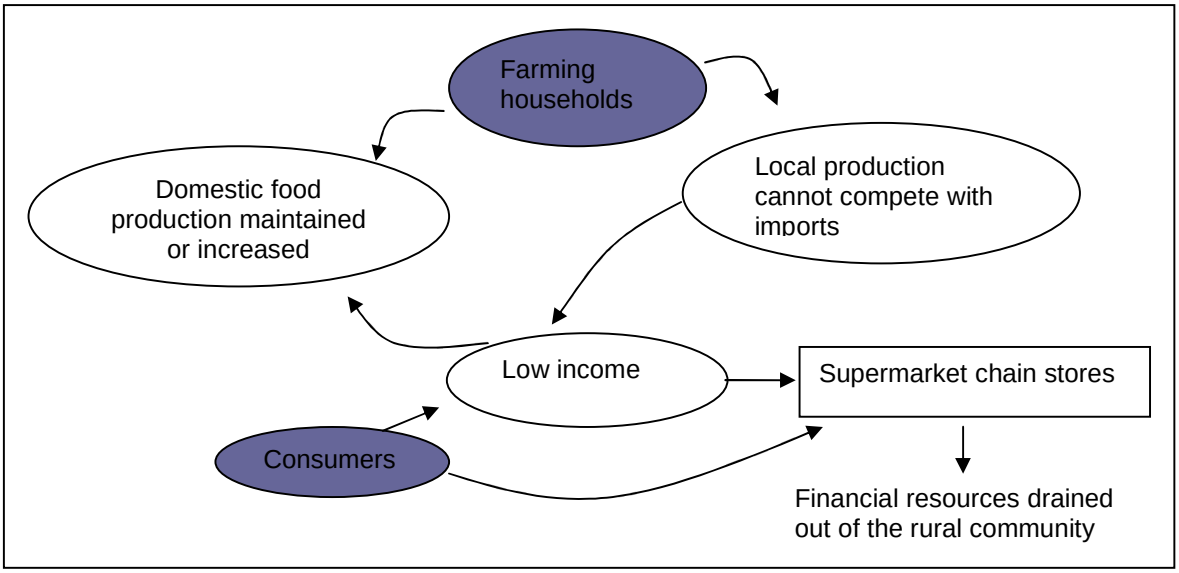


Figure 3 – The draining of financial resources out of the rural community through supermarket chains: the income of farming households is reduced due to external competition. In response, farming households increase domestic food production but are also forced to purchase cheap imports themselves.

## 4. Discussion

4.1 The expansion of supermarket chains

The literature shows that the development of supermarket chains runs in parallel with the decline of agriculture in the mountain areas. Trade in agri-food products in Portugal changed radically, from small local stores being prevalent to big supermarket chains becoming more and more important in the market share, in a trend that started in the 1980's. Although the *Pão de Açucar* supermarket chain emerged as early as 1970, the expansion of supermarket chains was slow during the 1980's, and the first modern hypermarket was set up only in 1985 (20 years later than in France) (Barros, 2006). Starting from the early 1990's an exponential growth of supermarket chains took place. Only during the 1990's did supermarket chains take over and monopolize the agri-food market (Domingues, 2004). In 1999 the monopoly of food trade belonged to 2 groups: *Sonae* (*Modelo* and *Continent*e stores) and *Unilever-Jerónimo Martins* (*Pingo Doce*, *Feira Nova* and *Recheio/MasterChef* stores) who together accounted for 56% of overall sales among the ten first enterprises in terms of business volume (Domingues, 2004). By 1998 there were 718 supermarket chain stores in the country, owned by 10 companies (Barros, 2006) and 1071 in 2004 (Fonseca, 2005).

The expansion of supermarket chain stores was coupled with a drop in the number of grocery stores. Although the number of independent food stores is still high compared to the number of hypermarket stores, their sales fell significantly. At the beginning of the 1990's grocery stores amounted for 60% of

sales, in 1998 they accounted for only 20%, whereas supermarkets accounted for 73% in that year. The number of people employed in smaller retail surfaces dropped by 18 thousand workers between 1990 and 1997. In 1998, firms with less than 10 employees represented 75% of the total number of firms, but only 8% of the business volume, showing the concentration of the agri-food industry (Domingues, 2004).

At the same time, total labour units in agriculture fell from more than 1.1 million in 1980 (29% of national workforce) to 520,000 in 1993 (12%) and 408,000 in 1999 (10%). Since 1980, the agricultural workforce has decreased by 63%, while the total number of farms has fallen by 54% (Domingues, 2004, INE, 2006).

On theoretical grounds it is argued that consumer welfare is enhanced by discount supermarket chain stores, although farmers and local retailers lose out (Barros, 2006, Rodrigues, 2006). However, in a predominantly agricultural area, where most consumers are farmers as well, it seems likely that the majority will lose out.

It is also notable that changes in the agri-food system have not linearly improved the diet of the Portuguese, on the contrary, the per capita calorie intake has increased above recommended daily amounts, associated to an over-consumption of proteins and fats and a reduction of vegetable consumption below daily recommended guidelines (INE, 2006). The Portuguese consume 3 times more proteins from meat, fish and eggs than the recommended amount, while the amount of vegetables corresponds only to about half of the recommended daily amount (INE, 2006).

### 4.2 Sustainability implications of the decline of regional agri-food systems

The establishment and expansion of supermarket chains implies a shift away from regional agri-food systems to an increasingly international and global food system; the exact opposite of the development of the foodshed as described by Kloppenburg (Kloppenburg, 2005).

Although understanding of the relationship between food and farming is high amongst consumers, the decision to opt for locally and sustainably produced food is not yet widespread. This is partially explained by low incomes typical of marginal areas, which do not allow consumers to invest extra money and resources in sourcing local or organic food. As a result of an elderly farming population and unengaged consumers the “post-modern” forms of local food sourcing, such as farm shops and box schemes, are not yet in place. The evidence that the older and less educated consumers rely more on locally produced food, might even mean that local food sourcing declines further, as this generation passes away.

The abandonment of agricultural production in the mountain areas implies that food for the local population has to be produced elsewhere. The trend is for concentration of food production in large-scale farms, with intensive resource use and degradation (Guzman Casado, 2000, Pretty, 2002), as it is

practiced for example in the *Oeste* and *Minho* regions in Portugal. At the same time as natural resources are neglected in one area (not necessarily leading to ecological benefits (Pinto-Correia, 1993, Baudry, 1991) they are over-exploited in other areas, more suitable for mechanized mass food production.

It is to be expected that the ecological footprints of rural communities increase significantly, once they shift further from local food sourcing to global sources, as they shift from net producers to net consumers.

## 5. Conclusion

The emergence of important relationships and dynamics time and time again, permitted the development of an explanation for the mechanism of marginalisation in the study area. The link between the self-enforcing dynamic of agricultural and rural decline and the expansion of supermarkets found in the mountain areas in Portugal, corresponds to a dynamic that has been found in other settings as well (Douthwhaite, 1996, Reardon, 2008).

As the multifunctionality of agriculture is increasingly recognized, the argument put forward in the economic Principle of Comparative Advantage (if food can be produced cheaper in one area than in another, the area that is less efficient in food production should trade with the more efficient area and import food) has to be rejected as a basis for agricultural policy making. This perspective ignores the fact that farms do not only produce food but also revitalise local culture, cultural landscapes and can preserve and produce environmental goods and services. Therefore agricultural systems cannot be evaluated according to food output alone, and to direct the development of agricultural systems towards such narrowly defined efficiency goals has systematically led to undesirable outcomes (Pretty, 2002).

The most common point of view is that agriculture in the mountain areas is not competitive because of the way the farming systems are structured and how they operate. In fact, the perspective can be reversed: it is only due to outside competition that small-scale mountain farming has become economically unviable. Certainly, the benefits and the losses of this external competition have to be weighted one against the other, and it is will be vital to map the winners and the losers of the current organization of the agri-food system, in order to take decisions that shape rural areas in the future.

Due to the complexity of this cost-benefit analysis it is not possible to suggest at this point that supermarket chain stores should be shut down. But there are clearly wider benefits to be gained through a focus on supporting local agri-food systems and by encouraging supermarkets to adopt a policy of proximity-based food sourcing. How these options could be practically put forward in a way that maximizes benefits for the diverse groups of stakeholders involved is a key point that will be focused on in further research.

**Acknowledgments**

This paper has greatly benefited from the detailed and insightful comments of Dr. Sarah Pilgrim, Zareen Bharucha, Indra Candanedo Diaz and my supervisor Professor Jules Pretty.
This research project is supported by a Ph.D. studentship from the Portuguese Science Foundation (*Fundação para a Ciência e a Tecnologia,* FCT).

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