



'For my children': Different functions of the agricultural landscape and attitudes of farmers on different areas of Greece towards small scale landscape change

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Abstract

Agricultural landscapes are valued with different sets of criteria by different actors and stakeholders, including farmers, whose opinions and attitudes can vary greatly. In this paper, farmers' attitudes and opinions towards small scale landscape change in different areas of Greece (Koropi, Zagori and Lesvos) are presented. The areas are very different in terms of landscape and the driving forces of landscape change, with intense urban sprawl in Koropi urbanization in Mytilini and abandonment in Kentriko Zagori. The comparison of the attitudes, the evaluations and justifications farmers offer for landscape change is used to understand the dynamics of this change. Findings indicate that although common threads run through all the cases, conflicts between the different roles are evident and the attitudes reveal an antithesis between deep attachment to the land and farming traditions on the one hand and market pressures on the other, with important implications for rural and land use policies that have to encourage a better balance between these different roles.

Key words

Agricultural landscape, farmers, landscape change, Greece.

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Introduction

Landscapes have always been 'multifunctional' in the sense that definitions of the concept of landscape entail many different functions (Bohnet et al., 2003; Pinto-Correia & Vos, 2004). The definition in the European Landscape Convention (chapter 1, art. 1, par. 38) defines it as: "a zone or area as perceived by local people or visitors, whose visual features and character are the result of the action of natural and/or cultural (that is, human) factors. This definition reflects the idea that landscapes evolve through time, as a result of being acted upon by natural forces and human beings. It also underlines that a landscape forms a whole, whose natural and cultural components are taken together, not separately". In such a definition, the multiple functions of the landscape refer to the different ways that various social groups perceive, signify, value and assign meaning to a landscape, in short what 'landscape' they 'see'.

In this paper, we deal with the second of these dimensions, the different functions that are assigned to a land-

scape and its changes by different social groups that live in or use the landscape. The focus of the approach is on small scale agricultural landscape changes and how these are perceived and evaluated by the people that have taken an active role on these changes. By small scale agricultural landscape changes we refer to changes of the landscape at the scale of the single field /farm and deal with decisions and practices of land managers (i.e. farmers or former farmers in our case studies) and the rationale behind these decisions. The temporal focus is on short term processes (months or years in Marcucci's (2000) framework), within the life of a single individual or within family memory.

The emphasis here is placed on the actual changes, but also to how those involved in those changes react to them and how they justify their decisions and choices, the different landscapes and their functions. The latter, is important for understanding the dynamics of change, predict future changes and formulate policies to address these changes. The literature is particularly rich in approaches that let farmers speak about their decisions. Some recent examples

of different research and conceptual approaches include Calvo-Iglesias et al. (2006); Benjamin et al. (2007); Gorton et al. (2008); Rescia et al. (2008); Bakker & Van Doorn (2009) and Vouligny et al. (2009).

The driving forces of these changes in agricultural landscapes in Europe are linked with policies (EU or national) and processes such as globalization (Primdahl, 2010) and urbanization, especially in peri-urban areas (Antrop, 2005). These forces at the large (international – EU – national) level are translated at the small – local level of the agent of landscape change. The literature of agricultural – rural landscape change in the Mediterranean or similar environments deals either with the monitoring of land cover and landscape small scale changes (e.g. Detsis et al., 2010; Diaz et al., 2011; Tzanopoulos & Vogiatzakis, 2011). Others use the views of farmers for a general description of changes at the small level (e.g. Kristensen et al., 2001; Kristensen et al., 2004; Quetier et al., 2005; Calvo-Iglesias et al., 2009; Kizos et al., 2010). These approaches demonstrate the complex processes that influence the decisions of land managers for the use of their land, including personal, family, cultural and other characteristics, even if they may claim that economic/productive reasoning predominates these decisions (e.g. Gasson & Errington, 1993; Damianakos, 2002)

Here, we draw from these literatures an emphasis on these complex processes. For this, we adapt and use the framework of Primdahl (2010), who employs an analysis that links decisions of farmers and the subsequent changes with their driving forces, namely mostly with globalization – local forces. He distinguishes between different roles of farmers (p. 152) as producers “*supported through subsidies and various support schemes, and restricted through land-use planning and environmental regulatory measures*”, as property owners “*also regulated through planning and environmental measures*”, and as citizens, a role reduced in the 20th century but “*regaining currency... in the new ‘territorial’ approaches in the Common Agricultural Policy (CAP) and ... as part of a ‘communicative’ turn in planning*”. Farmers may “*use quite different rationales (with different time scales involved) to formulate their ‘producer’ and ‘owner’ decisions*” and the ones as a ‘citizen’.

This typology has two advantages: it can capture the complex and at times even contradictory factors that influence the decisions of each farmer, as for many farmers these roles are not mutually exclusive (see Primdahl & Kristensen (2011) for a discussion). Additionally, this typology can be used to understand broader processes at

the level of the area by classifying farmers along these roles in types and linking each type with specific landscape practices as responses to the same driving forces. These advantages are particularly relevant in the Greek agriculture – land management context. First of all and despite the relatively recent transition from a farming rural economy to services, for many farmers today according to Damianakos (2002) farming is a ‘social condition’ rather than just an occupation. At the same time, the majority of farm owners today are old and/or ‘part-timers’ and their role as producers is less important than their other roles. In peri-urban areas where the price of farm land has risen at unimaginable heights, conflicts between the different roles are evident and the adoption of this typology can illuminate these differences and link them with the changes of the landscape. In this context, we consider as ‘producers’ all farmers that use their farm to produce incomes from food or fiber and depend on these incomes for an important part of the family budget. ‘Owners’ are part-time or hobby or ex farmers that see their farm as property rather as a productive farm, even though they may still produce, and ‘residents’ are hobby or part-time farmers that see their farms as part of their identity and an important part of local culture.

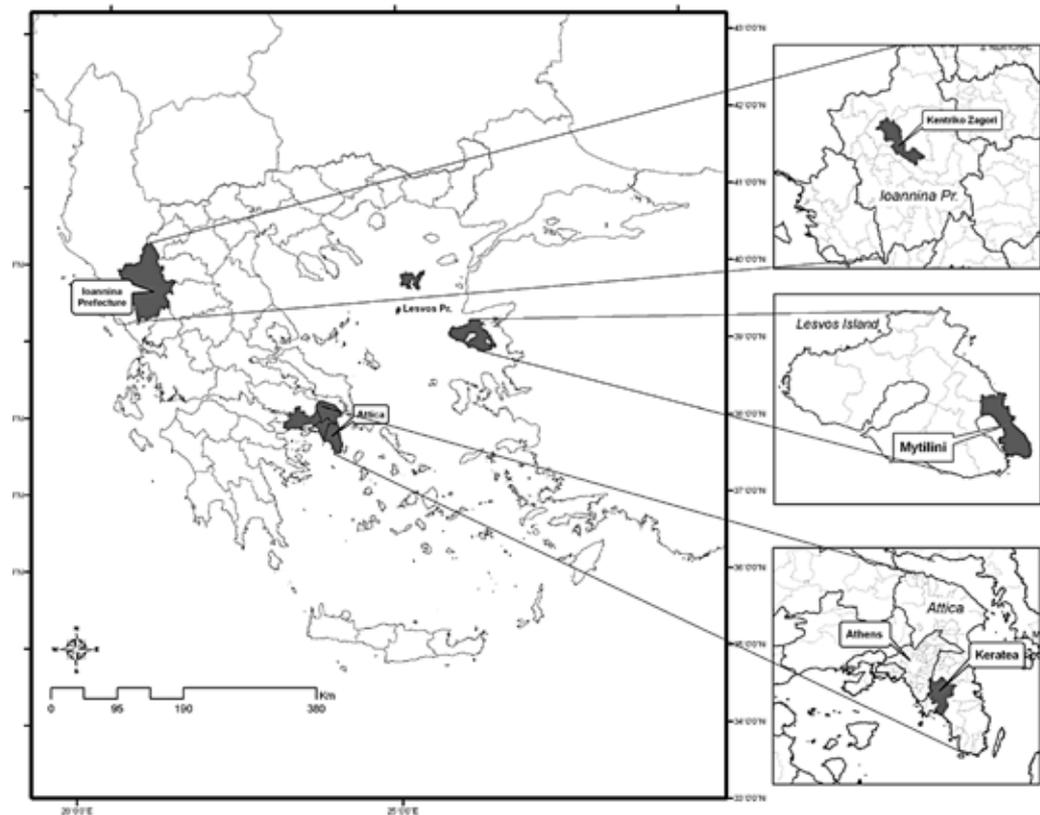
In this paper, small scale agricultural landscape changes are studied on three different areas of Greece in terms of location and major socioeconomic developments, but in all agriculture has been abandoned: (a) the Municipality of Mytilini on Lesbos Island in the North Aegean Region; (b) The Municipality of Kentriko Zagori in Epirus Region; and (c) the Municipality of Koropi in Attica Region. Farmers and former farmers were interviewed in each area to record land use and landscape changes on their farms in the last 40 years approximately, discuss, comment and evaluate the changes. The objective of this research is to link these decisions and choices with the different driving forces and examine how broader forces impact at the local scale. At the same time, we seek to examine the evaluation of the landscape and its functions by different agents of change.

Materials and methods

Landscapes in the case study areas

Mytilini is the capital of Lesbos Island (Figure 1) with a population of 36,000 (40% of the total 90,000 of the island). In the former Municipality (until 2010), 8 smaller suburb settlements besides Mytilini are included, all under significant housing pressures on cultivated land. The dominant landscape is composed of terraced olive plantations

Figure 1: Location of the case study areas.



(more than 80 % of the Utilized Agricultural Area, UAA) cultivated in small fields, with limited management practices and cases of abandoned (Kizos & Koulouri, 2010). Most plantations represent an important investment with significant symbolic value for the farmer and his/her family: it is considered a family asset (Kizos et al., 2010).

Koropi is located in the South of the city of Athens, in the site of the new airport (created in 2003). The whole area has been gaining population during the last 30-40 years (Table 1) speeded up after the completion of the new airport. It is an area of plains and gentle rolling hills, historically hosting the fields and farms of Athens since classical times. After the 1950s olive plantations and vineyards are the main land uses, along with garden crops for the Athens market. Land values have skyrocketed after the 2000s due to the construction of the airport and the new roads that connect the area with greater Athens and the sea front. Many industries, manufactures and services moved to the area, along with more residents, building significant pressure upon agricultural land (Chorianopoulos et al., 2010).

Kentriko Zagori is a mountainous former municipality of 15 small settlements scattered around the ridges and

steep slopes of the Vikos Gorge. As much of the mountain areas of the Pindus Range it was densely populated until the early 20th century as an area for sheep and goats browsing in transhumant networks. After the end of WWII it was the venue of a civil war (1945-1949) between the mountain based guerrillas and the ‘national’ army. This increased permanent out-migration to the cities and the abandonment of managed land (Table 1) and the municipality had lost 64 % of its 1928 population in 2001. This ‘empty’ landscape was forested rapidly (by beech, oak and pine). In the late 1990s it was one of the first mountain areas of Greece that were ‘re-discovered’ as tourism destinations. Today, it is a very popular winter destination. The forested landscape is disputed by the few remaining farmers and the tourism related businesses: the first regarding it as an ‘obstacle’ to their farms (since forest is protected by Greek legislation and once an area is forested it has to remain a forest), while the latter consider it as ‘nature’ and want to conserve it.

All areas have witnessed significant population and landscape change in the past, reflecting typical cases for some of the most important processes at work in Greek so-

Table 1: Population and land use in the case study areas.

Area	Population (2001)	Population changes	Area (ha)	Land use	Main drivers
Mytilini	36,000 in the town plus 8 smaller suburb settlements	+12 % since 1991	10,830	Terraced olive plantations (low-input traditional, neglected or abandoned) in small fields (80 % of UAA); Vegetables and gardens; Forests: pine or evergreen oak and maquis, natural regeneration on formerly cultivated areas	Significant housing pressures on cultivated land
Kentriko Zagori	1,517 in 15 small settlements	-64 % since 1928 +8 % since 1991	20,910	Formerly cultivated land abandoned and forested; Pasturelands; Forests: deciduous oak and beech	Densely populated in early 20 th century; Civil war (1945-1949) speeded up permanent out-migration and abandonment of land; Today very popular winter destination
Koropi	25,760 in 5 settlements	+220.8 % from 1961 +50.5 % since 2001	11,000	Olive plantations (intensified traditional plantations); Vineyards (occasionally mixed cultivation with olive trees); Vegetables and garden crops; Forests: pine or evergreen oak and Mediterranean maquis, natural regeneration on formerly cultivated areas	The new airport and roads brought rapid industrial and residential development; Significant pressure upon agricultural land

ciety over the last decades and resulting landscape changes: urbanization in the case of Mytilini, urban sprawl in the case of Koropi and depopulation – abandonment in the case of Kentriko Zagori (but with a recent re-evaluation). In all areas the changes have affected farming profoundly with different degrees of intensity: very high pressure from buildings and housing in Koropi and high in Mytilini, while in Kentriko Zagori pressure from buildings is lower, but abandonment is important.

A framework for landscape change in the case study areas

The small/farm scale landscapes of the case study areas are classified into six broad and diverse types (Table 1 and Table 2): (a) arable land, including vegetables and gardens in Koropi and Mytilini, legumes for animal feed in Kentriko Zagori and cereals in the past; (b) pasturelands where the hay is harvested in Zagori; (c) grazing lands, used only for browsing in Mytilini and to a lesser degree in Koropi;

(d) vineyards in Koropi, sometimes in mixed cultivation with olive trees; (e) olive plantations, mostly low-input traditional plantations, neglected (‘between’ cultivation and abandonment) and abandoned in Mytilini and mostly intensified traditional plantations (under intensive management and increased tree density) in Koropi, according to the typology of Kizos & Koulouri (2010), based on Stroosnijer et al. (2008); (f) forests and forest areas, including deciduous oak and beech in Zagori and evergreen oak and Mediterranean maquis and sparse pine forests on formerly cultivated land in Mytilini and Koropi; and (g) housing areas in former fields where one or more buildings are built (homes, second homes, tourism units, manufacture, industry, warehouses, etc.).

These typologies represent a considerable simplification of real conditions and the borders between the different types may appear fuzzy at times, especially for olives. According to the change matrix (Table 2), there are four types of change for these landscapes:

(a) Clearing for cultivation, which involves the clearing of abandoned or neglected fields;

- (b) Clearing/abandonment for housing, which involves the removal of trees and other existing characteristics (terraces, storage buildings, stone walls, etc.);
- (c) Abandonment of cultivation, which refers to the stopping of all management practices for more than 4-5 years, including the semi-abandonment of cultivation for olives that refers to the stopping of all management practices besides collecting the olives, occasional pruning and rarely periodic clearing of the understorey; and
- (d) Change of cultivation, which refers to any of the possible pathways of change from one cultivated landscape to another.

The different combinations of types of landscape and types of change include a large number of alternatives (Table 2). Housing areas are the only ones that can not change, as once the constructions are built the area can not be reclaimed by agriculture, at least for short and medium term time periods. A common driving force behind these changes is housing pressures. Since Greek building legislation allows building outside settlements only on non-forested agricultural land of size larger than 0.4 ha, farm land is not protected at all and the difference in land value makes all fields potential real estate plots. This is linked with the unattractiveness of agriculture as an economic activity in Greece today that

results in aged owners and abandonment of farm land, due to the poor economic performance of most cultivations today (especially low-input olive farming). Therefore, part-time farming with small and ‘hobby’ farmers is spreading.

The data come from interviews with farmers or former farmers (10 in Mytilini in the summer of 2008, 20 in Zagori in the spring of 2008 and 30 in Koropi in the summer of 2008). The respondents selected were farmers or former farmers with farms now or in the past in each area, but today not necessarily living permanently in the area. The initial contact points were selected in random, according to prior knowledge or with some guidance from other local actors. These initial contact points provided more contacts in a snowball sampling approach they guided us to the rest of the sample. The number of the sample and the sampling approach in each area was determined by a number of reasons. In Mytilini, despite our efforts, farmers or former farmers with farms in the Municipality were hard to find, since most of the population of the town today either have no land, or have land in other settlements of the island. We had to depend on personal contacts and on information we obtained from stores that sell farm supplies. Even so, many of the selected farmers were unwilling to speak to us, or found hard to explain the profound changes due to inheritances, selling of the land for houses etc, which were not usable in the

Table 2: Combinations of small scale landscape change and type of change.

Initial landscape	Final landscape								
	Housing	Abandoned (Forest/forest area)	Neglected	Olive plantation	Arable land	Pastureland	Grazing land	Vineyard	
Housing		-	-	-	-	-	-	-	
Abandoned (Forest/forest area)	Clearing for housing		-	Clearing for cultivation					
Neglected									
Olive plantation			Negligence		Change of cultivation				
Arable land			-						
Pastureland									
Grazing land									
Vineyard									

research. Some characteristic examples of such non-usable material include one respondent who angrily described to us how his grandfather sold all the family land plot after plot to support a comfortable lifestyle without working, but he did not know exactly the size of the original farm, or another that described to us in detail the court experiences he had with other members of his family over the precious pieces of land inherited to them by their grandmother. In Kentriko Zagori, most of the respondents live seasonally in the Municipality (in summers and holidays) and were sought in their houses in Ioannina (the capital of the Region), while others that lived in Athens or abroad were impossible to reach. In Koropi, the selection and the response rate was higher. These difficulties reflect the different processes in the three areas: many newcomers in Mytilini, many absentees in Kentriko Zagori and still many 'original' owners in Koropi. The lack of an official cadastre restricted the use of a more straightforward approach. Information on the family and the household of the respondent, the farm, the practices and the land use changes that they could remember, the reasons for these land use changes and their opinions and views on the landscape change in the area were recorded with the use of a semi-structured questionnaire during the face-to-face interviews. This sample is not representative of the total farmers or former farmers in the three areas, but some typical examples of farm changes and the small scale impacts on the landscapes are provided, along with information on the reasons behind these change and the attitudes towards this change.

Findings

The farms and households

The trends regarding the overall number of farms in the three areas according to the official censuses are contradicting (Table 3): In Mytilini, both the number of farms and the UAA have increased due to the increase of olive plantations and practically all farms have at least one such plantation (98.5 % of the total, in 1971 95 %). On the contrary, in both Kentriko Zagori and Koropi, both farmers and farm land are decreasing. In Kentriko Zagori, the overall depopulation has reduced the number of farms by almost 80 % between 1971 and 2000, including animal husbandry. In Koropi the decrease is less steep (-10 %) and only tree crops (practically olive plantations) increase. In all areas though, the age of the farmers is increasing: 24.1 % of the farmers were older than 65 in 2000 in Mytilini, 32.3 % in Koropi and 26.7 % in Kentriko Zagori.

In the sample, farmers are in general men (but this can be a feature related to the fact that men are still considered as the 'heads' of the family and therefore of the farm even in cases where the land is 'written off' to other members of the family) and of middle age (average 49 years old in Mytilini, 43 in Koropi and 56 in K. Zagori, min 21 and max 93). Most are married (with the exception of Mytilini where only half are married), with families of one or two children (of average ages of 29 and 25 years old respectively). All farmers declared that they are still active in agriculture but very few identified themselves as 'professional' farmers: one in K. Zagori and two in Koropi. For the rest, the primary source of income comes from a variety of sources: 30 % have their own business (most in Koropi), 25 % are civil servants, 10 % private employees and 17 % are pensioners (more in K. Zagori and less in Koropi) the rest being housewives and students. The rest of the members and especially children are not very often active in the farm. Farm incomes are expectedly low (< € 5,000 for 95 % of the sample) and not correlated with family incomes that are much higher (> € 30,000 for 40 % of the sample).

Farms today are small in all areas: 2.5 ha on average in Mytilini (excluding two farms with large pine forest areas), around 1 ha on average in K. Zagori and Koropi (abandoned areas not included). Land uses differ, with olive plantations predominating in Mytilini and Koropi. In the former area some mixed tree crops (lemons, tangerines, pears, almonds) with garden crops for domestic use are also found, while in the later, vines are very common. Grazing lands and pastures are dominant in K. Zagori, with some small fields for animal feed plants in some farms. The fields are quite small and many seem like future real estate plots.

Small scale landscape changes

Regarding land use and landscape change at the field level, the findings indicate important changes in all areas, especially towards housing landscapes (45 % of all changes, Table 4 and 5 % of the area that changed). Mytilini and Koropi landscapes are more affected by this process: in Mytilini, most changes were related to olive plantations being removed (along with the terraces that supported them) for housing/manufacture/infrastructure uses (a few turned into mixed cultivation with growing of garden crops in the understorey for home consumption, covering 50 % of the area that changed cover, but only 20 % of the total area). In Koropi, all respondents tend to agree that the construction of the airport, accompanied by the new road and the rail connection to Athens (along with a

Table 3: Selected land use and animal husbandry indicators of farms in the case studies.

	1971			2000			Change 1971-2000 %		
	Mytilini	Kentriko Zagori	Koropi	Mytilini	Kentriko Zagori	Koropi	Mytilini	Kentriko Zagori	Koropi
Farms with UAA	2050	688	1625	2427	146	1461	18.7	-78.7	-10.1
UAA* (ha)	5710	1561	3630	6623.2	1310.5	2376.3	15.9	-16.0	-34.6
Area/farm	27.9	22.8	22.4	27.3	89.8	16.3	-2.3	294.5	-27.2
Arable land (ha)	307	566	385	105.9	384.3	90.9	-65.4	-32.1	-76.4
Tree crops (ha)	5140	26	896	6196.6	2.8	1128.6	20.5	-89.0	25.9
Vineyards (ha)	26	100	1227	6.8	0	780.0	-74.0	-100.0	-36.4
Pastures and grazing lands* (ha)	149	394	96	293.7	872.3	370.6	97.5	121.3	286.5
Fallow (ha)	101	550	979	0.5	44.5	5.0	-99.5	-91.9	-99.5
Farms with sheep	98	334	116	82	89	34	-16.3	-73.3	-70.7
Sheep	2219	16120	4995	3370	6934	4305	51.9	-57.0	-13.8
Sheep/farm	22.6	48.3	43.2	41.1	77.9	126.6	81.6	61.0	193.9
Farms with goats	175	488	171	70	70	8	-60.0	-85.7	-95.3
Goats	338	11090	238	492	4732	200	45.6	-57.3	-16.0
Goats/farm	1.9	22.7	1.4	7.0	67.6	25.0	263.9	198.2	1696.2

Source: Censuses of Agriculture and Animal Husbandry 1971, 2000, processed by the authors.

*The definition of UAA has changed since 1991 and the areas are not entirely comparable as UAA now includes grazing lands that were excluded from the 1971 definition.

new plan for the town expansion that started in 1998 and concluded in 2008) have transformed the area and the landscape completely from a small town surrounded by vineyards and olives into an expanding urban centre with a countryside of manufacture, industry and new recreation uses (e.g. turf football grounds; fields for weddings receptions, etc.). The reported rate of plots change is very high (85% of the 78 total plots have changed use covering 72% of the area), almost all towards housing uses (71% of the 66 plots that have changed use, Table 4, covering 60% of the total area). The two ‘professional’ farmers in the sample were the owners of most of the fields that have remained fields. It is noteworthy that even fields that have been abandoned were referred by the respondents as “construction plots” or “real estate plots”, revealing their future uses.

Change in K. Zagori is not less dramatic (48 changes were recorded, covering almost 100% of the total area), but focused more on abandonment (65% of the plots that

have reportedly changed use were abandoned, Table 4, covering 84% of the area). Most of the changes are for abandonment to grazing land and shrubland or forest, more often on former arable lands. Here we account conversion from arable to grazing lands as abandonment, since it typically involves stopping all practices and renting the field as grazing land or grazing it with the animals of the farm. On the contrary, pastures are considered as cultivated land, since they involve some land use practices (irrigation, harvesting of the grass twice a year). The changes in cultivation that represent almost 30% of the total changes and 25% of the area, referred to two different processes: one of extensification, with the replacement of intensive uses such as vineyards with pastures; and one of relative intensification with the replacement of cereals with fodder plants. In total, older forms of cereals cultivation practically disappear from the area. The overall picture is one of gradual but very important change and of final landscapes much more diverse than the other two areas. Clearing for

Table 4: Type of landscape change per case study area.

Area	Type of change			
	Clearing for Housing % (N=55)	Abandonment % (N=50)	Change of cultivation % (N=17)	Total (N=122)
Mytilini (N=8)	62.5	12.5	25.0	100
Koropi (N=66)	71.2	27.3	1.5	100
K. Zagori (N=48)	6.3	64.6	29.2	100
Total (N=122)	45.1	41.0	13.9	100
Total farm area that changed use	9.1	74.5	16.4	100
Total farm area	7.0	57.3	12.6	76.9

housing uses is relatively limited, but this is more due to the fact that housing development takes place in or close to the settlements and not spread in the countryside as in Mytilini and Koropi. In 10 cases, our respondents mentioned changes that referred to different – tourism related – uses of the houses of the households (these were not included in the analysis and Tables 4 and 5).

The reported time of these changes varies, but most took place in the 1980s or before, especially for Zagori

and Mytilini (almost half of the changes). In Koropi, many changes took place more recently (in late 1990s and after 2000). Most changes in the 1980s and the 1990s are for arable land (more than 60 % for both periods), while housing changes predominate in the 2000s and late 1990s.

Driving forces

Why has the landscape changed in the case study areas? A simple answer to this question is the low profitability of

Table 5: Summary of small scale land use and landscape changes in the case study areas.

Initial landscape	Final landscape								
	Housing	Abandoned (Forest/forest area)	Neglected	Olive plantation	Arable land	Pastureland	Grazing land	Vineyard	Total
Housing									
Abandoned (Forest/forest area)									
Neglected		1							1
Olive plantation	13	5			2				20
Arable land	2	3			6*	2	18		31
Pastureland	1	3			3		5	1	13
Grazing land	1	1							2
Vineyard	38	14			1	2			55
Total	55	27	0	0	12	4	23	1	122

*Refers to change from one type of arable crops to other.

farming practiced in the particular areas compared with other economic activities and the fact that urban space has grown rapidly, consuming most surrounding farm areas (except K. Zagori). Farmers themselves blamed mostly the economic collapse of farming in the area and ‘profitability’. A field used for fodder was abandoned in K. Zagori (by respondent Z19) and is now grazed as “*I now buy the fodder cheaper and I abandoned the pasture, it is not profitable any more*”. Another again in K. Zagori was abandoned due to migration to the capital of the Region, Ioannina: “*it was difficult for us to come here and cultivate after we moved to Ioannina for the children [to go to better school and find better jobs]*” (Z15), or due to migration to Athens: “*it is forest now and it turned ‘wild’ after we left for Athens, it is completely abandoned*” (former farmer Z5 of K. Zagori). The change of occupation is also mentioned: “*I left the animals and made a hotel in an old house I had to have a better life and more money in my pocket*” (former farmer Z12 in K. Zagori) or: “*I didn’t want to trouble myself with farming, I wanted a different occupation*” (former farmer Z3 in K. Zagori). Infrastructures, like the new road and the new airport, are blamed by farmers in Koropi, which overnight turned all land owners into real estate dealers: there is “*no comparison between the old life and the new; I know people that got rich by giving some of their fields for development*” [‘development’ here meant the building of the area and the new uses of the land] (K2, 65 years old with his own business). There is little room here for farming or for any other activities or uses of the land: “*no, I don’t want my children to end up farmers; there is so much more to do now in the area, with people moving in, more jobs*” (K10, 30 years old, private employee).

Attitudes and beliefs

How do farmers, former farmers and in general land owners respond to these changes? It seems that most of these changes were considered as unavoidable and ‘natural’. Most land owners may regard the spreading of urban area in the countryside as negative (or “*negative but inevitable*” according to a former farmer in Mytilini, M5) because it changes its landscape for the worse, but have themselves contributed towards this spread with changes in their own farm. For example, a civil servant in Mytilini (M10), 50 years old, even though he has cut down the olive trees in one of his fields to make his house, regarded the landscape change as negative “*due to the building in the fields and the destruction of nature in the area*”. A former farmer, (M5) with his own business, 50 years old has given most of his land for building already in 1992 and said that: “*I*

abandoned farming for the money that the land provided to me and to my family; we were able to start my business and have a home”. An employee, 47 years old with a teenage child (M7) has his home in one of the family olive plantation that was built in 1997 and finds the urban sprawl of the town positive: “*there is more space for people to live in and it has created jobs*”.

In Kentriko Zagori, the type of change is different (mostly abandonment of cultivated land) and very different views were heard, especially concerning the “*increase of the wild and of forests*” (Z13), meaning the regeneration of vegetation in formerly cultivated fields, mostly evergreen and deciduous oak in lower altitudes and beech higher up. This ‘wild’ is viewed as a threat: “*abandonment of properties; all this is lost for future generations; even the fields can’t be located anymore because of the forest*” (Z6) that came from “*reduced farming that made the people leave and this place a desert*” [in Greek the word desertified is commonly used as an indicator of depopulation].

The future of agriculture

What is the place of farming in this context? Although a gloomy picture is painted, most of the respondents would not abandon farming themselves completely and only old age or bad health would make them do so. Since the majority are not ‘professional’ farmers and farming seems to be again here a lifestyle choice, this is expected. At the same time, almost 3 out of 4 of the respondents would not suggest or encourage their children to become farmers and the rest would only encourage them to be part-timers as “*it is a tiring job with little pay*” (mentioned by 4 individual respondents) and they should only do it “*to have your own food and know what you eat*”. A 58 years old (M6) said: “*I wouldn’t advice my children [26 and 23 years old] to become farmers; I want them to have other jobs; they will not stay on the island anyway*”, but himself will not give up farming: “*for the pleasure of it and for ethical reasons; I got my fields from my father and would like to give them to my kids in good condition*”. Some wanted the ‘state’ to offer incentives for “*farmers that have remained and to attract younger ones*” with “*training and protection of tradition and culture*”. Their own choices are justified under two different headings according to the type of change: for abandonment, low profitability is the most important issue; while for building most wave the flag of tourism development, the “*money was good, there is future in tourism*” (Z5) and: “*I wanted to provide my children with the means for a better life*” and tourism will: “*bring jobs in alternative tourism and will bring life in the area*” (Z2); or their

own and their children wellbeing: “*we needed a home*” and “*there is more money anyway from real estate than farming*” (M4).

A special mention is required for the farming of and caring for the family owned olive plantations in Mytilini, which seem to be more a ‘way of life’ than an occupation (Damianakos (2002) provides similar examples from other areas in Greece). Nine out of ten owners say that they will keep farming and “*taking care of the olives*” and only age, death, or health problems will make them stop. Most of them would advice their children to continue part time farming and especially to take care of the olive fields: “*from an obligation to not let them be abandoned*” as one owner remarked (M2, himself being 93 years old with two children 58 and 48 that intent to keep the family olive fields), or as: “*a way of life, besides having your own olive oil*” (M5), or because it is: “*a family tradition*” for a young girl (M3) that has 2 small olive fields. This consideration of the olive fields as a valuable family asset that should be passed in good condition to the next generation and should be generally looked after is evident in most of the answers that owners provided, such as: “*I think that the landscape has changed for the worse and the natural landscape [meaning the olives] is destroyed*” (M4).

Discussion

In this paper, the small scale landscape change in three areas of Greece that reflect typical processes of societal and landscape changes: urbanization, urban sprawl and depopulation – abandonment was studied. The farmers and former farmers that were interviewed in each area are old and this suggests that in these areas farming has become a part time activity with older farmers and less intensive uses, such as olive plantations. The small size of farms and the many changes confirm this part time activity image. With these farm and household characteristics in mind, it is expected that most of the farmers declared that they are farming for the “*pleasure of it*” and for “*making the olive oil for the family*” (in Mytilini mostly).

At the same time, the opinions of the farmers in this study and other studies (Gidarakou, 1999; Kizos et al., 2010) reveal the unattractiveness of agricultural occupations in Greece today. Farm households seem to adapt their strategies outside agriculture in the second axis and off their farm in the third axis in the typology of Verminnen et al. (2003) for farm survival strategies (this typology is structured in

three axis, the degree of policy orientation, the relation with agricultural activity and the relation with the farm, p. 210). In our sample, there is little room for farming, except as a part-time and ‘hobby’ activity, as a lifestyle choice.

Land use and landscape change at the field level are very important, either towards housing landscapes or abandonment. The spatial differences observed (more housing landscapes in Mytilini and Koropi and more abandonment in K. Zagori) are important, but in all areas these changes are leading households ‘away’ from farming as a professional activity and to smaller, part-time farms. The absence of intensification in these areas is not indicative at all of general trends in Greece as a whole, but rather illustrates that global, national and local driving forces in marginal areas for agriculture today seem to lead farmers away from their farms. These findings are common in many areas of the Mediterranean, with varying intensity according to local particularities (especially the geographical setting, the degree of urbanization locally and the suitability of the area for ‘modern’ agriculture, see Antrop, 2005 and Primdahl, 2010) and the intensity of extra local driving forces. Calvo-Iglesias et al. (2006) also report that farmers in Spain view the future of farming negatively in economic terms and further changes inevitable, and Rescia et al. (2008) discuss the extensive changes that include abandonment in a mountain area of Spain where the economic performance of agriculture is not very rewarding today, and where retired or the few remaining farmers consider the changes as negative and are not very keen on pursuing biodiversity goals. In the same vein, Benjamin et al. (2007: 240) find that for farmers abandoned farmland is “*an environment of little value*” and “*the least valuable part of their property as the least productive cultivated field.*” Olarieta et al. (2008) discuss these changes for another marginal area in mountainous Catalonia, Meert et al. (2005) in Belgium. Approaches and research in Greece differ in scope and approach, but seem to converge to the decline of agriculture and farmers in marginal areas such as K. Zagori (Zomeni et al., 2008; Tzanopoulos et al., 2011) and in peri-urban areas (e.g. Chorianopoulos et al., 2010).

Concerning the reported times of these changes, the 1980s and older may reflect the actual date of changes, but it may also be related with the average age of the holder and the life-cycle of the household. In most cases respondents seemed to rely on counting back the years (e.g. saying “*well, it must be 30 years now*”, or “*it has to be more than 20 years, since it happened [the change] after the birth of Dimitris [one of the children]*”). It may also be the case that – especially in cases of abandonment – there is no

actual date or year to place the change, but it is rather a gradual change, where a field could be ploughed for a year, left fallow or abandoned for a couple of years, cultivated again and then abandoned again.

Farmers and former farmers in our sample view these changes as unavoidable and inevitable due to broader socioeconomic changes. Despite the differences in the type of changes (housing and abandonment), there are some uniting threads that link them together. One obvious such thread is the overall socioeconomic change that has rendered farming an unattractive professional activity socially (not desirable for their children, little chance of climbing the social ladder upwards, etc.) and economically with shrinking profits and older farmers. This is viewed as both negative and positive by our respondents (e.g. a typical comment in Zagori was: “*young people nowadays just want to sit in the coffee house all day and not work at all*” (Z10), but also “*and why should they be farmers? Lots of work and little money*” (K5)). At the same time though, for many of the respondents (especially older ones), farming is a ‘social condition’ rather than just an occupation as also observed by Damianakos (2002). This link to farming and the land is expressed mostly in Mytilini, where the attachment to olive plantations is stronger. This is less common in Kentriko Zagori and even lesser in Koropi, where it seems that the rocketing land prices have made this attachment a lot lighter. The most characteristic case of this attachment is found in olive plantations in Mytilini that are family assets and parts of the family tradition and personal identity. Part of this overall negative-positive stand towards farming is the consideration of natural regeneration in abandoned fields as the ‘wild’ and indicates the values and preferences of the landscape from locals. Cultivated fields are held way up in landscape preferences and forest – forest areas lower. Forests make the area look like a ‘desert’ and reduce the value of the fields, as forested fields are protected by the Greek legislation from almost all types of activities (unless the owner proves that it was cultivated in the past).

Another common thread refers to the consideration of the family when making some land use change choices. Children are very often mentioned as one of the reasons if not the primary one for making some land use changes, especially building a house, but also maintaining a field to keep it productive, selling or buying land, distributing the land to the children, etc. This orientation towards the family has been historically a common feature of the diverse rural societies of Greece. Psihogios (1995) offers some examples from the past and Damianakos (2002) some more recent ones. The findings of Farmar-Bowers & Lane (2009:

1138) are in agreement, as they use the notion of ‘decision systems’, identifying the family decision-system as most important one for farmers: “*The really important decisions about land use, such as ‘where to farm’ or ‘whether to farm at all’ are taken in the family decision system. The family decision-system could be thought of as the ‘central clearing house’ of all major decisions.*” Only “*once the decision to farm is taken in the family decision-system, then the operational decisions about how to farm and whether to buy land or not are made in the two other decision-systems*” (p. 1139), referring to the farm business trading decision-system and the land ownership decision-system.

In the typology of Primdahl (2010), most of our respondents could be characterized primarily as owners, since they seem to consider their land as a property instead of a productive farm, and then as citizens, since clearly for many farming is a part of their identity and of local tradition and culture, despite the fact that it may longer be productive. The role of the producer seems to come last in relative importance, as for many of our respondents the incomes from farming (if any) are marginal and their farm is first land and then a space for farming. This is an interesting reverse of the expected hierarchy of functions with the role of producer being the ‘original’ role of farming in pre-modern rural societies. It is not a completely unexpected finding though in the current agriculture – land management context in Greece. In recently urbanised and peri-urban areas such as Mytilini and Koropi respectively, the rise of farm land prices has lead farmers to disregard agriculture as an activity that can produce significant incomes, especially compared to real estate and the use of the land for services, manufacture, storing, etc. and only the fact that many farmers are old and/or ‘part-timers’ has kept some farms relatively active. The recent and continuing crisis (not evident at the time of the research) with the bursting of the housing bubble is expected to have an effect on these developments in favour of the productive role. In depopulated areas such as K. Zagori, farming for many of our respondents is still a ‘social condition’ and part of their personal and family identity rather than just an occupation, but the productive role is less important as the farmers are old and/or part-timers.

Conclusions

In this paper, we have focused on small scale landscape changes (the farm and/or the field) and the perceptions and evaluation of the decisions by the people that have

made them, which has revealed insights into the rationale behind these decisions. The typology of Primdahl (2010) was very helpful in identifying links between driving forces and responses from farmers and also in classifying these responses according to the type of farmer and the different functions of the landscape. Conflicts between the different roles are evident from our findings and the adoption of this typology has illuminated these differences and linked them with landscape changes. There are important implications for rural and land use policies. Most of the agricultural and rural development policies in Greece and Europe have been targeting farmers – producers. Since the reality of many farmers and their families is different today and this role not so important, policies have to encourage a better balance between these different roles. In this sense, the integration of rural planning and agricultural policies seems to be the next logical step in considering these developments and taking into account landscape changes as well.

On the issue of the different changes, the findings suggest that the rationales and the evaluation of the changes differ: even though most of the owners say that they like the landscape of their area in its ‘traditional’ or past form, at the same time they are ready to change it quickly and radically according to economic incentives and/or social needs of their family. This does not seem contradictory for most of them, since they appear to be able to exchange rationales and roles (from citizen to property owner) very quickly and place the economic value of the landscape as their first priority in the framework of their ‘family decision system’ mentioned by most of them as the ‘true’ reason behind these choices. The ‘pictorial’ quality and form of the landscape is not deemed as equally important, even if they claim to appreciate this form and consider it as part of their identity.

Finally, on the issue of the type of changes and the differences between the case study areas, our cases do not cover areas of mechanized and intensive agriculture, but areas where agriculture is marginal as an economic activity, its uses are disputed by other uses and farmers are mostly part-timers, or depopulated areas where agriculture and farming are abandoned. These different processes reveal some important aspects of small and large scale landscape change and bring forward question on the future of agriculture when confronted with such powerful driving forces of change, both economic and social. We argue that these processes can be understood by investigating the different roles of the agents of these changes, farmers or land owners, and the rationales behind this with their decision making systems. More research is required to fill the gaps and

investigate these rationales and decision making systems more systematically and in depth.

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