



COMMUNITY INITIATIVE INTERREG III B (2000 – 2006) CADSES

Setting up and implementation of sustainable and multifunctional rural development model based on organic and competitive agriculture (SIMOCA)



WP2: “SOCIO-ECONOMIC, ENVIRONMENTAL AND AGRONOMIC ANALYSIS OF PILOT AREA: BARONAGE OF CARAPELLE ABRUZZO – ITALY”

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SIMOCA PROJECT
PILOT AREA: BARONAGE OF CARAPELLE
NATIONAL PARK OF GRAN SASSO – MONTI DELLA LAGA
ABRUZZO – ITALY

PART I

THE REFERENCE CONTEXT OF THE PILOT AREA

Chapter 1 –

Agro-environmental characteristics soil and weather conditions and use of the ground

The Baronage comprises the following small municipal districts: Calascio, Capestrano, Carapelle Calvisio, Castel del Monte, Castelvechio Calvisio, Ofena, S. Stefano di Sessanio and Villa Santa Lucia. All this centers are situated on the mountains of L'Aquila, in the National Park of Gran Sasso –Monti della Laga. The land extends for 268 square km, from Monte Camicia (2564 m. a.s.l.) to the Ofena basin (350 m. a. s. l.).

1.1 Agro – feeding characteristics, soil and weather conditions and use of the ground

The climate of the Baronage can be defined as “continental”, with very harsh winters and dry summers. The insufficient heat - regulating action of the Adriatic Sea, which is not deep enough, and the constant action of the winter anticyclone of Balkan origin cause harsh winters, frequent freezes and medium – low temperatures. In the summer season the temperatures exceed the 30 degrees, because of the presence of the limestone walls, that cause the diurnal overheating of the internal basins and increase the limit of the cultivations. As regards the atmospheric precipitations, the local orography and the position of the western chain of Appennino have a strong influence, because they block the western winds and shelter the internal basins from the humid winds. Therefore in autumn and winter these areas are subjected to annual rainfall under 800 mm, while they are lacking in flows in the regional context. In any case the level of dryness has been reduced because of the insufficient evapotranspiration due to the low – medium temperatures.

The lithological parental substrate consists of incoherent sedimentary stones made for the most part of fine materials such as fluvial – lacustrine clays and red earths, produced by carbonatica dissolutions. The geomorphology presents lacustrine alluviums of the basins of the carbonatic mountains of Appennino and large cones with scarce vegetations and/or extensive arboreal cultivations connected to the surrounding calcareous mountains. Low and middle – low slopes (under 20%). The ground of the alluviums are very deep (over 150 m), they have fine webbing, no skeleton (under 5%), light acid reactions, bad drained and subjected to summer cracks. On the cones the ground has insufficient depth, moderately rough webbing, large structure, weakly alkaline reaction. Well drained, it is subjected to a diffused superficial water erosion, but not to summer cracks.

On the grounds of the lacustrine alluviums it lacks superficial slopes, but the water supply is high (over 200 mm). On the cones the grounds have a lower water supply.

TAB. 1.1 USE OF THE GROUND . DATE IN % (YEAR 2000)

MUNICIPAL DISTRICT	SAU / TOTAL SURFACE	WOODLAND AREA/TOTAL SURFACE	CULTIVATED SURFACE/ SAU	FRUIT - TREES AREA/SAU	PROTECED AREAS /TOTAL SURFACE	TOTAL SURFACE IN HA
CALASCIO	72,91	2,40	3,17	0,45	98,66	3.984
CAPESTRANO	28,50	24,29	60,17	10,97	55,80	4.308
CARAPELLE C.	46,55	9,47	14,08	2,70	23,27	1.448
CASTEL DEL MONTE	67,61	11,69	4,69	0,00	100,00	5.783
CASTELVECCHIO C.	8,83	0,02	79,15	16,41	75,61	1.509
OFENA	50,02	9,35	21,31	11,02	59,47	3.672
SANTO STEFANO DI S.	53,57	1,89	5,77	0,21	100,00	3.329
VILLA S.LUCIA D.A.	30,26	34,54	14,84	6,10	96,09	2.767
TOTAL	49,65	12,38	13,24	3,35	81,22	26.800
REGION OF ABRUZZO	40,02	15,88	42,33	19,15	27,23	1.079.409

Source: our processing of ISTAD data

TAB. 1.2 SKELETON, STRUCTURE AND CALCAREOUS CONTENTS OF THE GROUND

MUNICIPAL DISTRICT CENTERS	SCH_SC	SCH_M	SCH_A BB	T_GR	T_MED	T_F	R_AF F	T_SU P	T_SOT T	T_MO D	T_PRO F	POC_CA	MED_CA	MOL_CA
OFENA	1,10	24,73	74,17	15,83	72,91	11,26	2,37	10,36	23,11	42,36	21,80	14,82	15,58	69,60
CALASCIO	1,46	39,82	58,72	16,57	70,94	12,49	5,72	17,63	45,30	25,79	5,55	28,76	25,39	45,85
CAPESTRANO	3,25	33,16	63,59	15,76	71,38	12,85	2,88	6,36	21,33	45,81	23,62	11,26	11,57	77,17
CARAPELLE CALVISIO	4,10	33,14	62,76	16,13	70,58	13,29	4,68	13,30	29,87	34,90	17,25	21,50	19,52	58,98
CASTEL DEL MONTE	2,64	27,35	70,01	20,68	65,88	13,45	6,21	16,62	39,66	29,84	7,67	27,45	19,43	53,11
CASTELVECCHIO CALVISIO	2,61	30,45	66,93	18,21	70,26	11,54	4,41	13,05	26,87	41,79	13,88	18,14	18,59	63,28
SANTO STEFANO DI SESSANIO	0,23	34,43	65,34	17,25	69,28	13,47	5,50	20,55	48,84	21,62	3,49	31,94	24,77	43,29

LEGEND

Insufficient skeleton (1-5 %)	Sch_sc
Medium Skeleton (5-15 %)	Sch_m
Abundant skeleton (>15 %)	sch_abb

Rough (S;SF)	T_gr
Medium (FS; F; FL; L; FA; FSA; FLA)	T_med
Fine (AS; AL; A)	T_f

Grounds with emerging stones	R_aff
Superficial grounds (< 25 cm deep)	T_sup
Fine grounds (prof. 25-50 cm)	T_sott
Medium deep grounds (50 - 100 cm)	T_mod
Deep grounds (> 100 cm)	T_Prof

Grounds with insufficient limestone (< 5 %)	Poc_Ca
Grounds with medium quantities of limestone (5 - 10 %)	Med_Ca
Grounds with limestone (> 10 %)	Mol_Ca

TAB. 1.3 SLOPE OF THE GROUND

SLOPE IN %	CALASCIO	CAPESTRA NO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELVECCHIO CALVISIO	OFENA	SANTO STEFANO DI SESSANIO	VILLA SANTA LUCIA	TOTALE
0 - 5	10%	14%	12%	15%	7%	22%	19%	3%	14%
5-13	15%	19%	17%	20%	16%	20%	18%	8%	17%
>13	76%	67%	70%	65%	77%	58%	63%	88%	69%
	100%	100%	100%	100%	100%	100%	100%	100%	100%

SOURCE: A.R.S.S.A. Pedological Center

TAB. 1.4 BARONAGE OF CARAPELLE: PH AND ORGANIC SUBSTANCE

MUNICIPAL DISTRICT CENTERS	PH_AC	PH_SUBAC	PH_NEU	PH_ALC	PH_MC	SO_SC	SO_MED	SO_ABB
OFENA	0,00	2,33	19,18	78,49	0,00	35,56	20,86	43,58
CALASCIO	0,00	6,58	34,51	58,90	0,00	17,44	19,88	62,68
CAPESTRANO	0,00	0,00	18,95	81,05	0,00	34,60	22,97	42,43
CARAPELLE CALVISIO	0,00	5,86	27,28	66,86	0,00	23,25	22,27	54,48
CASTEL DEL MONTE	0,00	12,21	23,75	64,05	0,00	24,63	19,61	55,77
CASTELVECCHIO CALVISIO	0,00	3,82	25,55	70,64	0,00	26,09	21,66	52,25
SANTO STEFANO DI SESSANIO	0,00	10,00	32,44	57,56	0,00	14,09	20,47	65,44

LEGEND

Acid grounds (pH < 5,5)	pH_ac
Subacid grounds (pH 5,6 - 6,5)	pH_subac
Neutral grounds (pH 6,6 - 7,3)	pH_neu
Alkaline grounds (pH 7,4 - 8,4)	pH_alc
Very alkaline grounds (pH 8,5)	pH_mC

S.O. < 1,5% (CO = 0,87)	SO_sc
S.O. 1,6 - 2,5 % (CO 0,87 - 1,45)	SO_med
S.O. > 2,5% (CO > 1,45)	SO_abb

SOURCE: A.R.S.S.A. Pedological Center

TAB. 1.5. AVERAGE OF THE MONTHLY PRECIPITATIONS FROM 1951 TO 2001

CASTEL DEL MONTE 1310 M A. S. L.

MONTH	TOTAL OF PRECIPITATIONS (MM)	RAINY DAYS
January	77,9	9
February	64,3	9
March	72,5	9
April	82,2	10
May	67	9
June	61,3	8
July	49,6	6
August	46,8	6
September	65,1	7
October	85,6	9
November	110,6	11
December	92,8	11
Total of years: 51	875,7	103

TAB. 1.6 AVERAGE OF MONTHLY PRECIPITATIONS FROM 1951 TO 2002
VILLA SANTA LUCIA DEGLI ABRUZZI 900 M A. S. L.

MONTH	TOTAL OF PRECIPITATIONS (MM)	RAINY DAYS
January	69,0	8
February	55,2	8
March	70,5	8
April	81,5	10
May	59,4	8
June	50,0	7
July	38,7	5
August	40,1	5
September	60,4	6
October	82,5	8
November	100,9	10
December	80,4	9
Total of years: 52	788,7	93

SOURCE: A.R.S.S.A Agrometeorological Service

**TAB. 1.7 AVERAGE OF MONTHLY PRECIPITATIONS FROM 1951 TO 1990
SANTO STEFANO DI SESSANIO 1251 M A. S. L.**

MONTH	TOTAL OF PRECIPITATIONS (MM)	RAINY DAYS
January	68,0	8
February	59,1	8
March	61,4	8
April	58,2	8
May	55,8	8
June	58,9	7
July	45,8	5
August	40,3	5
September	55,4	6
October	67,5	7
November	85,2	9
December	73,4	8
Total of years: 40	728,9	85

**TAB. 1.8 AVERAGE OF MONTHLY PRECIPITATIONS FROM 1951 TO 2000
CARAPELLE CALVISIO 877 M A. S. L.**

MONTH	TOTAL OF PRECIPITATIONS (MM)	RAINY DAYS
January	55,1	7
February	53,5	7
March	51,4	8
April	53,6	9
May	50,4	8
June	48,1	6
July	37,2	5
August	36,7	5
September	51,0	6
October	60,0	7
November	82,1	9
December	72,0	9
Total of years: 50	651,2	86

SOURCE: A.R.S.S.A Agrometeorological Service

**TAB. 1.9 AVERAGE OF MONTHLY PRECIPITATIONS FROM 1951 TO 2001
CAPESTRANO 505 M A.S.L.**

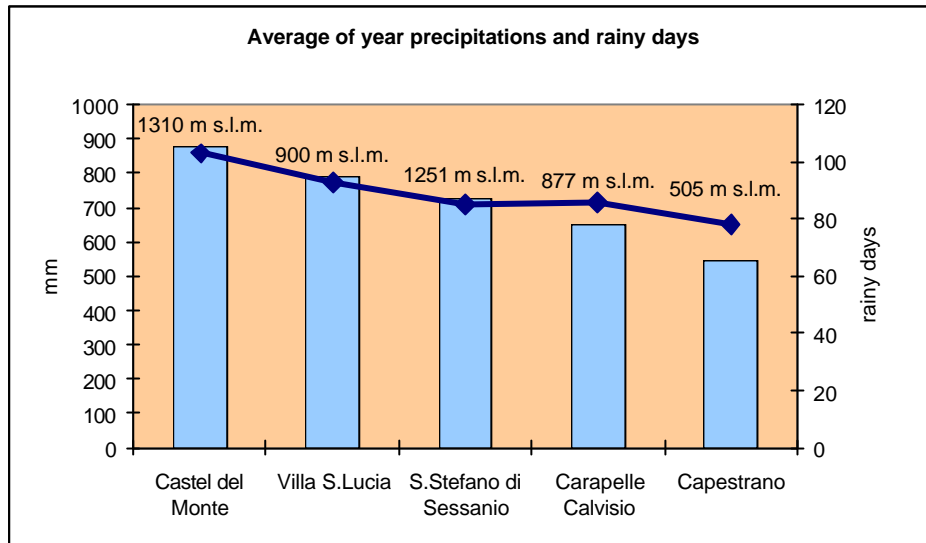
MONTH	TOTAL OF PRECIPITATIONS (MM)	RAINY DAS
January	47,9	7
February	51,1	7
March	43,5	7
April	45,4	8
May	42,4	7
June	35,9	6
July	25,8	4
August	29,3	4
September	42,3	5
October	56,1	7
November	71,5	8
December	63,5	8
Total of years: 51	544,6	78

SOURCE: A.R.S.S.A Agrometeorological Service

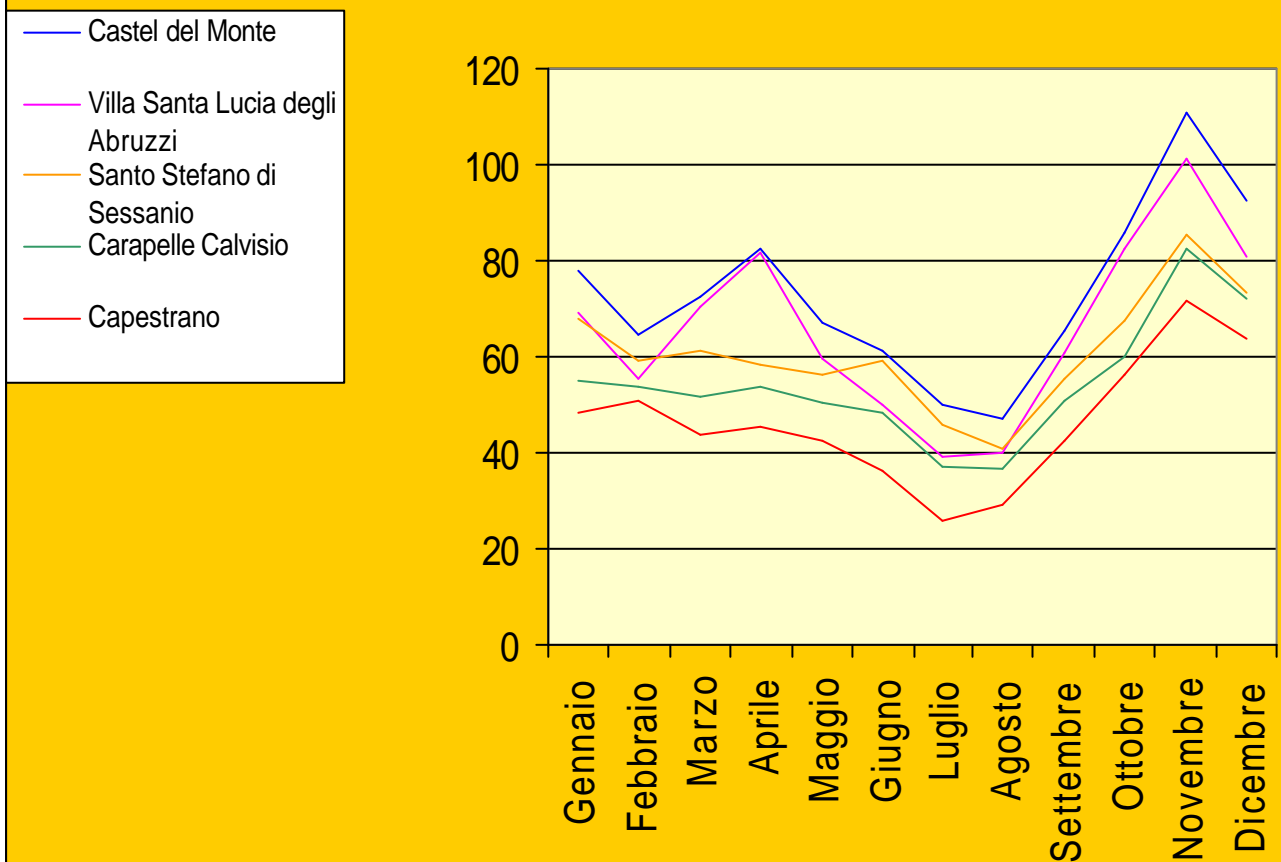
**TAB 1.10 AVERAGE OF TEMPERATURES FROM 1950 TO 2000
CASTEL DEL MONTE 1310 M A. S. L.**

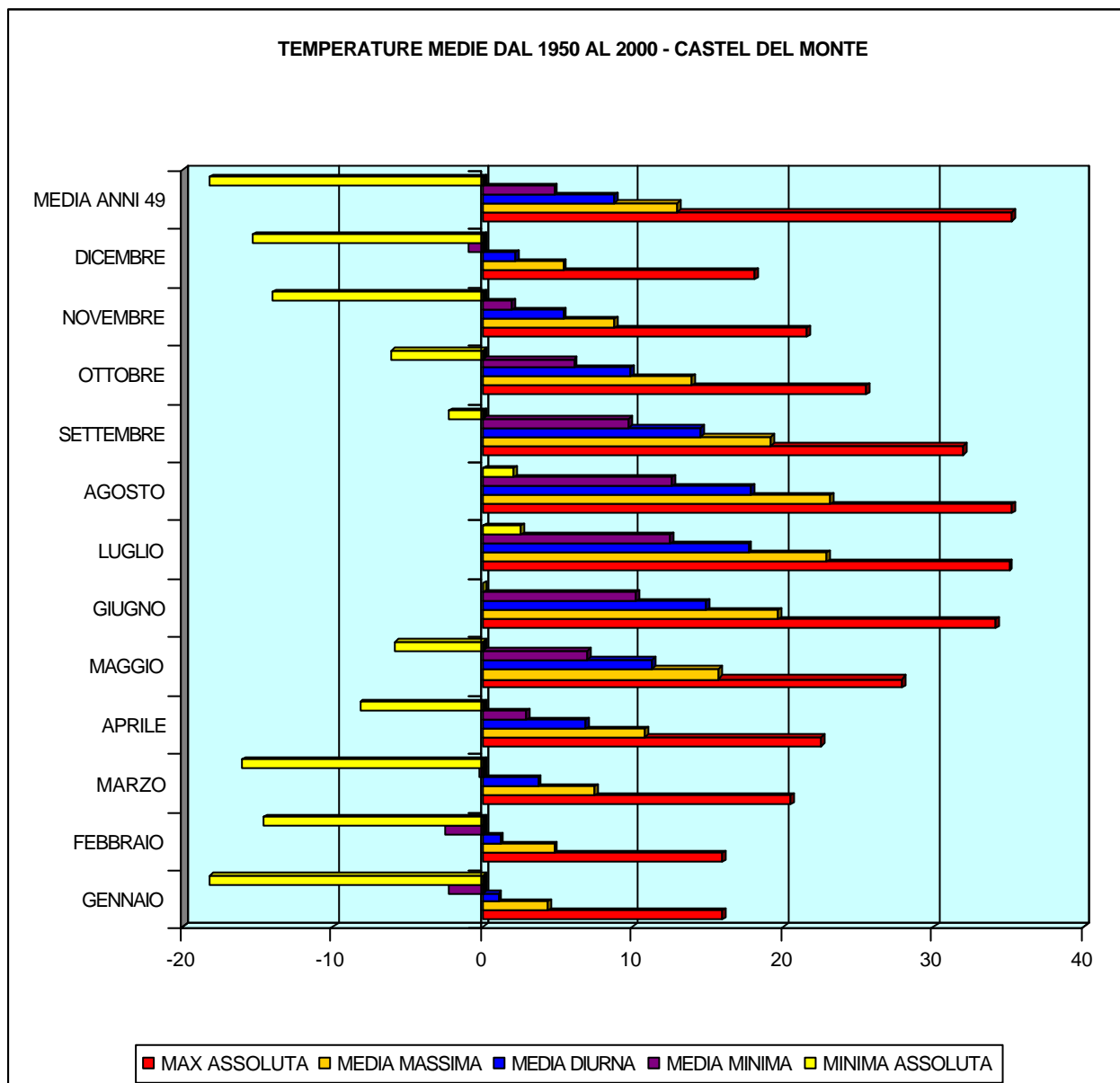
MONTH	MAX	AVERAGE OF MAX. VALUE	DIURNAL AVERAGE	MIN. AVERAGE	ABS. MIN.
January	16	4,3	1	-2,3	-18,2
February	16	4,7	1,1	-2,5	-14,6
March	20,5	7,4	3,6	-0,3	-16
April	22,5	10,8	6,8	2,8	-8,2
May	27,9	15,7	11,3	6,9	-5,9
June	34,1	19,7	14,9	10,2	0
July	35	22,9	17,7	12,5	2,5
August	35,2	23,1	17,9	12,6	2
September	32	19,2	14,5	9,8	-2,3
October	25,5	13,9	9,9	6	-6,1
November	21,6	8,8	5,3	1,9	-14
December	18,1	5,3	2,1	-1	-15,3
Average of years: 49	35,2	13	8,8	4,7	-18,2

SOURCE: A.R.S.S.A Agrometeorological Service



MEDIA DELLE PRECIPITAZIONI MENSILI





1.2 Geology

The territory of the Baronage can be classified as a mountain area with carbonate platforms, karst plains, basins of tectonic origin.

This area can be divided into 4 main sectors, that have different orographic and geological features: the mountain chain; the plateau of Campo Imperatore; the ridges and inner depressions; the inner basins.

1.2.1. The mountain chain

The mountain of Gran Sasso comprehends one long chain extended from the so called "Passo delle Capannelle" (1300 m) to the "Vado di sole" (1621 m.). The group can be divided in three parts: the west side (M. Corvo, Catena Meridionale and Massiccio d'Intermesoli); the central side (Corno Grande and Corno Piccolo) and the east side (on one side it is on the plain of Campo Imperatore, on the other side on the Adriatic Sea).

The Baronage is in the East area. The highest mountains are: Monte Camicia (2564m.) and Monte Presa (2561 m.). The mountain chain is formed by limestone and dolomitic rocks: this is the reason why it is subjected to the karstic phenomena, which influenced its orographic structure. Also the Gran Sasso is subjected to the demolishing and shaping actions of the atmospheric phenomena (rain, snow, ice, wind), that shape its mountain landscape with impassable areas full of vertical and overhanging sides, jagged crests, wide and solitary valleys and rounded summits.

1.2.2. The plateau of Campo Imperatore

On the South side of the mountain chain it extends the plateau of Campo Imperatore, a wide, inner plain, that is about 27 km long and 6/7 km large. Its name derives from the Emperor Frederic II of Sweden. All its area is formed by pasture lands and prairies.

The large plain is formed by continental accumulations caused by the demolishing actions of the atmospheric phenomena, that filled its old tectonic depression in the Quaternary era.

The plateau is also characterized by many typical superficial karstic shapes, formed by the dissolution processes of the limestone materials during the Quaternary era. The most common morphological kinds are the so called "doline", with their circular outlines and flat bottom, that can be found in the outcrop areas of the fluvial - glacial deposits and in the outcrop areas of the limestone rocks, such as on the east side of Monte Bolza and on the South – East borders of the plateau.

The forms that can be related to the glacial morphogenesis are very common, such as for example the glacial cirques (usually well maintained) situated on the northern sides of the two mountain chains.

1.2.3 Crests and inner depressions

At lower altitudes, the area is characterized by minor crests and inner depressions that gradually extend over the plain of Navelli. Many municipal districts were built on these crests.

On the South – West area of Monte Scindarella – Monte Bolza – Monte Capo della Serra – Monte Cappucciata the morphologic features grow milder and are characterized by a succession of mountain crests, with summits of 1400 – 1500 m. a.s.l., that are divided by small valleys and troughs. At high altitude many of these valleys are still cultivated in a traditional way.

In the area comprised between Poggio Picenze, Barisciano, Santo Stefano, Carapelle and San Pio delle Camere, the limestone rocks that form the mountain chains are covered by continental limy rubbles, that are present in the area Pliocene Superiore – Pliocene Inferiore; the rubbles take origin from the dismantlement of the nearest summits and partially from the dismantlement of the farthest ones (from the high part of the chain of Gran Sasso).

The morphologic structure of the area is also subjected to erosive and karstic phenomena. This caused the rounded shapes of the summits and the succession of grounds with emerging stones and prairies, where the rocks are covered by residual - earth materials.

1.2.4 Internal basins

The mountains of Gran Sasso end abruptly on the plains of Barisciano – Navelli and Ofena.

The basin of Ofena is a large plain at about 350 m. a.s.l. and it encloses on the North –East side the chain of Gran Sasso, the mountain crests of Calascio – Castel del Monte on the North-West side, the summits of the area of Navelli, the high course of Tirino, the source of Capestrano – Capo d'Acquafino in the area Collepietro – pass of Penne.

The basin of Ofena is considered a morphological trough of tectonic origins, that is surrounded by carbonate summits of different highs, where it can be found the lake sediments accumulated during the Quaternary era.

1.2.5. Hydrogeology

The limy stone is a very porous kind of rock. This often causes infiltrations and the storage of water in deep ground waters. The main ground water supplies with water the sources of Tirino (Capo d'Acqua and Presciano).

On the mountain areas the drainage channel practically do not exist; only some "water erosion hollow roads" remain with some traces of ancient river beds on the summits. They are fossil channels where the flow of waters can be seen only in rare cases and for short periods.

In this area small natural lakes are present, but some of them are visible only in certain seasons. They have circular shape and took their origins from hollow roads (such as the small lakes of S. Stefano, Calascio, Racollo, S. Pietro).

1.3. Naturalistic features

1.3.1. Flora

The flora of Gran Sasso encloses more than 1300 different species of plants, such as the Mediterranean species in the basal sectors (thymus, savory, hyssop, fen orchids, etc) or the typical northern and alpine plants on higher altitudes.

The so called glacial relicts, that are alpine and oriental entities that colonized the southern part of these areas during the glaciations of the Quaternary era, can be found on the higher sectors of the "Massif". Because of their thousand – year isolation many endemism originated from these relicts. These endemism are typical and exclusive plants of this area (papaver alpinum, salix herbacea, carex rupestris, Potentilla caulescens, rhamnus pumila, campanula fragilis ssp. Cavolinii, trisetum villosum, aubrieta columnae, artemisia eriantha, campanula cochlearifolia).

In the inner valleys we can find xerico relicts, that are plants that arrived in Abruzzo from the Mediterranean area and the north – African mountains during the dry interglacial periods (andrachne telephioides, athamantha sicula, etc...).

The landscape is formed by hilly and mountain pastures that extend without continuity from "Piano di Navelli" to Campo Imperatore, among stones on steep slopes until the summits. Only in few areas thin oakwoods in the basal areas, beechwoods on the summits, or reforestation plants (black pine) can be found. For the most part the origin of these prairies can be found in the anthropogenic action. The man has always modified the primordial forests in order to obtain more pasture lands. By cutting and setting the forests on fire the man changed the territory in barren and stony areas. It means that they are secondary herbaceous plants, that succeeded to forest plant cover (oak woods and beech forests).

The pasture lands are composed by bunch grasses, perennial herbaceous species and forage plants (trefoil, fescue, oat, etc.).

The ancient and continuous overload of livestock caused the impoverishment of the most appetitive plants, because of the too sparse browsing. This situation permitted that only the prickly and poisonous plants prevail, such as stemless carolines, nettle, etc.

On the summits (Monte Camicia, Monte Prena) formed by rocks, it can be only found a very sparse and discontinuous plant cover, which is adapted to the extreme weather conditions (edelweiss, houseleeks, saxifrages, catchflies, kenilworth ivies, juniper-trees) .

On the basal common cock-of-the-rocks (near S. Stefano, Rocca Calascio, Castel del Monte) it can be found further smaler cock-of-the-rocks, such as Campanula fragilis, subsp.cavolinii, potentilla auricola, etc. In the humid areas, where the valleys are near the sources, it can be found a flora strictly related to the shore habitat (juncus inflexus, mentha aquatica.....) and also hygrophilous plants with endemic value (ranunculus marsicus, parnassia..).

The fauna of Gran Sasso presents many species of vertebrates and invertebrates, because of its geographical positions along the Appennine chain.

Among the vertebrates in the Gran Sasso area it can be found over 30 pieces of mammals, more than 200 birds, 14 species of reptiles, 11 species of amphibians and more than 11 species of fishes. It shows the good condition of the ecosystems, and the high natural value of this animal stand.

Among the mammals, it can be found the snow vole (a real glacial relict), the wolf, only in isolated groups, the wildcat, the stone marten, the Abruzzi chamois, reintroduced with a "life project" in the National Park of Gran Sasso. As regards the birds, in these area it can be found many rare species, such as the rock sparrow, the black woodpecker, th majestic golden eagle, the peregrine falcon, the raven and the eagle owl.

1.3.2. The agricultural landscape

If the beauty of the "natural" landscape is unquestionable, also the beauty of the agricultural landscape realized by the man is fascinating. The orography of the Baronage is characterized by many agricultural landscapes full of historical and social value. In this area it can be found two different parts: the flood plain (the plain of Capestrano - Ofena) and the mountain side with its crapes, the plateaus and the valleys. Some specific aspects define in a different way the two areas: the "open fields" and the so called "scasci" on the higher areas, the almond groves and the olive groves on the flood plain.

The first area is called “open fields” because there are no fences and because it is formed by long and narrow band - shaped grounds (called “pezze” = pieces). These are along the level contour lines, they adapt in the direction of the larger side of the unevenness of the ground.

As Alessandro Clementi said, their origin has to be found in the Longobardic hereditary custom, that assigned the same quantity and quality of ground to each member of the “universitas civium”. This caused the breaking up of the single properties, usually formed by big quantities of plots scattered on the whole surface of the village.

The main feature of the “open fields” is the crop rotation: as the properties were normally too narrow and too continuous, the crop rotation was feasible only in common. At the beginning of the Nineteenth century the cultivable territories of the Baronage was divided in two parts (the so called “veci”), that were cultivated by turns with wheat and corn, or with potatoes and pulses. On the contrary, over 1400 m. the fallow land, the ancient Italic – Greek cycle of cultivation, was prevailing.

The cultivable small valleys (the so called “countryside”- each village was normally composed by 30 of them) (“veci” and fallow land) were also divided in two parts, full fields and empty fields. In this way the alternation of the cultures was feasible (the full fields were cultivated with winter cereals, while the empty fields were the fallow lands or the fields cultivated with pulses, potatoes and spring cereals).

Another very important habit was the so called “pasci – pascolo”; it was the result of an agreement between the shepherds and the farmers, in order to keep a pacific cohabitation of both activities. Under the guide of the land shepherd and without obstacles, from August to April the sheep could graze in the in the empty countryside and in all properties. On the contrary, on the full fields the sheep could graze only from August (harvest time) – to October (sowing time).

The importance of the land shepherd is disappeared during the 70th and the obligatory field cultivation is not respected anymore.

The “scasci” are fields on high summits characterized by “retting – grounds” and “dry walls”, that are the results of the obstinate and patient stone picking activity of men made during the centuries. Today these fields are not cultivated anymore, because they are difficult to reach by the machines. They are the symbol of a widespread anthropogenic presence in the VII century, when with the aid of the Benedictines, it was started the bonification of the area, in order to have more fields to cultivate.

During the years in this area the almond tree was cultivated. It gave a defined physiognomy to the landscape, because it became the hub of a rich economic activity, that at present is estinguished.

In spring the landscape with the flourished almond trees appeared so harmonic and natural, that one could hardly realize that it is the result of the manipulation of the land from men.

1.4. History

For its mountain landscape, the Baronage was the ideal place to live for primitive peoples, that used to hunt in a nomadic way and that were consequently forced to seasonal transfers from the plains to the mountains and to protect themselves in the caves.

Many traces showed the presence of the Neanderthalian man in Campo Imperatore and in other places on the South side of Gran Sasso. In Grottoni di Calascio it were found the rests of the oldest man of Abruzzo, a young man who is 80 thousand years old.

The Homo Sapiens Sapiens succeeded to the Homo Neanderthalensis, who disappeared 35 thousand years ago. The Homo Sapiens Sapiens begun to build structures, whose traces are still visible at present. In X century b.C. from the Sabellic migratory flow, that the Latin authors called “sacre Spring”, the populations of Piceni and Sabini were born. The population of Sabini, ancestors of the Italic group of “Vestini”, settled in the internal side of L’Aquila. This population was divided in tribes. In the Baronage area the tribe of “Bustrana” or “Pustrana” was dominant. They were fighters, as the relicts in Capestrano and Petastro (near Ofena) show. The whole area is full of settlements and necropolis, but complete archaeological excavations has never been carried out. Also in Capestrano and Ofena the relicts were found accidentally.

Also the relicts of the Roman age are many, above all in the site of San Marco.

During the V and VI centuries the region of Abruzzo was conquered by the Longobardic Barbaric popoulutions, that destroyed the most part of the Roman towns.

The process of fortification started with the Norman conquer.

The territorial conflicts between the Longobardic nobility and the coming Frankish lords, the conflicts between these ones and the abbots of the biggest monasteries and the continuous Saracen invasions carried to change the settlements in fortified villages. To fortificate means to build houses inside the surrounding walls: for problems of space, the houses were also built on the shelter walls or on the old lookout towers, and it caused the realization of the classic kind of houses – wall and houses – tower.

During the feudal era, this area formed the Baronage of Carapelle, which was property of many important families, such as the Counts of Celano, the Piccolomini, the Medici.

The visitors that for the first time come to these places are particularly fascinated by the grace and the nobility of the villages, symbols of an old prosperity.

In this area the sheep farming was particularly common and the wool was the most important sealable rough material. This explains why some of the richest families of Florence were interested in such places, that are poor of agricultural activities.

With the Italian Union the golden age of transhumance finished and it began a decadence period for the mountains of Abruzzo. The conditions of life became difficult and the population, which is completely alienated, was forced to emigrate, with the consequent depopulation of the area.

For many years these municipal districts remained in a state of abandonment: if on one hand this situation caused delays in the development, on the other this condition permitted a good conservation of structures and landscapes, that were completely changed in other regions and that lost the most part of its original feature.

The year 1992 is very important for this area because the National Park of Gran Sasso – Monti della Laga was founded. It is the first signal of a future development of the turistic activities.

1.4.1 The pasture and the transhumance

Between XVI and XII centuries b. C., during the Bronze Age, the pasture was very common among the populations of this area. Initially it was a vertical transhumance between the mountains and the near plains. It is supposed that with the Italic populations the transhumant pasture found its origin.

With the process of Romanization and the imposition of the “pax romana” after the social war, the political and social conditions permitted the diffusion of the long – range horizontal transhumance. After the division of the land and the conflicts among the tribes, the pasture farming in Abruzzo could be extended until the “Tavoliere” in the Region of Puglia. This area, once extremely rich, after the devastation of the Hannibalic wars and after the exploitation of the landowners, became optimal for the pasture farming, which was very common among the rich Roman families. As the seasonal transfers of the sheeps were widespread, it was necessary to realize a law, the so called *lex agraria* in 111 b. C., which was the first law referred to the use of the public pasture land and to the routes for the transfer of the livestock, the so called “calles”. *Peltuinum*, the old town that was built along the routes of the livestock became the Roman prefectorial center for the collection of taxes.

After the first centuries of the Middle Age, the transhumance was stopped because the politic status was too destabilized and the routes were too unsure, but it started again during the Norman domain. Thanks to the presence of the Benedictines that were skilful entrepreneurs, colonizers and reclaimers, it was possible to realize a net of monasteries with integrated economy, that could provide for the needs of an economic and productive structure. The Cistercians were the first organizers of the pasture activities that from XII to XVI century reached its maximum magnificence, This area became one of the first in Europe for the production of wool. In 1671 Calascio was one of the most important center for the sale of wool in the Reign of Naples.

From the Reign of Aragon until the beginning of XIX century the pasture farming was organized in the best way. Alfonso I of Aragon king of Naples published in 1447 the so called “prammatica”, which was a law that ruled the transhumance. It established that every inhabitant that owned more that ten sheep must spend the winter near the “Tavoliere delle Puglie” and he must pay a fee (gabella) (Canosa 2000). In XIX century with the publication of new laws that favoured the cultivation of the fields in the Region of Puglia and because of the difficult economic – social changes the pasture farming set off towards a decline. Also the traditional integrated system of agriculture – pasture – handcraft, that was the base of the economic systems of these mountains had a critical period (Latini 2000). Before the Benedictines Campo Imperatore was dominated by the monks of Camaldoli, as the relicts found in one of their hermitages (S. Nicolò) near the Gran Sasso (Costa S. Colomba) in 1987 show (Giustizia 1997). The “grancia” of Santa Maria del Monte, in Santo Stefano was realized by the Benedictines: it was built in XII century and belonged to the abbey of Santo Spirito in Ocre, which depended from the church of Santa Maria di Casanova. As it was near the large pasture lands of Campo Imperatore, this area became one important center for the activities of the monks, that were also under the rural dependency in the plain of Locce and in the village of Le Condole.

The shepherd's tracks were 111 m. large and they extended in the internal areas of Abruzzo, from the basin of L'Aquila, Celano and Pescasseroli to the “Tavoliere delle Puglie, near Foggia and Candela. To cover this distance (about 250 km) it took three weeks.

The shepherds of the Baronage used the tracks L'Aquila – Foggia, which passes near Carapelle; in the area of the Tavoliere delle Puglie; it was first allocated in Castelnuovo and then in the area of Andria.

In S. Stefano the parish church was called Santa Maria di Ruvo because the center of Ruvo di Puglia was comprehended in the area of Andria.

In Castel del Monte in the church of S. Caterina there is the statue of the Madonna of Picciano in memory of the homonymous sanctuaries in Matera, Gravina and Altamura. It was frequented by the shepherds from Abruzzo until 1699. The statue is in the basilica of S. Caterina because the festivity of this Saint is celebrated on 25th November, the day when the shepherds arrived to the region of Tavoliere (Colapietra, 2000).

The pasture farming was the most important activity for more than three centuries and it left an important sign not only on the pasture lands or with the presence of the shepherd's tracks. The villages, closed and protected on the tops, were built in the most comfortable way not only for the risks of this period but also for the sheep farming. The sheep were moved from the mountain pasture lands to the plains along the coasts

and they never passed through the municipal districts. The sheep lived always to the open air and they were considered as a “capital”, which should never interfere with the common life and in the urbanistic structures of the mountain villages. Also the shape of the houses reflects an economy that is based on the livestock of big droves of small animals: as it was impossible to move the animals inside the villages and as it was necessary to control the area (for this reason the villages should be as small as possible) and as the slopes were too steep, it was necessary to build the houses as small towers (houses – towers) with buildings structured on three, four, five or six floors (houses- walls).

The pasture farming influenced also the arts: the churches that are outside the villages have windows on the ground floor, because they were used to follow the liturgies also from the external side of the building, in order to let the shepherds take part and control the sheep (see the church of Santa Maria della Pietà, Santa Maria delle Grazie).

The shepherds lived to the open air with their animals, they were always conditioned by their alimentary necessities and by the condition of the pasture lands. They protected themselves in the natural caves, in huts and in particular constructions made of stones.

1.5. Historical - architectural and environmental conditions and traditions of the municipal districts of the area

CALASCIO (1210 m a.s.l.)		
<p>The name "Calascio" existed since 782 in the "Chronicon Volturnense" and it was a possession of the abbey of Losanna and Vincenzo; the toponym was found in some acts of 1064, but it is hardly possible that the fortifications had been already realized. The history of this center is also related to those of the Barony of Carapelle and to its decadence in the middle of XV century. In 1417 it was given to the family of Piccolomini, who decided to sell it to the family of Medici, grand dukes of Tuscany, that remained its owners until 1743, when the Baronage became part of the Reign of Naples.</p> <p>The Baronage extends parallel to the contour line of the area and is included in the way for Castel del Monte. Its extended shape shows a central axis, the actual "Via Roma" where the most important urbanistic and architectural structures are visible, such as the churches and the noble palaces of the historical center (XV century). The medieval building in the center of Calascio is characterized by houses – towers, that are located not only on the external sides of the village but also inside. This shows its original nature which was not only of defence, but also of prestige and importance (related to the affluence of the families).</p> <p>Buildings with particular historical value</p> <p>Church of San Lorenzo, House of Parliaments Church of San Carlo Chiola Palace Taranta Palace. Palmara Tower Franciscan monastery of Santa Maria delle Grazie Parish church of San Nicola Church of Sant'Antonio Abate Rocca Calascio Church of Madonna della Pietà</p>		
CELEBRATIONS/FESTIVITIES/FOLKLORE	SOURCES/LAKES/ FOUNTAINS/WELLS/	MOUNTAINS
<p>San Nicola's day, patron of the village, 9th May. The cult of the Saint was introduced by the shepherds, who moved to the Region of Puglia. The ceremony reminds the religious ceremony of Bari: the meeting of the caravels on the sea is symbolically reminded by the meeting in the center of the village of the processions coming from two different churches.</p> <p>The festival of Pecorino, in the first week of August, is the right occasion to taste the gastronomic specialties made of Pecorico.</p> <p>Celebration of S. Antonio e dell'Annunziata, on the first Saturday and Sunday of July.</p>	<p>f.te S. Lorenzo f.te Fornaca f.te al Lago f.te della rocca f.te Vallicelle f.te Carbone f.te del Cane f.te S. Cristoforo Calascio lake Tagno lake S. Pietro's lake</p>	<p>M. Cogozza, 1338 M. delle Croci, 1459 Cima d'Anzano, 1507 Collalto, 1714 Cima di M. Bolza, 1927 M Paradiso, 1822 M. Prena, 2561</p>
ELEMENTS OF PARTICULAR HISTORICAL – ARTISTIC – DOCUMENTAL VALUE		
<p>Franciscan Convent of Santa Maria delle Grazie (XVI and XVII century)</p> <p>The building is formed by a small cloister with many frescos that are important for their documental aspect. Inside the building there is a wonderful <i>Madonna col Bambino</i>, made of earthenware (1500), and a painting realized by Giulio Cesare Bedeschini. Near the convent there is the church of Santa Maria delle Grazie, which was built in 1594 with a square face and an eighteenth – century portal. The church was commissioned by Father Mario, Paolo V's confessor, who decided to enrich the structure with a library of codes and incunabula, that were protected from the thieves by a papal excommunication.</p> <p>Parish church of San Nicola (XVI century)</p> <p>Situated in the center of the village, its entrance is made of a simple wooden portal of XVI century and inside the church there are some paintings of Bedeschini and Teofilo Patini, a confessional and an eighteenth – century christening font.</p> <p>Church of Sant'Antonio abate (1645)</p> <p>This church is isolated from the urban center and its facade is realized with Renaissance, elegant winged flanges. Inside the building there are some Venetian stuccos of Feneziani and an oil painting of Palatini, that represents <i>S. Anthony's temptations</i>.</p> <p>Rocca Calascio (m 1464), part of Calascio</p> <p>The Rocca with its octagonal plant is located near Calascio and was built as a guard tower (XIII century). Only in XIV and XV centuries it reached its final shape. The urban structure of the village (XIII and XV centuries) shows the typical late - medieval organization of the districts of the Region of Abruzzo. The top is formed by a squared tower and a small defensive fence; it dominates the urban center with its walls and squared, round towers.</p> <p>Church of Madonna della Pietà (built in 1451)</p> <p>With its octagonal plant, this church is realized with the Renaissance artistic criteria and was built to thank the Virgin for the defeat of some bandits of this area.</p> <p>The church of San Leonardo (XIV century)</p> <p>It is located in the historical center and is formed by a rectangular façade with two side buildings. The entrance of the church is embellished with a portal and a Bernardinian monogram. Inside the church there are many frescos of XV and XVI centuries.</p> <p>Grottoloni</p> <p>In the caves it were found many relicts and human bones of a neanderthalensis young man (80 thousand years).</p> <p>Frasca Palace</p> <p>With its precious medieval architecture, this building shows on its portal a family coat of arms made of stone, which represent the head of a ram. It shows the importance of the pasture farming for this family in the past. Inside the palace there is a private collection with paintings of Patini, because this family was his benefactor for a long time.</p>		

CAPESTRANO (505 m a.s.l.)		
<p>Capestrano is located in an important area (also in the Preroman age) and it was built during XI and XII centuries, around its defense tower. In a second time its structure was changed in a fortified village dominated by its castle. In the late Renaissance age the building expansion follows the linear ridge of the mountains. In 1240 Capestrano was Tolomeo di Raiano's property and in 1284 the area were given by Carlo I d'Angiò and Riccardo d'Aquaviva di S. Valentino. In 1318 Sir Pietro, Conte of Celano, received the area by Carlo III of Durazzo; in the beginning of XV century the personality of S. Giovanni from Capestrano was dominant. He dominated for the whole century and died in Belgrado, that was dominated by the Turks in 1456. In 1462 the Marquisate of Capestrano was given to Antonio Piccolomini and it was realized the castle (1465). From the second part of XVI century to 1743, when it became part of the Reign of Naples, the area became a Medicean property.</p> <p>Buildings with particular historical value The castle of Piccolomini Tecca Palace Church of Santa Maria della Pace Migliorati Palace Church of San Nicola Cataldi Palace Church of San Rocco Verlengi Palace Church of S. Caterina Baroni Corsi Palace Sonzini Palace Capponi Palace Alessandroni Palace S. Pietro ad oratorium Convent of S. Giovanni</p>		
CELEBRATIONS/FESTIVITIES/FOLKLORE	SOURCES/LAKES/ FOUNTAINS/WELLS/	MOUNTAINS
<p>S. Giovanni' s holiday, 13th, 14th and 15th May, Sant'Emidio and S. Antonio's day, 23rd October Festival of the typical products, 31st October Festival of the trout, 11th, 12th August San Giovanni from Capestrano's day (patron Saint), fair with offer of typical products, 1st, 2nd November</p>	<p>Fontecchia Fount</p>	<p>M. Scarafano (1432) Valico di Forca di Penne Colle Ramino (410) Colle Tratturo (374) Coste Calde (708) Valley of Paolo Costa Colletto del Cane Picca Mountain (1405)</p>
ELEMENTS OF PARTICULAR HISTORICAL – ARTISTIC – DOCUMENTAL VALUE		
<p>Convento of S. Giovanni It was built during the first half of XV century and it was commissioned by San Giovanni. The actual shape was realized during the second half of 1600 when it became royal convent under the Borbonic protection. Inside the convent there is a museum with many relics that belonged to the Saint.</p> <p>S. Pietro ad oratorium At present only a small part of the anticent cenoby is remained: it was built in VII century for will of the Longobardic king Desiderio, as it is stated in an writing on the head of the portal. The church is formed by three aisles divided by many archs and inside there is a wonderful ciborium of II century with faiences and an enormous fresco in the apsidal side, which represents Christ on the throne among the twentyfour venerable old men of the Apocalypse. Outside the building the famous and criptic "magic square" is walled up: it is a misterious writing that can be found in many of the European churches realized in this period.</p> <p>Piccolomini Castle This castle was built in 1400 from the Piccolomini's family and it is dominated by the quadrangolar tower that overlook the old side of the village.</p> <p>Church of Santa Maria della Pace This church was built in XVII cenury and it was realized on the main square of the village. It has a baroque style with its three aisles, its marmorean holy water stoups, its polychromatic terracottas, its wooden pulpit and the grave of the duke of Amalfi, Alfonso Piccolomini, who was assassinated by the Conte of Celano.</p> <p>Pass of Penne It is one of the few communication ways between the mountains of Abruzzo and its hills. The Roman street "Claudia Nova" passed in this area and the large walls of an ancient sight towers are still visible.</p>		

<p>CARAPELLE CALVISIO (877m a.s.l.) The name of the village derives from the union of the Latin words cara=roccia (stone) + pela=sommità tondeggiante (round summits). It appeared for the first time in 779 in a document of the Chronicon Volturnense that was about "homines de Carapellas". The name "Calvisio" derives from "Villa Calvisia", an old Italic settlement whose name derives from the Roman Consul Calvisius Sabinus, who was the owner of many lands in this area. The fortified village originated in XII century, when the inhabitants of S. Vittorino gathered for reasons of security. It gave its name to the Baronage of Carapelle, that belonged first to the family of Acquaviva, than to those of the Count Pietro of Celano, to the Piccolomini, to the Medici and to the Borboni. The historical center (XIV and XV centuries) shows a medieval structure. Many houses were built on the perimetral defence walls or on the old sight towers and it defined the classic structure houses – walls and houses – towers. Buildings with particular historical value Church of San Vittorino Church of San Francesco Fount of San Vittorino Parish church of Santa Maria Church of San Martino Piccioli Palace Old Convent Church of Santa Pancrazio Church of San Cristoforo</p>		
CELEBRATIONS/FESTIVITIES/FOLKLORE	SOURCES/LAKES/ FOUNTAINS/WELLS/	MOUNTAINS
San Pancrazio's day (Patron Saint), 11th and 12th May. Festivity of the village, 15th August. Summer in Carapelle from 1st to 15th August	F.te San Vittorino F.te San Francesco.	M.Serra, 1223 M. Gentile, 1257 Colle Mezzano, 1166
<p>ELEMENTS OF PARTICULAR HISTORICAL – ARTISTIC – DOCUMENTAL VALUE</p> <p>Church of San Vittorino (XII and XIII century) This church is located along the old way to Castelvecchio. It was realized with very simple architectural criteria with its lithic decorative elements on the back side and a side portal made of stones (XII century). The portal is adorned with a capital and two stones, that are finely decorated with "Valvense" techniques (IX century);</p> <p>Church of San Francesco (secolo XVI) Inside the church there are important frescos and furnitures. The Barocco high altar is very scenografic; also the louvered strip waffle slab ceiling is in the same style. In the church there are many frescos and a painting dated 1592.</p> <p>Fount of San Vittorino (XI and XII centuries) It is located in a small valley and it can only be reached by a flair of steps that through archs carries to two different rooms that are placed about 8 meters underground;</p> <p>Parrocchiale of Santa Maria (sec. XVI) Inside the church there is a silver cross coming from the school of Sulmona.</p>		

<p>CASTEL DEL MONTE (1310 m a.s.l.) This center is traditionally connected to the "town of the three crowns" that has "Vestine" origins: during the Middle Age its history is related to those of the Baronage of Carapelle, Ofena and the Marquisate of Capestrano. The name "Castellum de Monte" appears for the first time in a bull dated 1223 realized by Pope Onofrio III, where there was a list of the "valvensi" properties. During this period the fortifications were built and it was born the so called "ricetto". The center is dominated by the mountain called "Monte Bolza" and it is formed by an historical center with the classic aspect of a fortified village. On the highest part of the village there is a high squared tower, in a second time changed on a bell tower: it is the last testimony of the presence of an ancient castle. The partial views of the of the historical center are very suggestive: they are formed by small, covered underground passages, open galleries, house – towers, rests of the walls and the entrances to the historical center. Also the churches and the noble palaces are very interesting. Buildings with particular historical value Chiesa del Suffragio Church of San Marco Church of Santa Caterina Church of San Rocco</p>		
		<p>Church of San Donato Ricetto Palace of the Governor Church of San Donato Ricetto</p>
CELEBRATIONS/FESTIVITIES/FOLKLORE	SOURCES/LAKES/ FOUNTAINS/WELLS/	MOUNTAINS
<p>San Donato's day, 6th and 7th August. The exposition of the sheep in Campo Imperatore takes place on 5th August ; it reminds the importance of the pasture farming in the historical – economic history of the populations coming from the small municipal districts of Gran Sasso. The festivity of "Madonna dei Pastori" is traditionally related to the transhumance and it takes place on 8th September in Castel del Monte. In the past the so called "rito delle 40 ore" (40 hours rite) took also place: The Santissimo was esposit for two days in the church and the shepherds went to visit him, to go to Holy Communion and to pray for the safe of the sheep, before starting the long travel to Puglia. On 17th August during the night of the witches it takes place the recalling of the ancient popular traditions along the streets of the village, that were lightened by Roman torches. Summer meetings: music, expositions, theater, July-August. Cross country skiing, in the last Sunday on February.</p>	<p>F.te Grotte F.te Cal dai F.te Vetica F.te Fonticelle F.te della Macina F.te Cupa F.te Pietrattina F.te del Serpente F.te Zorlana F.te Marcegli F.te Cognoli F.te Frenda P.zzo Natrella F.te del Cavone F.te del Cornacchiolo F.te dello Stincon</p>	<p>Costa di S. Marco, 1212 Difesa Vecchia, 1280 C.le della Croce, 1327 Colli, 1522 M. Capo le Serre, 1771 M. Bolza, 1904 M. Camicia, 2564 M. Tremoggia, 2331 M. S. Vito, 1882 M. Guardiola, 1808</p>
ELEMENTS OF PARTICULAR HISTORICAL – ARTISTIC – DOCUMENTAL VALUE		
<p>Church of Santa Caterina (1791) It is the seat of the brotherhood of the "Santissima Annunziata e dei Mulattieri" and from 1795 it has the privilege to grant the indulgence to all the people that visit it during the period Holy Saturday's sunrise - Eastern; the reasons why the Pope decided to realize a bull that allowed these privileges are still a mystery. Church of San Marco (XIV and XV century) Because of its bell tower that overlook the whole village, this church is very easy to find. In the church there are a sixteenth century christening font and a bas-relief dated 1508; besides a Barocco organ, the side aisles are embellished with many altars. Two of them are of exquisite workmanship. The "Ricetto" (XIII century) This name was normally used for the ancient village, but at present it is also used for the shepherds' refuges. In the past it included the town-walls building, which was substituted by houses and a castle. The court became a square and the tower became the bell tower of the parish church of San Marco Evangelista. Palace of the Governor (XV and XVI century) It was built in an area near the so called "via Centrale" and subsequently it was divided in many parts. Of its ancient beauty and richness it remains only few elements, such as the facade and the nice Renaissance portal with its Latin writing dated 1559. Church of Madonna del Suffragio (XV century) It is situated near the ancient portal of Santa Maria: the building presents a simple facade with horizontal crowing and a portal surmounted by two squared windows. The inside, with a unique rectangular aisle, is enriched with some Baroque decorations and with wooden altars covered with gold. Among these decorations it prevails the high altar with a statue of Madonna dressed as a lady of the castle. Also the furniture, a very nice painting of the Saint (1585) and a wonderful sixteenth – century organ are very important. Church of San Rocco (XVIII century) It was built after the plague that raged over the village in 1556, in order to express their thanks to the Saint who defeated the epidemic. It has a simple facade that faces to the square and inside there is a wooden altar. Some of its statues were stolen. Archeological relicts In the nearby of the village there are some relicts of the ancient settlements that for over two thousand years were common in the actual plain of San Marco. Along the plain there are some elements typical of the Appennini culture of XI century b.C. and the signs of an Italic necropolis with its graves, that are placed side by side with some others of the Italic – Romanic period. Along the same area there are the "Vicus imperialis" and on the top of the "Battaglia" hill, there is a triple moat. Regional museum of the popular culture This museum is divided in five parts: the museum of the pasture farming, the museum of the wool, the museum of the popular religion, the museum of the ancient house and the museum of the farm work.</p>		

<p>CASTELVECCHIO CALVISIO (1045 m a.s.l.) In the placitum dated 779 the "Castello di San Lorenzo" was mentioned for the first time, while the toponym "Castellum Vetulum" appeared for the first time in 998 on the Catalogus Baronum. It was part of the Baronage of Carapelle and it had its same destiny: it was a property of the family of Acquaviva, of the Count Pietro di Celano, of the family of Piccolomini, of the family of Medici and of the Borbons. The urbanistic structure with its octagonal structure is developed around the central street, which was completely covered of vaults and archs. The actual entrance is the same one of the old castle wall and it lead to Torre Maggiore square, where the Captain's Palace is located. In the central street there is an important public bakehouse, which was built in XVI century and which is still in function. Other testimonies of the long history of this village are the religious and noble buildings. Buildings with particular historical value Circular Torrione Captain's house Portal of Ponte Levatoio Church of S. Giacomo Relicts of the church of Santa Maria Portal of Torre Maggiore Church of San Giovanni Battista Church of San Cipriano Turrita Portal</p>		
CELEBRATIONS/FESTIVITIES/FOLKLORE	SOURCES/LAKES/ FOUNTAINS/WELLS/	MOUNTAINS
Sant'Antonio abate's day, 17th January. San Giuseppe's day, 19th March. In this day it takes place a small fair. Madonna delle Grazie e S. Emidio's day, on the second Sunday of May and on the next Monday. Sant'Antonio di Padova's day, 13th June. Festival of the "grass - pea", in August.	F.te Rapone F.te di Viano	M. Mattone, 1282 M. Camarda, 1384 M. Mandorlino, 1347
ELEMENTS OF PARTICULAR HISTORICAL – ARTISTIC – DOCUMENTAL VALUE		
<p>Church of San Cipriano It is placed outside the center and it stands on the rests of a heathen temple dedicated to Venus. Since the Middle –Age it was the reference pole, because it was considered as a "cura animarum" for the population of the area. In a second time it became the parish church of the village until XV century, when it was moved to San Giovanni after a very cold winter, which caused many babies' dead during their transport to the church (it was too far) for the christening. Antinori supposes that the church was founded by Carlo Magno, as it is stated in an epigraph placed inside the church. In 1425 Lucia da Jabba painted some of its internal walls and in 1478 the christening font was moved to the church of Santa Maria.</p> <p>Church of San Giovanni Battista (XV century) It is in the center of the village and it has an unadorned facade, with ashlars of squared stones, a nice Renaissance portal and some slits that show its ancient origin (fortified palace). The inside of the building is very particular because the two aisles are divided in an asymmetrical way. Very interesting are the Baroque wooden altars, some seventeenth – century paintings, some wooden statues dated XVI and XVII century, some precious jewellery with professional crosses (Sumonese school) and some monstrances and reliquiaries of XVIII century.</p> <p>Archeological area "Ville" The South side of the village comprehends four ancient villas: San Cipriano, San Martino, San Giovanni e San Lorenzo, that settle the urban center of Castelvecchio. At present there are some archaeological excavations and the relicts of the churches and the towers.</p>		

<p>OFENA (531 m a.s.l.) Ofena is located near the sources of Tirino. Its name derives from "Aufinium", the ancient town that ruled the whole land until the end of the Middle Age, when it was first the episcopal seat and then was completely abandoned. The actual village was founded from the Longobardic colonists, that between X and XI centuries depended on the near convent of San Pietro ad Oratorium. It has a medieval structure with castle walls and a Baronal palace. Buildings with particular historical value Church of San Nicola Cataldi Madonna Palace Church of San Giovanni Convent of dei cappuccini Church of San Rocco San Francesco's convent Church of San Pietro in Cryptas</p>		
CELEBRATIONS/FESTIVITIES/FOLKLORE	SOURCES/LAKES/ FOUNTAINS/WELLS/	MOUNTAINS
Maria Santissima, religious holiday, 5th – 6th August Artistic and gastronomic tours in Ofena on the traces of the hidden angles of the village, 13th – 14th August Hemigrant's and Madonna dell'Assunta's festivity, night torchlight procession, 15th August	Cornacchia Fountain Source of Capo d'Acqua	M. Pietra Aspra (1681) M. Meta (1784)
<p>ELEMENTS OF PARTICULAR HISTORICAL – ARTISTIC – DOCUMENTAL VALUE</p> <p>Archeological relicts in Collelongo Probably in this area it was founded the ancient town "Aufinium", as after the archaeological excavations the relicts of a theater and many buildings show.</p> <p>Church of San Pietro in Criptas (XII century) Its name derives from the presence of some crypts with wonderful fifteenth – century frescos.</p>		

<p>S. STEFANO DI SESSANIO (1251 m a.s.l.) The toponym "Sessanio" and the name of its patron saint come from the Latin "Sextantia"(which explains that the village was six Roman miles away from th ancient Peltuinum, an important crossroad f or the trades that from Rome went to the Adriatic coast, or from the "vicus" of S. Marco to Castel del Monte). It was the original name of the village that during the Roman age was not too far from the actual settlement and that was destroyed by an earthquake. The actual village was realized around the towers between XI and XII centuries. Santo Stefano, was mentioned for the first time in an act dated 1191, because it was part of the Baronage of Carapelle. The original medieval settlement (XIV and XV centuries) ist still in good condition and it makes the village one of the most beautiful and fascinating area of Abruzzo. The center settled on a hill has an anular structure with many streets that spiral up to the circular tower. The entrance is formed by an ancient ogival portal that is surmounted by the Medici coat of arms and leads to the main square. Buildings with particular historical value Medicea Portal Via degli Archi Captain's house Church of Santa Maria in Ruvo Casa Fortezza Church of Santo Stefano Relicts of the Palazzo Anelli Medicean Tower Church of Santa Maria delle Grazie Convent S. Maria del Monte</p>		
CELEBRATIONS/FESTIVITIES/FOLKLORE	SOURCES/LAKES/ FOUNTAINS/WELLS/	MOUNTAINS
<p>Santissimi Stefano ed Isidoro's day, 2nd and 3rd August. Festival of lentils, first week – end of September. Christmas in the village, 28th December Medieval celebration, 12th and 13th August.</p>	<p>F.te Rionne F.te il Bagno F.te di Refana F.te del Lago F.te delle Gondole F.te delle Mogli Lago Racollo Lago di S. Stefano</p>	<p>Cima della Selva, 1290 M. Cafanello, 1557 C.le della Croce M. Cappellone, 1557 M. Tre Colli, 1570 M. Cecco d'Antonio,1758 M. Infornace, 2634</p>
<p>ELEMENTS OF PARTICULAR HISTORICAL – ARTISTIC – DOCUMENTAL VALUE</p> <p>Medicean Tower It dominates the center with its 18 meter high tower. It is a cilindric medieval tower, which in the past was used as sight tower and as visual connection with the other towers of the area.</p> <p>Church of Santo Stefano It is situated at the borders of the cimitero. Its facade is formed by a nice classic portal, that is surmounted by a circular rose window. The inside is formed by a unique aisle with a wooden Saint's statue and another one made of earthenware (XVI century).</p> <p>Church of Santa Maria in Ruvo This church is located in a complicated structure that is formed by many buildings embedded one on the other with archs and vaults: it forms a particular architectural continuity. The church is composed by a unique aisle with a lateral extention and a choir.</p> <p>Convent of Santa Maria del Monte (XIII century) Only the ruins of this building are visible. It is located in the northern side of the village. The convent with the annex farm was destined to the Cistercencians' agricultural activities. The architectonic structure is still visible through its relicts. The church is similar to those of Santo Spirito d'Ocre and it inclosed the large fences of the animals.</p>		

<p>VILLA SANTA LUCIA (900 m a.s.l.) The name of this village was "Aufinaes Cismontani" and it was supposed in the past that this village came from the Italic settlements, as detachment of the town of Aufinium. In a second time it became a Longobardin settlement. It was never fortified. During the Middle Ages it experienced the same situation of the Baronage of Carapelle. Since 1910 it is administratively independent from Ofena. Buildings with particular historical value Parish church of Santa Lucia Mazzotta Palace Church of San Nicola S. Maria delle Vicenne</p>		
CELEBRATIONS/FESTIVITIES/FOLKLORE	SOURCES/LAKES/ FOUNTAINS/WELLS/	MOUNTAINS
<p>S. Vincenzo, popular holiday and fair, 11th and 12th August S. Carlo Borromeo, popular holiday, 13th August S. Lucia, fair, 13th December Celebration of the mountain, 15th August. In a small mountain chapel it is celebrated mass to the open air and it is followed by a pic-nic. "Sette e due nove", end of August. It is a goliardic parody with an allegoric funeral and many people wearing masks, that parade in the village. The coffin is given on fire in a big and pictoreque bonfire.</p>	<p>F.te Cornacchiella F.te Cornacchia F.te Aciprano</p>	<p>M. Cappucciata (1801) Valico di Capo di Serre (1513) Pietra Aspra (1681) Cannatina (1060) C.le Capricciosa (1208) C.le Guardia (1060) Castelluccio (1153) C.le Spinello (1056)</p>
<p>ELEMENTS OF PARTICULAR HISTORICAL – ARTISTIC – DOCUMENTAL VALUE</p>		
<p>Church of Madonna delle Vicende (XIII e XIV centuries) It is outside the urban center. Inside the church there is a fresco that represents the Madonna carrying a baby.</p>		

1.6 State of the environmental components

1.6.1 Drinking water

The Baronage is located in the territory of L'Aquila, which includes 37 municipal districts. For the water cycle the local authority of L'Aquila drew up an agreement (until 2005) with the society of Gran Sasso SpA.

In the first three – year period ARTA analyzed the water that is distributed on the area and the results are that this water is the best one of Italy because of its chemical, bacteriological and organoleptic components.

The industrial plant management in Calascio, Capestrano, Castel del Monte and Villa Santa Lucia degli Abruzzi is still independent from the Gran Sasso SpA.

The water supply system that ensure the drinking water supply of the Baronage are the following:

Calascio and Castel del Monte – water supply system in Rionne with scavenging on the slopes of of Gran Sasso;

Santo Stefano di Sessanio, Carapelle Calvisio, Castelvecchio Calvisio and Ofena – water supply system of Ferriera with scavenging from Ortona dei Marsi (on another territory);

Capestrano scaves from a source in Presciano;

Villa Santa Lucia degli Abruzzi uses the source La Fonte and two wells.

The source of Rione cannot support the water requirements during the summer, when the request of water increases because of the presence of tourists; also the climatic trend influences the water crisis.

The water supply system of Ferriera use the sources Ferriera and Pulciara; during the second half of August it cannot satisfy the need of the municipal districts that they supply.

In Capestrano there is no need of new scavenging but only of an adaptation of the pipe, because it has many leaks.

The capacity varies from 1 l/s in Carapelle to 8 l/s in Capestrano.

As regards the water softening, the situation is the following:

Calascio has its own water supply system with filters; its works have to be finished;

Capestrano has a water supply system with activated sludge and biological discs;

An outlet ditch connects Castelvecchio to Carapelle, where it is situated an water supply system with activated sludge;

Castel del Monte is not provided by a water supply system and it has already been presented a project for its realization;

Ofena is provided with deep shaft process plant (Imhoff) and the water supply system must be integrated with a water supply system with activated sludge, in order to conform to the laws in force;

Santo Stefano di Sessanio has its water purifier with activated sludge and total oxidation;

Villa Santa Lucia degli Abruzzi has a water purifier conform to the laws in force.

1.6.2. Irrigation water

Among the municipal districts of the Baronage only few villages can irrigate their crops; they are indicated in the table below with the local and communities surfaces, such as the “Consorzio della Bonifica Interno” (Land improvement cooperative). The irrigation areas, that are the subject to a contribution of the land improvement cooperative (11.017 ha) is divided in three lands. The territory of Capestrano is also divided in districts (Tab. 1.11).

The “Consorzio” is one of the five land improvement co-operatives that were identified from L.R. 36/96 and in a second time from the resolution Nr. 541 on 7th March 1997 from the Regional Council.

The “Consorzio” is competent for the irrigation and it can realize any initiatives that could improve the development and the defence of the areas: it could act as an intermediary with the Public Institutions, the activities and the competences of the National Park of Gran Sasso – Monti della Laga, whose territory is adjoining.

TAB.1.11 MUNICIPAL AREA ALREADY PART OF THE LAND IMPROVEMENT CO-OPERATIVE

MUNICIPAL DISTRICT	MUNICIPAL AREA (HA)	AREA OF THE COOPERATIVE (HA)
CAPESTRANO	4.308	1.990
CARAPELLE CALVISIO	1.448	1.448
CASTELVECCHIO CALVISIO	1.509	110
OFENA	3.672	2.306
TOTAL	10.937	5.854

TAB.1.12 IRRIGATION AREA

AREA	DISTRICT	MUNICIPAL DISTRICT	IRRIGATION AREA (HA)
CAPESTRANO	Capestrano	Capestrano	723
		Ofena	671
TOTAL OF THE AREA			1.394

SOURCE: INEA

The territory of Capestrano inclosed the Plain of Capestrano – Ofena and it is formed by one district. The water comes from the source of Tirino, in the area of Capodacqua. The adduction system is made with hydraulic pipes. The irrigation area is formed by 1.394 ha. Some areas (total 677 ha) are not included in this territory, which means that they are out of the contribution area, although they have water supply systems realized in the past by the “Consorzio”. The area that includes the municipal district of Capestrano, is 292 ha and those of Ofena is 65 ha.

Reclamation of marshland

In the territory of Capestrano the reclamation of the so called “Pantano” area (200 ha) was realized by drainage terraces with trapezoidal section made of earth and cement.

The territory of Capestrano is supplied with the water of an artificial basin (useful capacity = 380.000 cubic metres), which is situated near the source of Capodacqua. Before being used for the irrigation, this water supplies a hydro-electric generating station that belongs to the territory with a strenght of 350 kW.

At present there are no data on the conservation pool, because it was not realized a surveys on the water output of the sources.

Use of the aquatic resources and local operator

The dam of Capodacqua is managed by the “Consorzio”, together with the local authority of the Park of Gran Sasso. The capacity is 600 l/s (other 5.000 l/s are used for the production of electric power for the irrigation seasons for the lift installations while in winter it is sold to ENEL). Before the realization of the Gran Sasso tunnel the maximum and minimum values of water output of the source of Capo d’Acqua are 5,070 and 4,088 m³/sec. The volume of water for the irrigation that is available in the territory of Capestrano is 9,3 millions of m³/year.

In the plain of Capestrano and Ofena the corn, the forage crops, the vines and the winter cereals are irrigated. The irrigation surface, for which the district pays contributes, is 1.394 ha. The irrigation area is 80%, which means 1.100 ha. If one supposes a relationship among corn, forage crops and cereals of 1:2:3, the irrigation need is:

- Corn, 175 ha for 7000 m³/ha/year
- Forage crops 300 ha for 10000 m³/ha/year
- Vine, 50 ha for 3000 m³/ha/year
- Winter cereals 520 ha for 500 m³/ha/year

Total = 4.635.000 m³ per year.

The first project was made in 1951. The definitive project was financed in 1961. The irrigation systems were realized until 1967 (dam, hydro-electric generating station, adduction and distribution systems, electric line, telephone line, 5 lift installations, service streets, a guard area for the workers and another one for the territori seat). It were also realized the extensions and improvements to the a.m. buildings.

The territory of Capestrano works with a lift installation. The irrigation structure is composed by 270 km of pipelines made of asbestos cement (with a working pressure of 2-4 atm) and 4 tubs. A lift installation is located in the first part of the structure and other four are positioned along its way (total of installed load 400 kW). The irrigable surface is 1394 ha. The irrigation parameters are the following:

- Activity: in turns – it is in function 20 hours a day
- Volume of irrigation with a higher request: 1.500 m³/ha
- Medium volum of irrigation: 300 m³/ha
- Continuous capacity: 0,57 l (s x ha)
- Monthly turns: 5
- Unit (water output): 5 l/s
- Distribution line: 100 x 24 = 2.400 m²
- Hour intensity: 7-8 mm/h.

The insufficient level of compaction (the firms’ areas are normally divided in many pieces) and the breaking up of the companies (less than one ha of surface) limit the mechanization of the farming. They increase the administration costs and obstruct the analyzed areas to produce in an efficient way. The dimensions of the firms are small, although thirty years of rural depopulation (1951 – 81) increased the “SAU” for each

producer. Only a small percentage of the areas that are not cultivated anymore were inclosed and used by other companies.

In the territory of Capestrano the companies use sprinkler irrigation systems. Only a few number of these company are going to use a drip-method.

Among the sprinkler irrigation systems the more used are those with “moving wings”. Also sprinkling machines are used.

Irrigation systems present in the area

In the Plain of Capestrano and Ofena the irrigation system is used for corn, forage crops, vine and sometimes winter cereals.

With their availability of 9.300.000 m³/year, the irrigation needs for the plain of Capestrano – Ofena can be evaluated in 4.635.000 m³ per year.

1.6.3 Waste management

The collection of the municipal solid wastes is directly managed from each municipal district. Capestrano, Villa Santa Lucia and Ofena have their dumps. Castelvecchio Calvisio and Carapelle have a common dump in the area of Castelvecchio; S. Stefano di Sessanio, Castel del Monte and Calascio belong to a union that commissioned the collection of the municipal solid wastes to ADECO SpA in Spoltore (which manages the dump of the municipal district of Barisciano – “Comunità Montana” Campo Imperatore Plain of Navelli). If the data of the municipal districts can be considered reliable because the wastes are weighed by a truck, the other are doubtful because many municipal districts declare less quantities of wastes, so that they can pay less taxes (0.016 €/Kg).

A part of the wastes is separately collected and it is managed by the “Comunità Montana” Campo Imperatore Plain of Navelli with the aid of ADECO SpA.

TAB 1.13 WASTES QUANTITY FOR EACH PERSON - YEAR 2003

MUNICIPAL DISTRICTS	NR. OF POPOL. 31.12.03	DIFFERENCE FOR EACH PERSON KG /YEAR	TOTAL FOR EACH PERSON KG /YEAR	TOTAL FOR EACH PERSON KG/DAY
CALASCIO	155	135,56	554,92	1,52
CAPESTRANO	970	22,49	180,85	0,50
CARAPELLE CALVISIO	100	88,72	194,82	0,53
CASTEL DEL MONTE	504	80,94	563,60	1,54
CASTELVECCHIO C.	204	49,18	129,81	0,36
OFENA	594	29,12	190,74	0,52
S.STEFANO DI SESSANIO	116	134,91	922,59	2,53
VILLA S.LUCIA	201	90,82	294,80	0,81
TOTAL	2.844	54,05	306,27	0,84

SOURCE: Comunità Montana Campo Imperatore Piana di Navelli

TAB. 1.13 QUANTITY OF MUNICIPAL SOLID WASTES AND SEPARATELY COLLECTED FRACTIONS IN KG - YEAR 2003

MUNICIPAL DISTRICTS	R.S.U.	PAPER	PLASTIC	GLASS	CANS	PILES	MEDICINES	FERROSI	WOOD	TEXTILE	C.F.C.	TOT. Diff.	TOT. GEN.	FRIGO	PERC.
CALASCIO	65.000	1.830	650	4.195	30	9,5	17,5	9.350	1.400	3.000	530	21.012	86.012	14	24,43
CAPESTRANO	153.608	2.830	1.350	5.830	35	13	14,5	6.260	1.650	2.950	880	21.813	175.421	29	12,43
CARAPELLE C.	10.610	1.490	700	2.410	15	0	6,5	3.350	450	200	250	8.872	19.482	7	45,54
CASTEL DEL M.	243.260	1.870	505	25.410	40	0	8,5	8.850	1.400	2.200	510	40.794	284.054	14	14,36
CASTELV. C.	16.450	1.560	790	3.265	20	0	6,5	2.950	400	750	290	10.032	26.482	8	37,88
OFENA	96.000	1.310	640	4.700	23	0	36,5	6.980	1.750	1.100	760	17.300	113.300	21	15,27
S.STEFANO	91.370	1.760	735	4.630	25	0	0	4.670	1.300	2.450	80	15.650	107.020	4	14,62
VILLA S.LUCIA	41.000	2.150	760	3.975	20	0	9	6.160	1.300	3.400	480	18.254	59.254	16	30,81
TOTAL	717.298	14.800	6.130	54.415	208	22,5	99	48.570	9.650	16.050	3.780	153.727	871.025	113	17,60

SOURCE: Comunità Montana Campo Imperatore – Piana di Navelli

Chapter 2

Socio-economic aspects, facilities and public services

2.1 Demographic and occupation aspects

TAB. 2.1 RESIDENT POPULATION IN 2001 AND CHANGES IN % (1991)

MUNICIPAL DISTRICTS	RESIDENT POPULATION IN (21/10/2001)	RESIDENT POPULATION (20/10/1991)	CHANGES IN % OF POPULATION BETWEEN 1991 AND 2001
CALASCIO	150	224	-33,00
CAPESTRANO	960	1.141	-15,90
CARAPELLE C.	95	125	-24,00
CASTEL DEL MONTE	527	707	-25,50
CASTELVECCHIO C.	198	246	-19,50
OFENA	611	757	-19,30
S.STEFANO D.S.	118	142	-16,90
VILLA S.LUCIA D.A.	206	305	-32,50
TOTALE ZONA	2.865	3.647	-21,44
REGIONE ABRUZZO	1.262.392	1.249.054	1,06

SOURCE: ISTAT

TAB. 2.2 POPULATION DENSITY (INHABITANTS/QM)

MUNICIPAL DISTRICTS	POPULATION DENSITY 2001
CALASCIO	3,80
CAPESTRANO	22,30
CARAPELLE C.	6,60
CASTEL DEL MONTE	9,10
CASTELVECCHIO C.	13,10
OFENA	16,60
S.STEFANO D.S.	3,50
VILLAS.LUCIA D.A.	7,40
TOTALE ZONA	10,69
REGIONE ABRUZZO	116,90

SOURCE: ISTAT

TAB. 2.3 MIGRATION BALANCE /1000 INHABITANTS

MUNICIPAL DISTRICTS/YEARS	1992	1993	1994	1995	1996	1997	1998	1999	2000
CALASCIO	0,00	-4,69	0,00	0,00	-34,82	-32,08	-5,64	-5,91	12,19
CAPESTRANO	15,84	8,77	12,43	17,82	12,47	-5,36	-10,02	0,00	-18,23
CARAPELLE C.	-70,86	-16,66	25,00	8,47	34,48	0,00	-8,19	-58,82	18,69
CASTEL DEL MONTE	-39,82	4,51	-1,49	-6,08	-23,51	-8,09	-1,66	-17,09	-10,67
CASTELVECCHIO C.	-32,52	-12,71	74,88	-8,23	12,76	0,00	-17,46	-31,96	53,14
OFENA	14,55	10,75	2,72	-16,68	17,49	20,58	-13,43	12,40	11,07
S.STEFANO D.S.	-7,04	35,21	0,00	7,24	14,70	-29,41	-46,87	41,32	-56,00
VILLA S.LUCIA D.A.	29,60	0,00	3,42	-38,32	-7,49	-3,93	-12,09	-8,36	-8,69
TOTALE ZONA	- 1,38	5,61	10,25	- 2,01	3,23	- 2,69	- 11,00	- 4,43	- 3,90
REGIONE ABRUZZO	4,99	6,26	4,68	3,40	3,51	3,13	2,51	3,15	3,40

SOURCE: our processing of ISTAT data

TAB 2.4 NATURAL BALANCE/1000 INHABITANTS

MUNICIPAL DISTRICTS/YEARS	1992	1993	1994	1995	1996	1997	1998	1999	2000
CALASCIO	-31,81	-37,55	0,00	-14,70	-34,82	-21,39	-39,54	-23,66	-6,09
CAPESTRANO	-12,32	-21,05	-15,98	-17,82	-16,04	-13,41	-20,05	-20,67	-23,03
CARAPELLE C.	15,74	16,66	-41,66	-25,42	8,62	8,26	-16,39	-42,01	-18,69
CASTEL DEL MONTE	-14,22	-1,50	-13,49	-22,83	-7,83	-16,18	-26,57	-22,22	-12,45
CASTELVECCHIO C.	-8,13	-25,42	-4,40	-24,69	-8,51	-29,66	-26,20	-22,83	-14,49
OFENA	-30,42	-25,53	-21,82	-29,20	-26,23	-30,88	-23,88	-32,55	-33,22
S.STEFANO D.S.	7,04	-21,12	-41,66	-21,73	-14,70	-29,41	-7,81	-8,26	-24,00
VILLA S.LUCIA D.A.	-29,60	-39,47	-20,54	-31,35	-41,19	-19,68	-24,19	-29,28	-47,82
TOTALE ZONA	- 17,61	- 19,92	- 17,36	- 22,94	- 18,23	- 20,30	- 23,53	- 24,68	- 23,41
REGIONE ABRUZZO	0,12	-0,37	-0,93	-1,12	-1,09	-1,26	-1,50	-1,83	-1,63

SOURCE: our processing of ISTAT data

TAB. 2.5 DEMOGRAPHIC BALANCE/1000 INHABITANTS

COMUNI/ANNI	1992	1993	1994	1995	1996	1997	1998	1999	2000
CALASCIO	-31,81	-42,24	0,00	-14,70	-69,64	-53,47	-45,18	-29,57	6,10
CAPESTRANO	3,52	-12,28	-3,55	0,00	-3,57	-18,77	-30,07	-20,67	-41,26
CARAPELLE C.	-55,12	0,00	-16,66	-16,95	43,10	8,26	-24,58	-100,83	0,00
CASTEL DEL MONTE	-54,04	3,01	-14,98	-28,91	-31,34	-24,27	-28,23	-39,31	-23,12
CASTELVECCHIO C.	-40,65	-38,13	70,48	-32,92	4,25	-29,66	-43,66	-54,79	38,65
OFENA	-15,87	-14,78	-19,10	-45,88	-8,74	-10,30	-37,31	-20,15	-22,15
S.STEFANO D.S.	0,00	14,09	-41,66	-14,49	0,00	-58,82	-54,68	33,06	-80,00
VILLA S.LUCIA D.A.	0,00	-39,47	-17,12	-69,67	-48,68	-23,61	-36,28	-37,64	-56,51
TOTALE ZONA	- 18,99	- 14,31	- 7,12	- 24,94	- 15,00	- 22,99	- 34,52	- 29,10	- 27,31
REGIONE ABRUZZO	5,11	5,89	3,75	2,28	2,42	1,87	1,01	1,32	1,77

SOURCE: our processing of ISTAT data

TAB 2.6 MEDIUM NUMBER OF FAMILY MEMBERS

MUNICIPAL DISTRICTS	POPULATION RESIDENT IN FAMILY	NR. OF FAMILIES	MEDIUM NR. OF FAMILY MEMBERS
CALASCIO	149	84	1,77
CAPESTRANO	951	469	2,02
CARAPELLE C.	95	42	2,26
CASTEL DEL MONTE	500	269	1,85
CASTELVECCHIO C.	198	111	1,78
OFENA	547	259	2,11
S.STEFANO D.S.	116	69	1,68
VILLA S.LUCIA D.A.	206	112	1,83
TOTALE ZONA	2.762	1.414	1,95
REGIONE ABRUZZO	1.255.724	462.066	2,71

SOURCE: ISTAT

TAB. 2.7 NUMBER OF ELDERLY PEOPLE

MUNICIPAL DISTRICTS	AGEING INDEX(POP. >65 YEARS OLD / POP. < 14 YEARS OLD)*
CALASCIO	700,00
CAPESTRANO	483,56
CARAPELLE C.	184,62
CASTEL DEL MONTE	678,79
CASTELVECCHIO C.	561,11
OFENA	489,58
S.STEFANO D.S.	800,00
VILLAS.LUCIA D.A.	1585,71
REGIONE ABRUZZO	146,87

SOURCE: ISTAT

2.1.1 Foreigners

The Italian statistical yearbook 2003 states that the authorizations to take up residence in Abruzzo from 1st January 2002 are 19.537. They represent 13,49% of the permits issued in Italy. The most part of the foreigners are people coming from central – east Europe (56,17%).

The ISTAT data also include the permits issued from 31st December and those that have been renewed in the following year.

The data collected from the guidance centers of each province show that in some cases many foreigners are employed for seasonal works in the farming sector.

TAB. 2.8 RESIDENT IMMIGRANTS (31/12/2000)

MUNICIPAL DISTRICTS	MALE	FEMALE	TOTAL OF IMMIGRANTS	TOTAL OF RESIDENT POPULATION	IMMIGRANTS/ RESIDENT POPULATION *1000
CALASCIO	3	0	3	165	18,18
CAPESTRANO	10	12	22	999	22,02
CARAPELLE	1	1	2	107	18,69
CASTEL DEL MONTE	17	6	23	549	41,89
CASTELVECCHIO CALVISIO	0	4	4	215	18,60
OFENA	8	6	14	618	22,76
SANTO STEFANO DI SESSANIO	0	0	0	115	–
VILLA S. LUCIA D. A.	3	0	3	217	13,82
TOTALE ZONA	42	29	71	2.985	23,79
PROVINCIA DI AQ	4.795	3.256	8.051	303.514	26,53
REGIONE ABRUZZO	12.581	11.335	23.916	1.281.283	18,67

SOURCE: our processing of ISTAT data

TAB. 2.9 MEDIUM LABOUR FORCE 2002

	PEOPLE EMPLOYED	LOOKING FOR A JOB	LABOUR FORCE
REGION OF ABRUZZO	472.000	31.000	503.000
PROVINCE OF AQ	109.000	9.000	118.000

SOURCE: Abruzzo Lavoro (Local authority of the Region of Abruzzo)

TAB.2.10 MEDIUM NUMBER OF EMPLOYEES FOR EACH SECTOR (2002)

	REGIONE ABRUZZO	PROVINCIA DI AQ
AGRICULTURE	28.000	6.000
INDUSTRY	149.000	27.000
OTHER ACTIVITIES	295.000	77.000

SOURCE: Abruzzo Lavoro (Local authority of the Region of Abruzzo)

**TAB 2.11 ACTIVITY RATE
TREND FROM 1993 TO 2002**

	REGION OF ABRUZZO	PROVINCE OF AQ
1993	47,2	41,8
1994	45,2	41
1995	45,3	42,3
1996	46,1	43,1
1997	45,5	41,9
1998	45,2	42,1
1999	44,8	42,4
2000	44,6	42,9
2001	45,6	45,2
2002	45,9	46,3

SOURCE: Abruzzo Lavoro (Local authority of the Region of Abruzzo)

**TAB 2.12 UNEMPLOYMENT RATE
TREND FROM 1993 TO 2002**

	REGION OF ABRUZZO	PROVINCE OF AQ
1993	8,9	7,6
1994	8,9	7,4
1995	9,1	8,8
1996	8,9	8,1
1997	9	10,5
1998	9,1	9,1
1999	10,1	10,9
2000	7,8	10,3
2001	5,7	8,1
2002	6,2	7,9

TAB. 2.13 LABOUR FORCE REGION OF ABRUZZO TREND FROM 1993 TO 2003

REGION OF ABRUZZO			
YEAR	EMPLOYEES	LOOKING FOR A JOB	LABOUR FORCE
1993	439	43	481
1994	434	42	476
1995	437	44	481
1996	448	44	492
1997	444	44	488
1998	443	45	487
1999	436	49	485
2000	448	38	485
2001	469	29	498
2002	472	31	503
2003	478	27	506

SOURCE: Abruzzo Lavoro (Local authority of the Region of Abruzzo)

TAB. 2.14 LABOUR FORCE PROVINCE OF L'AQUILA TREND FROM 1993 TO 2003

PROVINCE OF L'AQUILA			
YEAR	EMPLOYEES	LOOKING FOR A JOB	LABOUR FORCE
1993	96	8	103
1994	97	8	104
1995	98	9	107
1996	102	9	111
1997	97	11	109
1998	99	10	109
1999	97	12	108
2000	99	11	110
2001	106	9	115
2002	109	9	119
2003	108	9	117

SOURCE: Abruzzo Lavoro (Local authority of the Region of Abruzzo)

2.2 The production and the distribution of incomes

TAB. 2.15 INCOME PER HEAD

MUNICIPAL DISTRICT	INCOME PER HEAD 2001
CALASCIO	8.529
CAPESTRANO	9.352
CARAPELLE C.	8.764
CASTEL DEL MONTE	9.618
CASTELVECCHIO C.	8.623
OFENA	8.841
SANTO STEFANO D.S.	9.962
VILLA S. LUCIA D.A.	9.463
REGIONE ABRUZZO	11.882

SOURCE: CRESA "The mountains of Abruzzo- Indicators " Year 2001

TAB. 2.16 INCIDENCE OF PENSIONS ON INCOMES

MUNICIPAL DISTRICTS	RESIDENT POPULATION 2002	INCOME PER HEAD 2002	% PENSIONS/ INCOME *
CALASCIO	147	8.751	28,7
CAPESTRANO	957	9.767	28,6
CARAPELLE C.	91	8.670	26,0
CASTEL DEL MONTE	510	9.529	26,8
CASTELVECCHIO C.	194	8.685	36,3
OFENA	604	8.835	29,9
SANTO STEFANO D.S.	123	9.552	23,7
VILLA S. LUCIA D.A.	202	8.871	39,3
REGIONE ABRUZZO	1.273.284	12.315	13,7

* TOTAL OF INPS PENSIONS

SOURCE: CRESA "Economic situation in Abruzzo n. 1 year 2003 "

The CRESA valuation of incomes refers to the family disposal incomes for inhabitant. It was realized with the data of the national accounting, that were reformulated by ISTAT following the new European system for national and regional accounts (this system defines the institutional sectors and the valuation of the income flows of the families' incomes).

The families incomes are the results of many payment factors such as job, pensions, return on capitals, productions for personal requirements, charge of the incomes to the families of the small production units (firms with less than 5 employees) and professional activities. The families' income is represented by the gross primary incomes and the transfer for social benefits.

The system used for the regional and provincial calculation was based on a proportioning of this value with the declared income flows; these values were proportioned on a municipal level, using the millesimal indicators calculated on the declared incomes per each municipal district. For the year 2002 also the millesimal indicators were used and they were obtained with the estimation of the income per head declared in the Ancitel data bank.

The declared incomes have two errors that are due to the tax avoidance and to the payment factors of the production processes that are not declared to Irpef.

In the small municipal centers (where the number of elderly people with pensions prevails) and in the municipal centers with big firms or where the social and/or public institutions play an important role, the valuation of incomes is higher.

In the places where the undeclared employment is more common, the estimated income seems to be lower than awaited, if compared with the development of the districts.

TAB. 2.17 NUMBER AND TOTAL AMOUNT OF IVS PENSIONS – 1ST JANUARY 2000 (IN THD LIRE)

MUNICIPAL DISTRICTS	NR. OF PENSIONS	ANNUAL VALUE	GENERIC RATE OF PENSIONS*	SPECIFIC RATE OF PENSIONS**	TOTAL MUNICIPAL INCOMES	% IVS PENSIONS
CALASCIO	81	656.714	0,53	1,02	2.490.342	26,4
CAPESTRANO	521	4.802.952	0,56	1,17	17.880.887	26,9
CARAPELLE C.	51	411.452	0,54	1,24	1.580.059	26,0
CASTEL DEL M.	262	2.412.966	0,53	1,03	9.780.853	24,7
CASTELVECCHIO C.	147	1.178.707	0,76	1,29	3.296.081	35,8
OFENA	344	2.942.224	0,65	1,29	10.630.778	27,7
S. STEFANO D. S.	58	548.409	0,51	1,03	2.172.832	25,2
VILLA S. LUCIA D. A.	170	1.445.715	0,82	1,19	3.646.497	39,6

* Generic rate of pensions: INPS pensions/ resident population

** Specific rate of pensions: retired persons >60 years old / resident persons >60 years old

SOURCE: Cresa processing on INPS data

TAB. 2.18 INCIDENCE OF IVS PENSIONS ON INCOMES (IN THD LIRE)

REGION OF ABRUZZO	ANNUAL AMOUNT OF IVS PENSIONS	TOTAL MUNICIPAL INCOME	% IVS PENSIONS
	3.734.613.685	28.377.790.427	13,16

SOURCE: Cresa processing of INPS data

The municipal income is the product of the medium income per head (which is estimated on the basis of returns, pensions, employment income and industrial active incomes) and the total of the resident population.

The IVS pensions are bestowed from INPS and are 70% of the total amounts: the data refer to the districts of collection that do not need to correspond to the residential municipality of the pensioners.

The indicators taken into account show the condition of the economic development of Abruzzo: the area that is considered in this analysis is economically disadvantaged, because the pension scheme strongly contributes to the municipal incomes.

The ageing of the population has a negative influence on the pension scheme, but the pension transfers contribute to sustain the economy of the area, where the demographic situation is critical and the incomes are too low, if it we consider the low interest in the realization of important economic activities.

In any case, we have to consider that the migrant flow happened mainly in 1950 and nowadays it is one of the factors that cause the decrease of the natural growth rate and the reduction of the total growth rate of the population because of the reduction of the balance of migration.

2.3 The deviance of the mountain areas of Abruzzo

From: "The mountains of Abruzzo– Deviance indicators". CRESA 2002

The aim of this analysis is to understand the development level of the region with the use of some indicators, that could explain the situation of the mountain areas.

The indicators that are considered are: demography, production system, services and level of life (through these indicators it can be calculated the composite index of deviance).

The analysis of the mountain area is possible only if we consider to which "Comunità montana" they depend. The municipal districts we have analyzed are included in the Comunità Montana "Campo Imperatore".

In Abruzzo the mountain areas represent the 73,4 % of the municipal districts, while 76,4 % of the area have a resident population (1/3 of the population). The mountain areas of L'Aquila correspond to 90% of the total area, while the population is 40 % of the total.

This explains why the municipal areas have such small dimensions: the dwelling density corresponds to 1/6 of the non – mountain areas and the incomes per head is 72,9 % of the medium income of the non – mountain areas.

If we analyze the deviance for each "comunità montana" and we refer to each indicator, the situation is the following:

- As regards the demographic indicator, the worst situation is in the province of L'Aquila (but not in the "Marsica" area) and in the area of Vasto and "Medio Sangro";
- If we consider the production system, the diversification among the mountain areas (that are on the boarder lines of the coastline and for the rest part on the mountain area);
- The service indicators less correspond to the other ones. Also in this case the standard composite index of "Comunità Campo Imperatore" is negative;
- The indicator of the level of life shows that the isolation and/or the deviance conditions caused by a strong dependance from external systems play a negative role for the "Comunità" of the province of L'Aquila, for the "Medio Sangro" area and the "Vastese" one.

The composite index of deviance (which is the mean of the category indicators) causes that the "Comunità Campo Imperatore" is at 3rd place of the list after the "Medio Sangro" and the "Vastese" ones.

The analysis of the deviance referred to each municipal district shows that the area is in "decline" (from the demographic point of view). The deviance of these areas have problems with accessibility because of the high altitudes, insufficient access network, high ageing index and insufficient birthrate.

The indicator of the production system shows that only the municipal district of Ofena is classified as "medium", while the others are "weak", because of the collapse of the production systems of the mountain areas. The process of industrialization realized with the aid for the so called "Mezzogiorno" (central regions of Italy) started a process of consolidation of some "strong" areas and undermined the marginal areas that lose the most important components of the production system.

The indicator of the level of life (which is measured through three factors – disposable income, electric consumption and cars) shows that only the municipal district of Capestrano is in a medium position. The other districts are in a "low" position.

The composite index of deviance shows that the municipal districts of Castelvecchio Calvisio, Carapelle Calvisio, Villa Santa Lucia Degli Abruzzi, Santo Stefano di Sessanio e Calascio are in a "marginal" position, while Ofena, Capestrano e Castel Del Monte are "semi - marginal".

Although the availability of second houses and the revaluation of the old buildings with the development of tourism, the abandonment of these lands is "uncontrollable".

The ambiental and landscape "heritage" has been revalorized by the public institutions with the realization of parks and by the inhabitants with the new settlements: this is not enough to start the processes that need an higher presence of permanent population.

In any case it is important to outline the additional role of these municipal districts in the system town/mountain, as they have specific functions such as for example the holidays places.

2.4 The production structure of the industrial sector

Because of the decrease of the total population, also the active population and the number of activities are subjected to a drastic decrease during the years.

As regards the industrial sector, this area has never had a widespread tradition: it is mainly based on the presence of some traditional artisan activities of medium or small dimensions. The craft industry in this area is based on the local request and this is a limit for its possible development. Also in the building the production units are very small and their development is based on the local request and has no other market. The retail market was subjected to a cut in the last years, because of the different structure that the commercial distribution of foodstuff is going to present. In this area there are also small shops with essential goods.

The tertiary sector is increased. With the constitution of the Parco Nazionale Gran Sasso – Monti della Laga it was started the tourist development of the area: it started an alternative process of development, which is still in progress.

As regards Santo Stefano di Sessanio, in the last years new structures were realized.

In this area there are no restaurants but only small trattoria, where you can taste the traditional cooking that use local products.

TAB 2.19 UL/INHABITANTS – FIRMS/INHABITANTS – ARTISAN UL /TOTAL UL – OPERATORS/TOTAL UL – UL COMMERCIO/TOTALE UL

	CALASCIO	CAPESTRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELV. CALVISIO	OFENA	S.STEFANO DI SESSANIO	VILLA S.LUCIA D.A.	TOTALE ZONA	REGIONE ABRUZZO
LOCAL UNITS / INHABITANTS (2001)	0,05	0,05	0,04	0,05	0,08	0,06	0,08	0,04	0,05	0,06
FIRMS / INHABITANTS (2001)	0,04	0,04	0,03	0,05	0,06	0,05	0,07	0,03	0,05	0,06
ARTISAN UL / TOTAL UL	0,12	0,28	0,5	0,31	0,56	0,42	0	0,5	0,34	0,32
OPERATORS / TOTAL UL	1,12	1,67	1,5	1,51	2,43	1,76	1,3	1,2	1,65	3,35
UL COMMERCE / TOTAL UL	0,50	0,40	0,25	0,44	0,25	0,39	0,1	0,4	0,37	0,36

SOURCE: ISTAT Census 1996

TAB. 2.20 UL FOR PRODUCTIVE SECTOR

UL for production sector	CALA SCIO	CAPESTRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELV. CALVISIO	OFENA	S.STEFANO DI SESSANIO	VILLA S.LUCIA D.A.	TOTALE ZONA	REGIONE ABRUZZO
AGRICULTURE	0	0	0	0	0	0	0	0	0	8
FISHING, FISHFARMING AND ANNEXED SERVICES	0	0	0	0	0	0	0	0	0	1
MINERAL EXCAVATION	0	2	0	0	1	1	0	0	4	136
FIRMS	0	8	1	5	1	8	2	1	26	12.436
PRODUCTION AND DISTRIBUTION OF ELECTRICAL ENERGY, GAS AND WATER	0	0	0	0	0	0	0	0	0	133
BUILDINGS	1	4	1	5	7	6	2	1	27	10.794
WHOLESALE AND RETAIL TRADE; CAR AND MOTORCYCLE REPAIRS	4	20	1	13	4	15	1	4	62	30.737
HOTELS AND RESTAURANTS	2	6	0	3	1	2	2	1	17	5.685
TRANSPORT, STORAGE AND COMMUNICATION	1	1	1	1	1	1	1	2	9	3.618
MONEY AND FINANCIAL BROKERAGE	0	2	0	1	0	1	0	0	4	1.801
IMMOVABLE PROPERTY, CHARTERING, COMPUTER SCIENCE, RESEARCHES, ACTIVITIES AND ENTREPRENEURS	0	2	0	0	0	1	2	1	6	13.504
OTHER PUBLIC, SOCIAL AND PERSONAL SERVICES	0	4	0	1	1	3	0	0	9	5.266

SOURCE ISTAT Census 1996

2.5 Recreation facilities, public and private services

Many tourist activities are public infrastructure that were rebuilt and managed by the unemployed of the area. In Castel del Monte and S. Stefano this new activity gave many positive results: new workplaces and more families that decided to stay in this area, a positive incentive for tourism (these activities are open all the year). The municipal areas have a more income (rent for the activities that the population manage) and do not have to pay for the ordinary maintenance.

Also the other districts are going to create new municipal structures to manage.

In this area there are also houses for the holiday; second houses for the holidays (although there are not statistics, the most part of the owners are from Rome). In many cases the houses inside the historical centers of the districts were renewed.

Also the company Sextantio bought 4000 sm of properties in order to renew them and to use for tourist activities. For the realization of this project it will take about 5 years: it is an ambitious project and of great cultural and social interest. It could start new processes in the tourist sector, in order to increase the value of the territory.

The company Sextantio srl

The company Sextantio¹ bought inside the village of S. Stefano a property of 3500 sm circa and more than 1000 sm in other villages of the Baronage of Carapelle. The aim is to renew the buildings. In cooperation with the university "G. D'Annunzio" of Chieti and a technical office, it was started a project of studies for their restoration. In this area it should be realized a "hotel": the tourist activities will be distributed through the architectural structures with 12 – 14 apartments, for a total of 45 – 50 rooms and 140 – 150 sleeping accommodation.

The aim is to realize structures for foreign tourists and the company intends to compete with other regions of Italy (Tuscany – Umbria). The administrator of the company thinks that the competitive advantage of the area is the "nature" of these places. The tourist activity of the a.m. regions is well developed: the possibility to find in Tuscany products that are not produced for a wide distribution and that are not sold to high prices is very difficult. A friendly and relaxed atmosphere could compete with other areas that have well structured tourist activities.

The comfortable apartments and the rooms will be large and comfortable, so that they could meet the request of the tourists. The furniture will be the typical ones of the houses on the mountain of Abruzzo and above all the chimneys.

The quality of these structures will be granted by strict controls and many historical and typologic analysis of the architectural elements and its materials (such as wood, etc).

Other specific areas will be realized, such as a meeting room, a restaurant (in order to offer the typical plates of Abruzzo) and many rooms for common and cultural activities, small business sites, a library, a riding school for excursions and renting of many means of transport). All these structures will offer to the tourists a different experience (artistic – cultural, sport, gastronomic)

The company has also started a study on the artistic craft of the area, in order to find out if the writings that describe the old buildings and traditions are still available and if it still exist the artisans that produce the goods following the old traditions. The old shops will be rebuilt following the traditional techniques for the realization of the traditional products of Abruzzo with the continuous supervision of the museum "Genti d'Abruzzo".

If we consider the actual situation of the touristic structures of the area the aims of companies such as Sextantio will have positive effects: it will increase the innovation and the efficiency (hoping that these companies will not modify the "reality" of the area) and it could also create many cooperations among the operators.

¹ The name of this area comes from "Sextantio" situated near the graveyard, where also the ancient Italic – Roman "pagus" are situated.

TAB 2.21 TOURIST OPERATORS (CATEGORY)

MUNICIPAL DISTRICTS	RURAL TOURIST FACILITIES *	BED AND BREAKFAST	CAMPING	HOLIDAY HOUSES/ ROOMS FOR RENT/ REFUGES/OTHERS	HOTELS	TOTAL OF TOURIST OPERATORS
CALASCIO	1	0	0	1	0	2
CAPESTRANO	4	0	0	0	0	4
CARAPELLE C.	0	1	0	0	0	1
CASTEL DEL MONTE	0	1	1	0	2	4
CASTELVECCHIO C.	0	0	0	1	0	1
OFENA	2	1	0	0	0	3
S.STEFANO DI S.	1	2	0	2	0	5
VILLA S. LUCIA D.A.	1	0	0	0	0	1
TOTALE ZONA	9	5	1	4	2	21
REGIONE ABRUZZO	953	33	82	135	783	1986

Source: Regione Abruzzo- Direzione Turismo Ambiente Energia e Direzione Agricoltura . Data year 2002

*The number of the rural touristic facilities that are still registered in the regional lists of rural touristic operators is too high, if compared to the firms that still work in this area. The "Direzione Turismo Ambiente Energia" declares that the rural touristic operators are only 260, because only the firms with tourist facilities (declared to APT) have to be considered.

TAB. 2.22 DISTRIBUTION IN % OF TURIST OPERATORS (CATEGORY)

MUNICIPAL DISTRICTS	RURAL TOURIST FACILITIES	BED AND BREAKFAST	CAMPING	HOLIDAY HOUSES/ ROOMS FOR RENT/ REFUGES/OTHERS	HOTELS	TOTAL OF TOURIST OPERATORS
CALASCIO	50,00	-	-	50,00	-	100,00
CAPESTRANO	100,00	-	-	-	-	100,00
CARAPELLE C.	-	100,00	-	-	-	100,00
CASTEL DEL MONTE	-	25,00	25,00	-	50,00	100,00
CASTELVECCHIO C.	-	-	-	100,00	-	100,00
OFENA	66,67	33,33	-	-	-	100,00
S.STEFANO DI S.	20,00	40,00	-	40,00	-	100,00
VILLA S. LUCIA D.A.	100,00	-	-	-	-	100,00
TOTALE ZONA	49,15	23,81	4,76	19,05	9,52	100,00
REGIONE ABRUZZO	47,98	1,66	4,13	6,80	39,43	100,00

SOURCE: our processing of "Regione Abruzzo- Direzione Turismo Ambiente Energia e Direzione agricoltura" Data. year 2002

TAB. 2.23 FEATURES OF RURAL TOURIST FACILITIES

MUNICIPAL DISTRICTS	SLEEPING ACCOMODATION	SERVICE AREAS	HORSES FOR RIDING SPORT	AGRIC. AREAS	SALES OF PRODUCTS	SPORT	RECREATION
CALASCIO	5	18	-	-	-	-	-
CAPESTRANO	53	95	8	-	-	-	-
CARAPELLE C.	-	-	-	-	-	-	-
CASTEL DEL MONTE	-	-	-	-	-	-	-
CASTELVECCHIO C.	-	-	-	-	-	-	-
OFENA	27	85	-	-	-	-	-
S.STEFANO DI S.	16	10	-	-	-	-	-
VILLA S. LUCIA D.A.	5	0	-	-	-	-	-
TOTALE ZONA	106	208	8	-	-	-	-
REGIONE ABRUZZO	8.230	16.633	987	1.774	341	261	163

SOURCE: Regione Abruzzo – Direzione agricoltura. Data year 2002

TAB. 2.24 % SLEEPING ACCOMODATION IN RURAL TOURIST FACILITIES

MUNICIPAL DISTRICTS	NR. OF SLEEPING ACCOMODATION IN RURAL TOURIST FACILITIES	TOTAL NR. OF SLEEPING ACCOMODATION	% SLEEPING ACCOMODATION IN RURAL TOURIST FACILITIES
CALASCIO	5	21	23,81
CAPESTRANO	53	53	100,00
CARAPELLE C.	-	8	0
CASTEL DEL MONTE	-	86	0
CASTELVECCHIO C.	-	3	0
OFENA	27	30	90,00
S.STEFANO DI S.	16	101	15,84
VILLA S. LUCIA D.A.	5	5	100,00
TOTALE ZONA	106	307	34,53
REGIONE ABRUZZO	8.230	103.091	7,98

SOURCE: Regione Abruzzo – Direzione agricoltura. Anno 2002

TAB. 2.25 SLEEPING ACCOMODATION PER RURAL TOURIST FACILITIES

MUNICIPAL DISTRICTS	NR. OF SLEEPING ACCOMODATION IN RURAL TOURIST FACILITIES	NR. OF RURAL TOURIST FACILITIES	NR. OF SLEEPING ACCOMODATION PER RURAL TOURIST FACILITIES
CALASCIO	5	1	5
CAPESTRANO	53	4	13,25
CARAPELLE C.	0	0	0
CASTEL DEL MONTE	0	0	0
CASTELVECCHIO C.	0	0	0
OFENA	27	2	13,50
S.STEFANO DI S.	16	1	16
VILLA S. LUCIA D.A.	5	1	5
TOTALE ZONA	106	9	11,78
REGIONE ABRUZZO	8.230	953	8,66

SOURCE: Regione Abruzzo – Direzione agricoltura. Year 2002

TAB. 2.26 SLEEPING ACCOMODATION PER HOTEL

MUNICIPAL DISTRICTS	NR. OF SLEEPING ACCOMODATION PER HOTEL	NR. OF HOTELS	NR . OF SLEEPING ACCOMODATION PER HOTEL
CALASCIO	0	0	0
CAPESTRANO	0	0	0
CARAPELLE C.	0	0	0
CASTEL DEL MONTE	64	2	32
CASTELVECCHIO C.	0	0	0
OFENA	0	0	0
S.STEFANO DI S.	0	0	0
VILLA S. LUCIA D.A.	0	0	0
TOTALE ZONA	64	2	32
REGIONE ABRUZZO	47.593	783	60,78

SOURCE: our processing of "Regione Abruzzo- Direzione Turismo Ambiente Energia" data – Year 2002

TAB. 2.27 % TOURIST OPERATORS (NO HOTEL INCLUDED)

MUNICIPAL DISTRICTS	NR. TOURIST OPERATORS (NO HOTEL INCLUDED)	NR. TOURIST OPERATORS	% TOURIST OPERATORS (NO HOTEL INCLUDED)
CALASCIO	1	2	50,00
CAPESTRANO	0	4	-
CARAPELLE C.	1	1	100,00
CASTEL DEL MONTE	2	4	50,00
CASTELVECCHIO C.	1	1	100,00
OFENA	1	3	33,33
S.STEFANO DI S.	4	5	80,00
VILLA S. LUCIA D.A.	0	1	-
TOTALE ZONA	10	21	47,62
REGIONE ABRUZZO	250	1986	12,59

SOURCE: our processing of "Regione Abruzzo- Direzione Turismo Ambiente Energia e Direzione agricoltura" data. Year 2002

TAB. 2.28 % SLEEPING ACCOMODATION (NO HOTELS)

COMUNI	NR. SLEEPING ACCOMODATION (NO HOTELS)	TOTAL NR. OF SLEEPING ACCOMODATION	% SLEEPING ACCOMODATION (NO HOTELS)
CALASCIO	16	21	76,19
CAPESTRANO	0	53	-
CARAPELLE C.	8	8	100,00
CASTEL DEL MONTE	86	86	100,00
CASTELVECCHIO C.	3	3	100,00
OFENA	3	30	10,00
S.STEFANO DI S.	85	101	84,16
VILLA S. LUCIA D.A.	0	5	-
TOTALE ZONA	201	307	65,47
REGIONE ABRUZZO	47.268	103.091	45,85

SOURCE: our processing of "Regione Abruzzo- Direzione Turismo Ambiente Energia e Direzione agricoltura" data. Year 2002

TAB. 2.29 POST OFFICES AND SERVED RESIDENT POPULATION

MUNICIPAL DISTRICTS	NR. POST OFFICES	RESIDENT POPULATION (31/12/2002)	POPULATION/OFFICES
CALASCIO	1	147	147
CAPESTRANO	1	957	957
CARAPELLE C.	1	91	91
CASTEL DEL MONTE	1	510	510
CASTELVECCHIO C.	1	194	194
OFENA	1	604	604
S.STEFANO DI S.	1	123	123
VILLA S. LUCIA D.A.	1	202	202
TOTALE ZONA	8	2828	353,50
REGIONE ABRUZZO	551	1.273.284	2310,86

SOURCE: our processing of "Poste Italiane" data - 31/12/2003

TAB. 2.30 TOURIST OFFICES AND SERVED RESIDENT POPULATION

MUNICIPAL DISTRICTS	NR. TOURIST OFFICES	RESIDENT POPULATION (31/12/2002)	POPULATION/OFFICES
CALASCIO	0	147	-
CAPESTRANO	0	957	-
CARAPELLE C.	0	91	-
CASTEL DEL MONTE	0	510	-
CASTELVECCHIO C.	0	194	-
OFENA	0	604	-
S.STEFANO DI S.	0	123	-
VILLA S. LUCIA D.A.	0	202	-
TOTALE ZONA	0	2828	-
REGIONE ABRUZZO	27	1.273.284	47.158,66

SOURCE: our processing of APT data

TAB. 2.31 DISTRIBUTION IN % OF POLICE STATIONS AND SERVED AREAS

MUNICIPAL DISTRICTS	ARMA DEI CARABINIERI	POLIZIA DI STATO	GUARDIA DI FINANZA	CORPO FORESTALE DELLO STATO	TOTAL	KMQ/N.
CALASCIO	100,00	0,00	0,00	0,00	100,00	39,84
CAPESTRANO	50,00	0,00	0,00	50,00	100,00	21,54
CARAPELLE C.	0,00	0,00	0,00	0,00	-	-
CASTEL DEL MONTE	50,00	0,00	0,00	50,00	100,00	28,92
CASTELVECCHIO C.	0,00	0,00	0,00	0,00	-	-
OFENA	0,00	0,00	0,00	0,00	-	-
S.STEFANO DI S.	0,00	0,00	0,00	0,00	-	-
VILLA S. LUCIA D.A.	0,00	0,00	0,00	0,00	-	-
TOTALE ZONA						
REGIONE ABRUZZO	66,24	14,35	9,28	10,13	100,00	45,54

SOURCE: our processing of "Interforze.it" data

The Carabinieri and Corpo forestale dello Stato are located only in some municipal districts but they cover the whole area in the following way:

Corpo di polizia	Comuni serviti oltre quello di Stazione
Carabinieri di Castel del Monte	Villa S. Lucia
Carabinieri Calascio	S. Stefano di S. – Castelvechio Calvisio - Carapelle Calvisio -
Carabinieri Capestrano	Ofena
Corpo Forestale dello Stato Castel del Monte	The whole territory of the Baronage included in the National Park Gran Sasso e Monti della Laga

TAB. 2.32 BANK OFFICES AND SERVED RESIDENT POPULATION

MUNICIPAL DISTRICTS	NR. BANK OFFICES	RESIDENT POPULATION (31/12/2002)	POPULATION/OFFICES
CALASCIO	0	147	-
CAPESTRANO	1	957	957
CARAPELLE C.	0	91	-
CASTEL DEL MONTE	0	510	-
CASTELVECCHIO C.	0	194	-
OFENA	1	604	604
S.STEFANO DI S.	0	123	-
VILLA S. LUCIA D.A.	0	202	-
TOTALE ZONA	2	2828	1.414
REGIONE ABRUZZO	829	1.273.284	1535,93

SOURCE: our processing of "CRESA " data – Year 2000

TAB. 2.33 RESIDENT POPULATION SERVED BY SCHOOLS

MUNICIPAL DISTRICTS	SCUOLE ELEMENTARI	SCUOLE MEDIE IN.	SCUOLE MEDIE SUP..
CALASCIO	147	147	-
CAPESTRANO	957	957	-
CARAPELLE C.	-	-	-
CASTEL DEL MONTE	-	-	-
CASTELVECCHIO C.	-	-	-
OFENA	604	-	-
S.STEFANO DI S.	-	-	-
VILLA S. LUCIA D.A.	-	-	-
REGIONE ABRUZZO	3547	7360	8322

SOURCE: our processing of "Scuole24ore.it" data

TAB. 2.34 SLEEPING ACCOMODATION IN PUBLIC AND PRIVATE HOSPITALS

MUNICIPAL DISTRICTS	PUBLIC HOSPITALS	PRIVATE HOSPITALS	POPULATION (2002)/ SLEEPING ACCOMODATION (PUBLIC + PRIVATE)	POPULATION/SLEEPING ACCOMODATION (PUB.)
CALASCIO	-	-	-	-
CAPESTRANO	-	-	-	-
CARAPELLE C.	-	-	-	-
CASTEL DEL MONTE	-	-	-	-
CASTELVECCHIO C.	-	-	-	-
OFENA	-	-	-	-
S.STEFANO DI S.	-	-	-	-
VILLA S. LUCIA D.A.	-	-	-	-
TOTALE ZONA	-	-	-	-
REGIONE ABRUZZO	4899	460	237	260

SOURCE: ISTAT

The services are very important because the stay of the population in the area is strictly connected to their presence. The "basic services" are a real problem for this area: there is only one school in Calascio that is also attended by the students from Castel del Monte and Calascio, while the students from Carapelle and Castelvechio Calvisio attend the school in San Pio. The students from Santo Stefano attend the school in Barisciano. In the valley there are two schools in Capestrano. As regards the bank services, there are two Carispaq branches in Ofena and Capestrano; a post office is in each municipal center, but they are not open all days of the week (but not in Capestrano and Castel del Monte, where these offices are open all days of the week). As regards the medical services there is an on duty medical service in Capestrano and in Castel del Monte (also with first aid and an ambulance vehicle).

There are also regional tourist offices and many help desks of the National Park Gran Sasso – Laga Calascio, Capestrano, Castel del Monte, Castelvechio and S. Stefano. The annual report of the National Park shows that the help desks in this area had circa 5000 presences (Santo Stefano 3300). If we consider that these centers only work in the summer the contacts were more than 12.000.

2.6. The production structure of agriculture and agricultural industry

N.B. For the year 1990 in the municipal lists the information referred to some firms have not taken into account. For this reason in some lists the partial sum do not correspond to the total.

TAB. 2.35 NUMBER OF COMPANIES PER FORMA DI CONDUZIONE YEAR 2000

	CALASCIO	CAPESTRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELV. CALVISIO	OFENA	S.STEFANO DI SESSANIO	VILLA S.LUCIA D. A.	TOT. ZONA	REGIONE ABRUZZO
N. AZIENDE MANOD. ESCLUSIV FAMILIARE	11	104	12	4	31	90	11	49	312	74.230
N. AZIENDE MANOD. PREVALENT. FAMILIARE	2	3	0	8	0	10	1	0	24	4.858
N. AZIENDE MANOD. PREVALENT. EXTRA-FAMILIARE	0	0	1	1	0	12	0	0	14	1.143
TOTALE A CONDUZIONE DIRETTA	13	107	13	13	31	112	12	49	350	80.231
N. AZIENDE A CONDUZIONE CON SALARIATI	1	3	2	2	1	10	1	1	21	2.529
ALTRE FORME	0	0	0	0	0	2	0	0	2	73
TOTALE	14	110	15	15	32	124	13	50	373	82.833

SOURCE: ISTAT

TAB. 2.36 NUMBER OF COMPANIES PER COMPANY NAME - YEAR 2000 IN %

	CALASCIO	CAPESTRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELVEC CHIO CALVIISO	OFENA	SANTO STEFANO DI SESSANIO	VILLA SANTA LUCIA D.A.	TOT. ZONA	REGIONE ABRUZZO
N. AZIENDE MANOD. ESCLUSIV FAMILIARE	78,57	94,55	80,00	26,67	96,87	72,58	84,61	98,00	83,64	89,61
N. AZIENDE MANOD. PREVALENT. FAMILIARE	14,29	2,73	0	53,33	0	8,06	7,70	0	6,43	5,86
N. AZIENDE MANOD. PREVALENT. EXTRA-FAMILIARE	0	0	6,67	6,67	0	9,68	0	0	3,75	1,38
TOTALE A CONDUZIONE DIRETTA	92,86	97,28	86,67	86,67	96,87	90,32	92,31	98,00	93,80	96,85
N. AZIENDE A CONDUZIONE CON SALARIATI	7,14	2,72	13,33	13,33	3,13	8,06	7,69	2,00	5,70	3,05
ALTRE FORME	0	0	0	0	0	1,62	0	0	0,50	0,10
TOTALE	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00

SOURCE: our processing of ISTAT data

TAB. 2.37 NUMBER OF COMPANIES PER COMPANY NAME - YEAR 1990

	CALASCIO	CAPESTRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELV. CALVISIO	OFENA	S.STEFANO DI SESSANIO	VILLA S.LUCIA D. A.	TOTALE ZONA	REGIONE ABRUZZO
N. AZIENDE MANOD. ESCLUSIV FAMILIARE	30	228	40	27	67	152	29	102	675	92.200
N. AZIENDE MANOD. PREVALENT. FAMILIARE	/	/	/	2	/	/	/	13	13	10.142
N. AZIENDE MANOD. PREVALENT. EXTRA-FAMILIARE	/	/	/	/	/	2	/	3	5	2.558
TOTALE A CONDUZIONE DIRETTA	30	228	40	30	67	155	29	118	697	104.900
N. AZIENDE A CONDUZIONE CON SALARIATI	/	3	3	/	/	47	/	/	53	1.081
ALTRE FORME	/	/	/	/	/	/	/	/	/	799
TOTALE	31	231	43	31	68	202	30	119	755	106.780

SOURCE: ISTAT

TAB. 2.38 NUMBER OF COMPANIES PER COMPANY NAME - YEAR 1990 IN %

	CALASCIO	CAPESTRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELV. CALVISIO	OFENA	S.STEFANO DI SESSANIO	VILLA S.LUCIA D. A.	TOTALE ZONA	REGIONE ABRUZZO
N. AZIENDE MANOD. ESCLUSIV FAMILIARE	96,77	98,70	93,02	87,10	98,53	75,25	96,67	85,71	89,40	86,34
N. AZIENDE MANOD. PREVALENT. FAMILIARE	/	/	/	6,45	/	/	/	10,92	1,72	9,50
N. AZIENDE MANOD. PREVALENT. EXTRA-FAMILIARE	/	/	/	/	/	0,99	/	2,52	0,66	2,40
TOTALE A CONDUZIONE DIRETTA	96,77	98,70	93,02	96,77	98,53	76,73	96,67	99,16	92,31	98,24
N. AZIENDE A CONDUZIONE CON SALARIATI	/	1,30	6,98	/	/	23,27	/	/	7,01	1,01
ALTRE FORME	/	/	/	/	/	/	/	/	0	0,75
TOTALE	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	99,32	100,00

SOURCE: our processing of ISTAT data

TAB. 2.39 SAU (HA) PER COMPANY NAME - YEAR 2000

	CALASCIO	CAPESTRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTEL VECCHIO CALVISIO	OFENA	S.STEFANO DI SESSANIO	VILLA S.LUCIA D. A.	TOT. ZONA	REGIONE ABRUZZO
SAU. AZIENDE MANOD. ESCLUSIV FAMILIARE	61,12	736,78	49,31	28,22	127,55	386,05	91,78	182,23	1663,04	236.234,50
SAU. AZIENDE MANOD. PREVALENT. FAMILIARE	48,88	84,70	0	690,97	0	49,38	15,78	0	889,71	28.873,37
SAU AZIENDE MANOD. PREVALENT. EXTRA- FAMILIARE	0	0	1,20	4,50	0	9,59	0	0	15,29	11.869,10
TOTALE A CONDUZIONE DIRETTA	110,00	821,48	50,61	723,69	127,55	445,02	107,56	182,23	2568,14	276.796,97
SAU. AZIENDE A CONDUZIONE CON SALARIATI	2.794,74	406,63	623,64	3186,24	5,7	1387,59	1675,83	655,24	10.735,61	154.692,40
ALTRE FORME	0	0	0	0	0	4,37	0	0	4,37	550,41
TOTALE	2.904,74	1.228,11	674,25	3.909,93	133,25	1.836,98	1.783,39	837,47	13.308,12	432.039,78

SOURCE: ISTAT

TAB. 2.40 SAU (HA) PER COMPANY NAME - YEAR 2000 IN %

	CALASCIO	CAPESTRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELV. CALVISIO	OFENA	S.STEFANO DI SESSANIO	VILLA S.LUCIA D. A.	TOT. ZONA	REGIONE ABRUZZO
SAU. AZIENDE MANOD. ESCLUSIV FAMILIARE	2,10	59,99	87,31	0,72	95,72	21,01	5,15	21,76	12,49	54,68
SAU. AZIENDE MANOD. PREVALENT. FAMILIARE	1,68	6,90	0	17,67	0	2,69	0,88	0	6,68	6,68
SAU AZIENDE MANOD. PREVALENT. EXTRA- FAMILIARE	0	0	0,18	0,12	0	0,52	0	0	0,11	2,75
TOTALE A CONDUZIONE DIRETTA	3,78	66,89	7,49	18,51	95,72	24,22	6,03	21,76	19,30	64,07
SAU. AZIENDE A CONDUZIONE CON SALARIATI	96,22	33,11	92,51	81,49	4,28	75,54	93,97	78,24	80,67	35,80
ALTRE FORME	0	0	0	0	0	0,24	0	0	0,03	0,13
TOTALE	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00

SOURCE: our processing of ISTAT data

TAB. 2.41 SAU (HA) PER COMPANY NAME - YEAR 1990

	CALASCIO	CAPESTRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELV. CALVISIO	OFENA	S.STEFANO DI SESSANIO	VILLA S.LUCIA D. A.	TOTALE ZONA	REGIONE ABRUZZO
SAU. AZIENDE MANOD. ESCLUSIV FAMILIARE	148,86	1.146,04	129,63	152,86	130,17	452,76	147,95	197,50	2.505,77	258.174,59
SAU. AZIENDE MANOD. PREVALENT. FAMILIARE	/	/	/	5,80	/	/	/	36,30	36,3	49.012,66
SAU AZIENDE MANOD. PREVALENT. EXTRA- FAMILIARE	/	/	/	/	/	13,90	/	4,46	4,46	23.025,82
TOTALE A CONDUZIONE DIRETTA	148,86	1.146,04	129,63	163,16	130,17	467,68	147,95	238,26	2.571,75	330.213,07
SAU. AZIENDE A CONDUZIONE CON SALARIATI	/	513,50	618,74	/	/	1531,12	/	/	1531,12	185.184,22
ALTRE FORME	/	/	/	/	/	/	/	/	/	5.685,93
TOTALE	2.867,86	1.659,54	748,37	3.073,16	682,27	1.998,80	1.547,95	944,06	13.522,01	521.083,22

SOURCE: ISTAT

TAB. 2.42 SAU (HA) PER COMPANY NAME - YEAR 1990 IN %

	CALASCIO	CAPESTRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELV. CALVISIO	OFENA	S.STEFANO DI SESSANIO	VILLA S.LUCIA D. A.	TOTALE ZONA	REGIONE ABRUZZO
SAU. AZIENDE MANOD. ESCLUSIV FAMILIARE	5,19	69,06	17,32	4,97	19,07	22,65	9,56	20,92	18,53	49,55
SAU. AZIENDE MANOD. PREVALENT. FAMILIARE	/	/	/	0,19	/	/	/	3,84	0,27	9,40
SAU AZIENDE MANOD. PREVALENT. EXTRA- FAMILIARE	/	/	/	/	/	0,70	/	0,47	0,03	4,42
TOTALE A CONDUZIONE DIRETTA	5,19	69,06	17,32	5,16	19,07	23,35	09,56	25,24	19,02	63,37
SAU. AZIENDE A CONDUZIONE CON SALARIATI	/	30,94	82,68	/	/	76,60	/	/	11,32	35,54
ALTRE FORME	/	/	/	/	/	/	/	/	/	1,09
TOTALE	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	30,34	100,00

SOURCE: our processing of ISTAT data

Tab. 2.43 NUMBER OF COMPANIES – QUANTITY OF SAU YEAR 2000

	CALASCIO	CAPESTRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELV. CALVISIO	OFENA	S.STEFANO DI SESSANIO	VILLA S.LUCIA D. A.	TOTALE ZONA	REGIONE ABRUZZO
NO AREA	0	1	0	0	0	0	0	0	1	414
< 1	2	34	1	0	16	50	1	24	128	31.247
1-2	4	15	2	0	8	28	2	14	73	17.049
2-5	1	24	5	5	5	21	1	3	65	19.676
5-10	2	11	5	4	2	10	3	3	40	8.824
10-20	1	10	0	0	0	6	5	2	24	3.722
20-50	3	10	0	0	0	6	0	3	22	1.345
50-100	0	4	1	0	1	1	0	0	7	301
>100	1	1	1	6	0	2	1	1	13	255
TOTALE	14	110	15	15	32	124	13	50	373	82.833

SOURCE: ISTAT

TAB. 2.44 NUMBER OF COMPANIES – QUANTITY OF SAU YEAR 2000 IN %

	CALASCIO	CAPESTRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELV. CALVISIO	OFENA	S.STEFANO DI SESSANIO	VILLA S.LUCIA D. A.	TOTALE ZONA	REGIONE ABRUZZO
NO AREA	0	0,91	0	0	0	0	0	0	0,27	0,50
< 1	14,29	30,90	6,67	0	50,00	40,32	7,69	48,00	34,32	37,72
1-2	28,57	13,64	13,33	0	25,00	22,58	15,38	28,00	19,57	20,58
2-5	7,14	21,82	33,33	33,33	15,62	16,94	7,69	6,00	17,43	23,76
5-10	14,29	10,00	33,33	26,67	6,25	8,06	23,08	6,00	10,72	10,65
10-20	7,14	9,09	0	0	0	4,84	38,47	4,00	6,43	4,50
20-50	21,43	9,09	0	0	0	4,84	0	6,00	5,89	1,62
50-100	0	3,64	6,67	0	3,13	0,81	0	0	1,88	0,36
>100	7,14	0,91	6,67	40,00	0	1,61	7,69	2,00	3,49	0,31
TOTALE	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00

SOURCE: our processing of ISTAT data

TAB. 2.45 NUMBER OF QUANTITIES – QUANTITY OF SAU YEAR 1990

	CALASCIO	CAPESTRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELV. CALVISIO	OFENA	S.STEFANO DI SESSANIO	VILLA S.LUCIA D. A.	TOTALE ZONA	REGIONE ABRUZZO
NO AREA	/	5	/	/	/	/	/	/	5	364
< 1	6	97	5	6	31	107	2	81	335	37.404
1-2	7	42	6	4	16	39	8	22	144	22.930
2-5	8	34	22	9	13	28	7	7	128	27.870
5-10	5	17	6	4	6	13	8	2	61	11.870
10-20	3	11	/	5	/	8	3	2	13	4.464
20-50	/	21	/	/	/	5	/	4	4	1.376
50-100	/	2	/	/	/	/	/	/	2	256
>100	/	2	/	/	/	/	/	/	2	246
TOTALE	31	231	43	31	68	202	30	119	755	106.780

SOURCE: ISTAT

TAB. 2.46 NUMBER OF COMPANIES – QUANTITY OF SAU YEAR 1990 IN %

	CALASCIO	CAPESTRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELV. CALVISIO	OFENA	S.STEFANO DI SESSANIO	VILLA S.LUCIA D. A.	TOTALE ZONA	REGIONE ABRUZZO
SENZA SUPERFICIE	/	2,16	/	/	/	/	/	/	0,66	0,34
< 1	19,35	41,99	11,63	19,35	45,58	52,97	6,66	68,06	44,37	35,03
1-2	22,58	18,20	13,95	12,90	23,52	19,30	26,66	18,48	19,07	21,47
2-5	25,80	14,72	51,17	29,03	19,11	13,86	23,33	5,88	16,95	26,10
5-10	16,12	7,36	13,95	12,9	8,82	6,43	26,66	1,68	8,08	11,11
10-20	9,67	4,76	/	16,12	/	3,96	10,00	1,68	1,72	4,18
20-50	/	9,09	/	/	/	2,47	/	3,36	0,53	1,30
50-100	/	0,86	/	/	/	/	/	/	0,26	0,24
>100	/	0,86	/	/	/	/	/	/	0,26	0,23
TOTALE	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	91,90	100,00

SOURCE: our processing of ISTAT data

TAB. 2.47 SURFACE OF THE COMPANY FOR USE OF THE GROUND YEAR 2000

	CALASCIO	CAPESTRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELV. CALVISIO	OFENA	S. STEFANO DI SESSANIO	VILLA S.LUCIA D. A.	TOTALE ZONA	REGIONE ABRUZZO
FIELD SOWN WITH SEED	92,35	738,96	94,97	183,40	105,47	391,61	102,97	124,29	1834,02	182.913,01
WOOD CULTIVATION	13,35	134,81	18,23	0	21,87	202,56	3,90	51,10	445,82	82.740,99
PRAIRIES AND PASTURE LANDS	2.799,04	354,34	560,95	3726,53	5,91	1.242,81	1676,52	662,08	11.028,18	166.385,78
TOTAL SAU	2.904,74	1.228,11	674,15	3.909,93	133,25	1.836,98	1.783,39	837,47	13.308,02	432.039,78
ARBORICULTURE	0	13,60	0	0	0	0	1,29	1,53	16,42	3.348,05
WOODS	95,64	1.046,75	137,20	676,40	0,35	343,60	63,22	955,87	3.319,03	171.415,88
TOTAL NOT CULTIVATED SAU	51,82	81,94	13,53	12,00	836,16	125,92	673,21	159,98	1954,56	43.026,97
RECREATIONS	0	2,00	3,00	7,00	0	0	10,00	0	22	644,27
OTHER SURFACES	24,65	4,67	86,56	128,52	0,22	16,59	0,07	0,17	261,45	20.047,87
TOTAL	3.076,85	2.375,07	911,44	4.726,85	969,98	2.323,09	2.521,18	1.955,02	18.859,48	669.914,55

SOURCE: ISTAT

TAB. 2.48 SURFACE OF THE COMPANY FOR USE OF THE GROUND YEAR 2000

	CALASCIO	CAPESTRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELV. CALVISIO	OFENA	S.STEFANO DI SESSANIO	VILLA S.LUCIA D. A.	TOTALE ZONA	REGIONE ABRUZZO
FIELD SOWN WITH SEED	3,00	31,11	10,42	3,88	10,87	16,86	4,08	6,36	9,72	27,30
WOOD CULTIVATION	0,43	5,68	2,00	0	2,25	8,72	0,15	2,61	2,36	12,35
PRAIRIES AND PASTURE LANDS	90,99	14,92	61,54	78,84	0,61	53,49	66,48	33,87	58,47	24,84
TOTAL SAU	94,43	51,71	73,97	82,72	13,74	79,08	70,74	42,84	70,56	64,50
ARBORICULTURE	0	0,57	0	0	0	0	0,05	0,08	0,09	0,50
WOODS	3,11	44,07	15,05	14,31	0,04	14,79	2,51	48,90	17,60	25,58
TOTAL NOT CULTIVATED SAU	1,66	3,45	1,48	0,25	86,20	5,42	26,70	8,18	10,36	6,42
RECREATIONS	0	0,08	0,33	0,15	0	0	0,40	0	0,12	0,10
OTHER SURFACES	0,80	0,20	9,50	2,72	0,02	0,71	0	0	1,39	3,00
TOTAL	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00

SOURCE: our processing of ISTAT data

TAB. 2.49 SURFACE OF THE COMPANY FOR USE OF THE GROUND YEAR 1990

The "coltivazioni legnose agrarie" also include the castagneto.
"Other surfaces" also includes the ground that is not cultivated

	CALASCIO	CAPESTRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELV. CALVISIO	OFENA	S.STEFANO DI SESSANIO	VILLA S.LUCIA D. A.	TOTALE ZONA	REGIONE ABRUZZO
FIELD SOWN WITH SEED	123,17	974,29	132,56	163,16	83,02	396,17	137,05	165,68	2175,10	229.921,62
WOOD CULTIVATION	24,61	232,75	49,73	0	47,15	222,13	10,90	71,58	658,85	87.600,70
PRAIRIES AND PASTURE LANDS	2.720,08	452,50	566,08	2.910,00	552,10	1.380,50	1.400,00	706,80	10.688,06	203.560,90
TOTAL SAU	2.867,86	1.659,54	748,37	3.073,16	682,27	1.998,80	1.547,95	944,06	13.522,01	521.083,22
POPLAR PLANTATION	0	0	0	0	0	0,12	0	3,07	3,19	1.136,74
WOODS	205,00	1.236,82	162,79	676,40	79,09	621,71	61,00	954,18	3.996,99	197.479,33
OTHER SURFACES	241,86	464,48	213,34	65,57	241,57	31,89	1.002,55	478,03	2.739,29	84.743,68
TOTAL	3.314,72	3.360,84	1.124,50	3.815,13	1.002,93	2.652,52	2.611,50	2.379,34	20.261,48	804.442,97

SOURCE: ISTAT

TAB. 2.50 SURFACE OF THE COMPANY FOR USE OF THE GROUND YEAR 1990 IN PERCENTAGE

	CALASCIO	CAPESTRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELV. CALVISIO	OFENA	S.STEFANO DI SESSANIO	VILLA S.LUCIA D. A.	TOTALE ZONA	REGIONE ABRUZZO
FIELD SOWN WITH SEED	3,71	28,99	11,79	4,28	8,28	14,93	5,24	6,97	10,73	28,58
WOOD CULTIVATION	0,74	6,92	4,42	0	4,70	8,37	0,42	3,00	3,25	10,89
PRAIRIES AND PASTURE LANDS	82,06	13,46	50,34	76,27	55,04	52,04	53,61	29,70	52,75	25,30
TOTAL SAU	86,52	49,38	66,55	80,55	68,03	75,36	59,27	39,68	66,74	64,77
POPLAR PLANTATION	0	0	0	0	0	0	0	0,13	0,01	0,14
WOODS	6,18	36,80	14,48	17,73	7,88	23,44	2,33	40,10	19,73	24,55
OTHER SURFACES	7,30	13,82	18,97	1,72	24,09	1,20	38,40	20,09	13,52	10,54
TOTAL	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00

SOURCE: our processing of ISTAT data

TAB. 2.51 NUMBER OF COMPANIES WITH FIELDS SOWN WITH SEED AND RELEVANT SURFACE (HA) FOR THE MOST IMPORTANT CULTIVATIONS – YEAR 2000

MUNICIPAL DISTRICTS	CEREALS		VEGETABLES		FORAGE CROPS	
	firms	surface	firms	surface	firms	surface
CALASCIO	9	24,16	0	0,00	8	23,44
CAPESTRANO	51	410,16	28	25,25	47	149,69
CARAPELLE C.	4	35,48	0	0,00	11	59,04
CASTEL DEL MONTE	8	67,19	0	0,00	6	89,98
CASTELVECCHIO CALVISIO	17	82,73	2	0,47	6	11,37
OFENA	28	163,94	9	1,97	25	186,80
SANTO STEFANO DI S.	11	35,20	2	0,27	9	26,31
VILLA S. LUCIA D. A.	8	29,87	1	0,04	9	36,66
TOTALE ZONA	136	848,73	42	28	121	583,29
REGIONE ABRUZZO	32.703	91083,76	9.613	9155,61	21.897	48018,39

SOURCE: ISTAT

TAB. 2.52 NUMBER OF COMPANIES WITH FIELDS SOWN WITH SEED AND RELEVANT SURFACE (HA) FOR THE MOST IMPORTANT CULTIVATIONS – YEAR 1990

MUNICIPAL DISTRICTS	CEREALS		VEGETABLES		FORAGE CROPS	
	firms	surface	firms	surface	firms	surface
CALASCIO	24	66,13	0	0	17	30,90
CAPESTRANO	91	531,10	97	11,46	85	418,19
CARAPELLE C.	17	44,42	0	0	34	80,04
CASTEL DEL MONTE	18	77,20	0	0	26	79,96
CASTELVECCHIO CALVISIO	44	46,77	0	0	31	18,84
OFENA	45	198,73	14	4,40	53	173,01
SANTO STEFANO DI S.	28	55,30	3	0,60	0	0
VILLA S. LUCIA D. A.	30	54,98	5	24,98	25	41,63
TOTALE ZONA	297	1074,63	119	41,44	271	842,57
REGIONE ABRUZZO	55.397	114.205,11	16.558	11.192,88	39.604	69.959,62

SOURCE: ISTAT

TAB. 2.53 CHANGES IN % OF THE NUMBER OF FIRMS WITH FIELDS SOWN WITH SEED E RELEVANT SURFACE 2000 VS. 1990

COMUNI	CEREALS		VEGETABLES		FORAGE CROPS	
	Var. % n. az.	Var. % sup.	Var. % n. az.	Var. % sup.	Var. % n. az.	Var. % sup.
CALASCIO	- 62,50	- 63,46	0	0	- 52,94	- 24,14
CAPESTRANO	- 43,96	- 22,77	- 71,13	120,33	- 44,70	- 64,20
CARAPELLE C.	- 76,47	- 20,13	0	0	- 67,65	- 26,24
CASTEL DEL MONTE	- 55,55	- 12,97	0	0	- 76,92	12,53
CASTELVECCHIO CALVISIO	- 61,36	76,89	100,00	100,00	- 80,64	- 39,65
OFENA	- 37,78	- 17,51	- 35,71	- 55,23	- 52,83	7,97
SANTO STEFANO DI S.	- 60,71	- 36,35	- 33,34	- 55,00	100,00	100,00
VILLA S. LUCIA D. A.	- 73,33	- 47,31	- 80,00	- 99,84	- 64,00	- 11,94
TOTALE ZONA	- 54,20	-21,00	- 64,70	- 32,40	- 55,30	- 30,70
REGIONE ABRUZZO	- 40,97	-20,25	- 41,94	- 18,20	- 44,71	- 31,36

SOURCE: our processing of ISTAT data

TAB. 2.54 NR. OF COMPANIES WITH WOOD CULTIVATIONS AND RELEVANT SURFACE FOR THE MOST IMPORTANT PRODUCTS – YEAR 2000

MUNICIPAL DISTRICTS	VINE		OLIVE TREE		CITRUS FRUITS		FRUIT TREES	
	firms	surface	firms	surface	firms	surface	firms	surface
CALASCIO	1	1,46	9	11,89	0	0	0	0
CAPESTRANO	59	39,77	81	76,70	0	0	22	16,01
CARAPELLE C.	0	0	12	16,72	0	0	3	1,51
CASTEL DEL MONTE	0	0	0	0	0	0	0	0
CASTELVECCHIO CALVISIO	0	0	29	20,57	1	1,00	4	0,30
OFENA	41	65,46	113	133,91	1	2,30	2	0,89
SANTO STEFANO DI S.	2	1,32	4	2,58	0	0	0	0
VILLA S. LUCIA D. A.	29	5,53	48	37,18	0	0	15	4,47
TOTALE ZONA	132	113,54	296	299,55	2	3,3	46	23,18
REGIONE ABRUZZO	34.063	34.904,37	61.537	40.952,37	333	102,93	10.144	6.176,98

SOURCE: ISTAT

TAB. 2.55 NR. OF COMPANIES WITH WOOD CULTIVATIONS AND RELEVANT SURFACE FOR THE MOST IMPORTANT PRODUCTS – YEAR 1990

MUNICIPAL DISTRICTS	VINE		OLIVE TREE		CITRUS FRUITS		FRUIT TREES	
	firms	surface	firms	surface	firms	Surface	firms	Surface
CALASCIO	0	0	27	17,74	0	0	7	6,87
CAPESTRANO	130	51,13	172	105,35	0	0	110	76,27
CARAPELLE C.	0	0	37	38,19	0	0	18	6,16
CASTEL DEL MONTE	0	0	0	0	0	0	0	0
CASTELVECCHIO CALVISIO	10	1,57	66	43,36	0	0	18	2,22
OFENA	79	55,62	184	158,88	0	0	13	7,63
SANTO STEFANO DI S.	0	0	7	6,90	0	0	2	4,00
VILLA S. LUCIA D. A.	98	16,24	116	50,22	0	0	18	4,91
TOTALE ZONA	317	124,56	609	420,64	0	0	186	108,06
REGIONE ABRUZZO	54.314	40.830,74	63.978	36.732,89	138	290,91	12.983	7.945,12

SOURCE: ISTAT

TAB. 2.56 CHANGES IN % OF THE NUMBR OF FIRMS WITH COLTIVAZIONI LEGNOSE AGRARIE AND THEIR RELEVANT SURFACES - 2000 VS. 1990

MUNICIPAL DISTRICTS	VINE		OLIVE TREE		CITRUS FRUITS		FRUIT TREES	
	firms	surface	firms	surface	firms	Surface	firms	Surface
CALASCIO	-	-	- 66,67	- 32,98	0	0	- 100,00	- 100,00
CAPESTRANO	-54,61	- 22,22	- 52,91	- 27,20	0	0	- 80,00	- 79,00
CARAPELLE C.	0	0	- 67,57	- 56,22	0	0	- 83,34	- 75,49
CASTEL DEL MONTE	0	0	0	0	0	0	0	0
CASTELVECCHIO CALVISIO	- 100,00	- 100,00	- 56,06	- 52,56	-	-	- 77,78	- 86,49
OFENA	- 48,10	17,70	- 38,59	- 15,72	-	-	- 84,61	- 88,33
SANTO STEFANO DI S.	-	-	- 42,86	- 62,61	0	0	- 100,00	- 100,00
VILLA S. LUCIA D. A.	- 70,41	- 65,95	- 41,38	- 25,96	0	0	- 16,67	- 8,97
TOTALE ZONA	- 58,30	- 8,80	- 51,30	- 28,70	0	0	- 75,20	- 78,50
REGIONE ABRUZZO	- 37,28	- 14,51	- 3,81	11,49	141,30	- 64,62	- 21,87	- 22,25

SOURCE: our processing of ISTAT data

TAB. 2.57 LIVESTOCK FOR EACH FIRM – YEAR 2000

MUNICIPAL DISTRICTS	CATTLE		PIGS		SHEEP		GOATS		HORSES		POULTRIES	
	firms	livestock	firms	livestock	firms	livestock	firms	livestock	firms	livestock	firms	livestock
CALASCIO	0	0	0	0	5	1.063	0	0	0	0	4	155
CAPESTRANO	17	415	14	118	16	563	4	31	6	32	18	435
CARAPELLE C.	2	82	1	1	0	0	1	30	0	0	3	130
CASTEL DEL MONTE	0	0	0	0	10	7.515	1	19	0	0	0	0
CASTELVECCHIO CALVISIO	0	0	0	0	0	0	0	0	0	0	1	10
OFENA	8	533	8	109	7	953	1	26	5	44	4	78
SANTO STEFANO DI S.	0	0	0	0	1	100	0	0	0	0	1	5
VILLA S. LUCIA D. A.	2	36	0	0	2	430	2	25	3	21	0	0
TOTALE ZONA	29	1066	23	228	41	10.624	9	131	14	97	31	813
REGIONE ABRUZZO	5.945	82.862	15.933	115.120	9.646	281.613	1.607	15.403	1.932	8.436	33.338	3.601.858

SOURCE: ISTAT

TAB 2. 58 LIVESTOCK FOR EACH FIRM – YEAR 1990

MUNICIPAL DISTRICTS	CATTLE		PIGS		SHEEP		GOATS		HORSES		POULTRIES	
	firms	livestock	firms	livestock	firms	livestock	firms	livestock	firms	livestock	firms	livestock
CALASCIO	0	0	0	0	6	867	0	0	0	0	12	220
CAPESTRANO	36	527	38	335	22	654	4	12	9	9	111	1.563
CARAPELLE C.	0	0	5	9	3	96	0	0	2	2	10	104
CASTEL DEL MONTE	0	0	0	0	12	6.692	2	47	0	0	0	0
CASTELVECCHIO CALVISIO	0	0	15	25	10	85	2	12	0	0	27	461
OFENA	8	354	14	196	11	1.118	3	26	4	50	19	394
SANTO STEFANO DI S.	3	8	6	25	7	219	0	0	6	13	23	441
VILLA S. LUCIA D. A.	0	0	4	23	3	420	2	30	8	31	50	489
TOTALE ZONA	47	889	82	613	74	10.151	13	127	29	105	252	3.672
REGIONE ABRUZZO	10.760	116.262	27.738	133.590	20.316	460.444	2.985	21.793	3.090	10.672	46.776	4.072.645

SOURCE: ISTAT

TAB. 2.59 CHANGES IN % O THE NUMBER OF FIRMS WITH LIVESTOCK OF THE MOST IMPORTANT SPECIES - 2000 VS. 1990

MUNICIPAL DISTRICTS	CATTLE		PIGS		SHEEP		GOATS		HORSES		POULTRIES	
	firms	livestock	firms	livestock	firms	livestock	firms	livestock	firms	livestock	firms	livestock
CALASCIO	0	0	0	0	- 16,67	22,61	0	0	0	0	- 66,67	- 29,54
CAPESTRANO	- 52,78	- 21,25	- 63,16	- 64,78	- 27,27	- 13,91	0	158,33	- 33,3	255,55	- 83,78	- 72,17
CARAPELLE C.	-	-	- 80,00	- 88,89	100,00	-100,00	-	-	100,00	-100,00	- 70,00	25,00
CASTEL DEL MONTE	0	0	0	0	- 16,67	12,30	-50,00	-59,57	0	0	0	0
CASTELVECCHIO CALVISIO	0	0	-100,00	-100,00	-100,00	-100,00	100,00	-100,00	0	0	- 96,30	- 97,83
OFENA	0	50,56	- 42,86	-44,39	- 36,36	- 14,76	66,67	0	25,00	12,00	- 78,95	- 80,20
SANTO STEFANO DI S.	-	-100,00	-	-100,00	- 85,71	- 54,34	0	0	100,00	-100,00	- 95,65	- 98,87
VILLA S. LUCIA D. A.	-	-	-100,00	-100,00	- 33,34	2,38	0	- 16,67	62,50	- 32,26	-100,00	-100,00
TOTALE ZONA	- 38,2	19,90	- 71,90	- 62,80	- 44,50	4,60	30,70	3,10	51,70	- 7,60	- 87,60	- 77,80
REGIONE ABRUZZO	- 44,75	28,73	- 42,56	- 13,82	- 52,52	- 38,84	46,16	- 29,32	37,47	- 20,95	- 28,73	- 11,56

SOURCE: our processing of ISTAT data

2.7 The production structure of food business

TAB. 2.60 Nr. OF LOCAL UNITS OF FOOD BUSINESS (ISTAT CODES FROM 15.1 TO 15.9 E16)

CODICE CLASSIFICAZIONE ISTAT	CALA SCIO	CAPE STRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELV. CALVISIO	OFENA	S.STEFANO DI SESSANIO	VILLA S.LUCIA. D.A.	REGIONE ABRUZZO	Rapp. %Area su Regione
15.1 PRODUCTION, CONVERSION AND CONSERVATION OF MEAT AND PRODUTS BASED ON MEAT	0	0	0	1	0	0	0	0	164	0,61
15.2 CONVERSION AND CONSERVATION OF FISHES AND OF PRODUTS BASED ON FISHES	0	0	0	0	0	0	0	0	24	-
15.3 CONSERVATION AND CONVERSION OF FRUIT AND VEGET ABLES	0	0	0	0	0	0	0	0	53	-
15.4 PRODUCTION OF OILS AND VEGETABLE AND ANIMAL FATS	0	1	1	0	0	0	0	0	450	0,44
15.5 DAIRY INDUSTRY	0	0	0	0	0	0	0	0	111	-
15.6 CONVERSION OF MIDS AND STARCH PRODUCTS	0	0	0	0	0	0	0	0	88	-
15.7 PRODUCTION OF ANIMAL FEEDS	0	0	0	0	0	0	0	0	21	-
15.8 PRODUCTION OF OTHER FOODS	0	1	0	2	1	1	1	1	1377	0,51
15.9 MANUFACTURE OF DRINKS	0	0	0	0	0	0	0	0	154	-
16.0 TOBACCO INDUSTRY	0	0	0	0	0	0	0	0	10	-
TOTAL OF LOCAL UNIT	0	2	1	3	1	1	1	1	2452	0,41

SOURCE: our processing of Industry census 1996

TAB. 2.61 NR. OF WORKERS IN THE FOOD INDUSTRY (ISTAT CODES FROM 15.1 TO 15.9 E16)

CODICE CLASSIFICAZIONE ISTAT	CALA SCIO	CAPE STRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELV. CALVISIO	OFENA	S.STEFANO DI SESSANIO	VILLA S.LUCIA. D.A.	REGIONE ABRUZZO	Rapp. % Area su Regione
15.1 PRODUCTION, CONVERSION AND CONSERVATION OF MEAT AND PRODUTS BASED ON MEAT	0	0	0	2	0	0	0	0	1589	0,12
15.2 CONVERSION AND CONSERVATION OF FISHES AND OF PRODUTS BASED ON FISHES	0	0	0	0	0	0	0	0	316	-
15.3 CONSERVATION AND CONVERSION OF FRUIT AND VEGETABLES	0	0	0	0	0	0	0	0	709	-
15.4 PRODUCTION OF OILS AND VEGETABLE AND ANIMAL FATS	0	1	1	0	0	0	0	0	1160	0,17
15.5 DAIRY INDUSTRY	0	0	0	0	0	0	0	0	704	-
15.6 CONVERSION OF MIDS AND STARCH PRODUCTS	0	0	0	0	0	0	0	0	292	-
15.7 PRODUCTION OF ANIMAL FEEDS	0	0	0	0	0	0	0	0	183	-
15.8 PRODUCTION OF OTHER FOODS	0	1	0	6	6	3	1	2	5121	0,37
15.9 MANUFACTURE OF DRINKS	0	0	0	0	0	0	0	0	1158	-
16.0 TOBACCO INDUSTRY	0	0	0	0	0	0	0	0	265	-
TOTAL OF EMPLOYEES	0	2	1	8	6	3	1	2	11497	0,20

SOURCE: our processing of Industry census 1996

2.8 Organic farming

TAB. 2.62

- Certified SAU following the laws of organic farming (reg. CE 2092/91 and other changes and integrations) for cereals, vegetables, fruit, olives and forage crops
- SAU incidence in % of organic farming compared to the total
- Nr. of firms that use organic farming
- Incidence of organic firms in % on the total of firms

	CALA SCIO	CAPE STRANO	CARAPELLE CALVISIO	CASTEL DEL MONTE	CASTELV. CALVISIO	OFENA	S.STEFANO DI SESSANIO	VILLA S.LUCIA D.A.	TOTALE ZONA	REGIONE ABRUZZO
CERTIFIED SAU (YEAR 2002)	-	162,22	10,09	914,80	8,41	17,17	45,66	-	1158,35	12.302
CEREALS	-	84,47	2,74	45,06	2,7	2,17	9,33	-	146,47	4.122
VEGETABLES	-	1,48	0	0,27	0,09	0,3	1,71	-	3,85	204
FRUIT	-	0,55	0,13	0	0	0,48	2,17	-	3,33	414
VINE	-	0,39	0,12	0	0	2,19	0	-	2,7	1.475
OLIVE	-	5,24	1,26	0	2,55	3,75	1,05	-	13,85	1.527
FORAGE CROPS**	-	24,49	2,45	833,45	0,46	6,25	8,86	-	875,96	3.652
NR OF FIRMS THAT USE ORGANIC FARMING	-	5	1	4	1	3	1	-	15	1.214
PRODUCTION FIRMS	-	5	1	3	1	2	1	-	13	1.047
PRODUCTION AND CONVERTING FIRMS	-	0	0	0	0	0	0	-	0	73
CONVERTING FIRMS	-	0	0	1	0	1	0	-	2	94
RAPP.AZ. BIO SU TOT. AZ.% *	-	4,54	6,67	26,67	3,12	2,42	7,69		4,02	1,46
RAPP. SAU BIO SU SAU TOT. %	-	13,21	1,50	23,40	6,31	0,93	2,56	-	8,70	2,85

*IISTAT census year 2000.

**The "forage crops " include forages, permanent grasses and pasture lands .

SOURCE: ARSSA processing of "Regione Abruzzo" data, Ministero delle Politiche Agricole e INEA Abruzzo

2.9 Typical products

In the region of Abruzzo the typical products are divided as follows:

- **DOP**

Category: oils and fats

“Pretuziano” of the hills of Teramo. Hills in the province of Chieti and “Aprutino” in the province of Pescara

- **IGT**

Category: wines

Alto Tirino, Colli Aprutini, Colli del Sangro, Colline Frentane, Colline of Pescara, Colline of Chieti, Histonium, provinces of Chieti, Peligna Valleys

- **DOC**

Category: wines

Controguerra, Montepulciano d’Abruzzo, Trebbiano d’Abruzzo

- **IGP**

Vitellone Bianco dell’Appennino Centrale

There are many traditional products and they also include soft drinks, fresh meat, cheese, bread and biscuits, fishes, honey and some vegetal products (natural or converted).

Among the typical products there are in the Baronage the lentils of Santo Stefano di Sessanio and pecorino of Castel del Monte. The territory of the municipal districts of Carapelle Calvisio and Castelvecchio Calvisio is particularly adapted for the production of Tuber Melanosporum (precious French truffle).

There are also nr. 3 firms with seat in Ofena that produce doc wine.

- Montepulciano d’Abruzzo - total surface ha 30,69
- Trebbiano d’Abruzzo – total surface 8,37
- Declared productions – year 2003:

Montepulciano d’Abruzzo HI 1.560,30

Trebbiano d’Abruzzo HI 370,5

PART II

Issue of survey about organic and multifunctional agriculture. Summary and comments on the interviews

Characteristic of local agricultural sector

The land breaking up of the farms is normally considered as a determinant factor. In the whole area the situation is catastrophic. There are very small parcels that are denied to dozens of owners. Only an interview (press) shows the lack of technical assistance.

In high-altitude areas also the lack of water supply is a problem.

Moreover (this situation is shown in many interviews) the high number of wild boars limit the farmers with their seeding; there are also problems with many crops, even with the forage crops.

Although the valleys have a considerable supply of irrigation water, the possibilities to increase the productions are very limited by the use of the water for forage crops, corn and herbs. A horticulture of quality could have many potentialities.

As the territorial extension is really restricted, the main economic problem is the economic dimension of the farms. The productions are insufficient.

Many farmers have also problems with the sales of their goods, while others are shorthanded.

The quality of the products is the main resource of the land and in some cases they could also be protected by the DOP.

If we make an exception for the DOC regional species of grapevines, at present there are not other protections for the local production of the valley.

The questions from 1.3 to 1.6 show a very difficult situation: there is no innovation and no interest (the “part time” work and a not reliable agriculture do not permit the survival of the farmers’ families). There is not any qualities of enterprise, there is no interest in forming associations, there are no connections between the agricultural activities and the service, development and trade activities.

Organic farming

The organic farming is not common in this area. Only those who “follow its principles” know something about it: the most part of the farmers consider themselves “naturally organic”.

Generally the population that lives on the mountains are more informed about the certified organic products, while in the valleys this phenomenon do not exist.

Some interviews show that the technical assistance is insufficient: only very few people know the meaning of “organic farming”, it is not considered an innovative agricultural technique but only a way to come back to the ancient way of farming. The existing certified farms were financed by the community. Only one firm follows the methods of the organic farming. Many farmers do not sell the organic products in the relevant market but in the conventional one.

The farmers are usually scared of the bureaucratic implementations that the certification requires.

The organic production

The crop protection seems to be the unique innovation that the organic farming introduced: even the most important organic firm of the area confirms that the trade (and not the farming) is the most important innovation that it introduced.

Trade

Generally there is no offer of both organic and conventional products. The tourists (or the consumers) do not know where they can buy these products: many interviewees suggest to realize some local markets (like the old village fairs).

As regards the trade, the organic products have not introduced any innovation: only few people consider the organic market as “specialized”.

The products of this area are normally converted in other towns: for example, the cow’s milk produced in the flood plain is normally converted in the cheese dairies of Sulmona and Termoli, the crops are sold to the

gross market and are used for the livestock. Only few products (such as wine, Pecorino and lentils) are converted in the same area and sold with local brands. In any case, the quantities are too limited and they that cannot meet the customers' requirements.

Communication

The communication between local help desks - farmers and producers – consumers (tourists) is lacking.

The unique research center of the area is ARSSA, which is supported by the local organizations for the technical assistance.

Occupation

The sheep farm increases the number of employments of the area (shepherds coming from the Macedonian lands).

Cultivation technique

The cultivation technique is quite banal. The alternation of crops has increased its value, because it includes the forage crops. In one firm the ploughings are limited (2-3 times every 7-8 years).

Typicality

Apart from the presence and the development of the organic farming, the interviewees think that the quantity of typical products that they produce is complete. When it was asked "Which productions have been rediscovered?" the answer was "spelt" for the most part of them. In many cases, the varieties that were introduced are not the original ones of this area (or of the region). The old farmers do not remember that in this area also the spelt was produced in the past.

Some interviewees also mentioned the "Solina" wheat, the pulses (ARSSA is trying to develop the farming of the inner areas), the almond tree and the horticulture.

The preservation of the agricultural landscape is important, too: Unesco is interested in the "open fields", because they are considered as "Heritage of humanity". The introduction of the irrigation systems in the valleys cause the change of the landscape and reduce the crop intensification (by increasing the surface to be sown and not using the tree cultivation – vine, almond tree and apricot tree). This extensification was the consequence of the reduction of labour and the spreading of the mechanization.

The preservation of the ground is mainly due to the abandon, the emigration but not to the work of men.

The productions of the area are very interesting:

Cereals: spelt and "Solina" wheat

Pulses: chick peas, chickling vetches and lentils;

Wine and oil;

Almonds and apricots;

Cheese.

Also some vegetables (such as the red garlic) are produced in the Peligna valley.

It is important to find a connection between the typical productions and their use in the traditional cooking of the area. Many of the traditions related to the transhumance do not exist anymore.

Interaction

The only kind of interaction that could be considered is the cooperation with the restaurants that use typical products.

Many interviewees mention the absence of a representative for their land: it means that the farmers and specialists cannot manage to organize themselves.

The initiatives that aim to improve the conditions of the Region are always the same (Leader, Wine itineraries) and they never include this area. Only in few cases the reason of this inactivity can be found in the lack of local personal initiative.

The disagreement between the local authorities, the Institutions and the firms causes other difficulties, because generally the intervention measures do not correspond to the needs. Who should analyze the real situation of this area, in order to decide in the best way? The so called "Comunità Montana" (the local authority that manages the activities of the National Park) could solve the problems of this area, becoming leader of it.

The depopulation is considered an important problem.

In this area a slaughterhouse is still missing (with its realization the local products can be used in the area where they are produced). The farmers are forced to sell their animals to the dealers that work in the conventional trade.

The local development

The lack of communication between the producers and the local authorities is the most important information that stand out clearly. At present the association of tourist operators of Santo Stefano di Sessanio has been formed.

The projects that should have been realized in the past years have only left a negative influence on the area (some projects were realized but after ten years the founding are still missing).

Many interviewees realized that agriculture and tourism can be the real resources of this area: for this reason many producers press for the realization of studies, in order to get more information to work on.

The answer to the question nr. 7 “*to make courses and to finance the young people, in order to prepare them to an tourist offer, that is connected to the agriculture*” is clear. It is still remarked the distance between the local production and the customers' requests. All productions lose their identities and are not available in the area for the tourist offer.

PART III

Integrated evaluation of the pilot area (SWOT analysis)

INTRODUCTION

Because of its altimetrical differences, the territory of the pilot area can be divided in two parts, that differ from their production: a) mountain area from 700 to 1600 m a.s.l. b) flood plain 350 m a.s.l. Therefore many aspects and themes that are considered in this study need to be divided:

Opportunities	Limits
Agronomic, pedological, environmental features	
Generally the agricultural activities of this area have less inputs than the others: this condition should favour the organic farming.	A limit – which is typical of the mountain areas – is its lack of fertility, its limited depth and its exceeding structure (skeleton). The flood plain is characterized by a limited capacity of water retention: it needs shorter water rotation system. For both areas the length of the growing season is a limit: it is influenced by the late (even in May) and the early (in September) ground frosts.
Socio – economic features	
<p>The “sustainable tourism” aims to find uncontaminated natural places.</p> <p>The market of typical and organic products is still in phase of development and it can offer many opportunities: the first market already exists (the typical products do not need to be introduced), the second one can be produced without difficulties.</p> <p>The Baronage is particularly rich of native varieties (pulses, oil, cereals) that offer many typical products. Typical – Organic – Autochthonous</p> <p>In the actual market conditions the products can only be exploited with the organic farming or if their “original variety” is cultivated.</p> <p>The area could respect the quality standards of the environmental certification, which could be promoted by the municipal districts or by the “Comunità Montana”.</p>	<p>The limit that is more frequently mentioned in the interviews is the breaking up of the territory. It derives from the Longobardic use to divide the properties among the sons, in order to give them the same quantity of the best and the worst areas. In the last century this phenomenon made the situation worse because of the emigration and the decrease in value of the real property. The land register was not up to date anymore and many small allotments were registered to dozens of heirs. As it is not possible to count on a solid economy, it is difficult to start a company activity: this situation blocks the real estate market and limit the lease of land. This condition is more common on the mountain side and less in the valleys.</p> <p>The farm operators are normally not interested in the company activities and they usually are part – time workers. Only three companies produce and sell their products (cereals and pulses). Generally the farm operators are elders and the social structure deteriorates. Manpower shortage for the firms of this area.</p> <p>The concept of environmental integrity is different in the two areas: more consciousness in the mountain area, less in the valleys. Also the concept of environmental protection is different. In the villages of the valley the municipal districts authorized the opening of some caves: on the one hand this enriches the municipal funds, on the other it damages the landscape.</p>
Infrastructure	
<p>The area is lacking of environmental detractors.</p> <p>The historical centers are in good conditions and in some cases even undamaged.</p> <p>The road facilities of this area are in good conditions (the nearest tollbooth is about 15 minutes far from one of the villages that are on the boarder line). Many important markets of towns like Rome or of the towns that are on the coastline are reachable in a short time.</p>	<p>The fact that it is impossible to convert the raw materials (milk, oil, cereals, pulses) into finished products in the same production area is a disadvantage. The agricultural industry is not feasible and the local productions are not taken into account, if they get mixed with the industrial products.</p> <p>The facilities (farm accommodations for tourists, bed & breakfast, hotels) that could increase the tourism flow are still missing.</p>
Istitutional features	
A stronger activity of the “Comunità montana” could make up for the lack of political representatives.	The community projects for an improvement of the condition of the land (Leader) bore no fruits because of the upsetting in the regional PSR programs for the agriculture and the rural development. Many interviewees declare that the lack of a charismatic political representative is a problem for this area.

Advantages of the organic and multifunctional farming	Disadvantages of the organic and multifunctional farming
Agronomic, pedological, environmental features	
<p>On the mountains and in the valleys it is still present the livestock activity, which shows that the agricultural ecosystem is well balanced.</p> <p>This activity produces a large quantity of organic substances, that can be used by the farms.</p> <p>Also the use of irrigation waters distributed with pipes in the valleys is an advantage. Actually the irrigation water is only used for the production of forage (corn and herbs), but it could also be used for the organic vegetable growing.</p> <p>If we consider that the extensive farming is typical of this area, the development of the organic farming should not cause any problem.</p> <p>The local variety of pulses and cereals that are still cultivated could be ideal for the conditions of the organic farming.</p> <p>Also the wine of the area of Ofena (it is produced in its plain) is of good quality. Its ground and its dry climate are the right ones for the cultivation of the vine and for producing a very good wine.</p>	See the previous points.
Socio – economic features	
<p>Generally the interviewees are aware of the peculiarity of this area and of its typical products.</p> <p>The farmers that it is necessary to cooperate, to change their current situation and the condition of this area.</p> <p>Production of milk which could be highlighted by the local production of organic dairy products.</p>	<p>The organic farming is not common in this area and there is only one successful firm that breeds sheep, produces milk and sell directly to the market of organic products.</p> <p>In the flood plain there are no firms that produce organic products.</p> <p>A process of integration between agricultural production and tourism do not exist: only the festivals of local products make a contact between these two realities.</p>
Infrastructure Features	
	No structures for the conversion of the products (slaughterhouse, dairy, etc..)
STITUTIONAL FEATURES	

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BEST PRACTICE		
Theoretical Objectives	Analysis of the pilot area	Draft of the conceptual model - specific actions to achieve theoretical objectives
Socio-economic aspects		
Production of food of high nutritional quality in sufficient quantity (food safety and security);	58,47 % of UAS is represented by permanent meadow and pasture. The good amount of livestock activity leads to choices involving fodder self-sufficiency. A fair amount of surface is allocated to olive grove and vineyard. There is an interesting pulses production.	Characterization and protection of the olive oil and lentils of Santo Stefano di Sessanio relying on the quality certification (DOP). Increase in primary production extending the cultivable land.
Discourage the rural territory abandonment	To stop migration. Birth rate close to zero. High old-age rate. Fair presence of foreign citizens and natives. Disposable income per head lower than the average one in the Abruzzo region. Poor presence of handicraft activities. Standardized offer of the tourist sector	To promote integration among foreign citizens. Setting off tax-exemption policies targeting the resident population. Recovery of handicraft activities. To promote initiatives aiming at extending the stay of tourists and increasing the out-of-season tourists.
Organic farming has enhanced the sustainability and multifunctionality of the pilot areas in terms of interaction with other rural development initiatives;	4% of farms adopt the organic farming method with a UAS of 9% out of the whole UAS. Only 3 farms out of 15 in total trade their products using the organic logo.	To increase the number of the organic farms in the area; to promote the processing and packaging activity of local produce with the organic logo.
To improve quality and add value to the products	The local products are poorly promoted; only recently some farms have started efficient promotion and marketing policies. The local produce, both organic and conventional is still anonymous.	Creation of the conditions to affirm the concept of “original typicality” based on the local resources, for example the use of raw materials deriving from local varieties.
To increase the possibilities for typical products to enter market niches.	Poor knowledge of possible market outlets for local produce.	Studies targeting the identification of possible market niches and proper packaging characteristics.
To increase the social networks (communication) in the rural community	Lack of an effective system of communication between the operators of different sectors.	To become familiar with exchanging opinions when facing problems and looking for problems solution, to improve the information flow in any direction.
Institutional and Infrastructural aspects		
Application of sustainable and multifunctional	Poor effect of the community aid	Application of bottom up planning relevant principles to all the interventions

rural development policies.	programmes on the local economy. Poor attention paid to local products in the regional planning.	envisaged at territorial level.
Local institutions management ability.	Limited possibility and ability of Local Government to hold managerial roles that could have a more effective impact on local rural development; lack of coordination among the actions proposed by different institutional bodies (Municipalities, mountain area municipalities, Provinces).	To entrust local institutions with more executive functions, in particular the mountain area municipalities, the only ones that seem able to go beyond the municipality limits. To involve the regional farming development systems in supporting local development plans.
Interaction between regional and local institutions.	Split between the high regional institutions and the local level; the plans proposed sometimes seem to be abstruse and detached from the local reality.	Regional planner approach to social problems.
Assessment of infrastructural aspects of the pilot areas in terms of interaction with rural development initiatives.	Some structures (car parks, waterworks, power plants, etc.) are tailored on the needs of the local population and they would have problems with a higher influx of tourists.	Forward studies on the future increase of the influx of tourists and dimensioning of infrastructures.

Environmental aspects

To remove all forms of air, water and soil pollution deriving from farming techniques.	According to the analysis carried out on the territory we haven't got results revealing air or soil pollution. The only possibility of pollution to be taken into consideration is the one caused by the livestock houses' dunghills, not always as prescribed by law, or by the little sensible use of manure.	To spread the culture about taking care of the organic matter both in the livestock house and during its maturation. To spread the farm composting technique.
To preserve the genetic diversity of the agricultural system and its by-products including the flora and the habitat of wild fauna.	In the Baronia area, despite the strong reduction in farming activities, many local varieties survive, especially among pulses and cereals. Also among the fruit-trees there are a lot of almond trees and olive trees in particular. 81% of the territory falls within a park area, hence the wild flora and fauna are highly protected.	ARSSA since a few years ago has been carrying out a project aiming at collecting local varieties (herb and tree species) in order to protect them and promote their value. Maintaining traditional farming methods, combined with poor inputs (lack of weeding and moderate artificial fertilizing), allows protecting the balance of the agri-environmental ecosystems. To set off studies allowing a higher mechanization of farming activities concerning pulses. Higher level of inspection of the territory by the relevant authorities.
To manage the landscape aiming at protecting the quality of the rural environment.	The Baronia territory is characterised by a very valuable landscape. The area falling within the National Park of Gran Sasso- Laga is submitted to landscape and environmental restrictions.	To preserve the landscape integrity through a self-regulation code accepted by the municipalities and the mountain area municipalities including rules that prevent environmental damages, aiming at minimizing any negative impact on the territory caused by landscape high-risk activities. For

	<p>Elements spoiling the landscape such as pits and new production settlements can be seen in the part of the territory not included in the Park.</p>	<p>example: 1 – Creation of handicraft districts, preventing each small municipality from building its own handicraft/manufacturing area, on one side allowing economies in order to optimize the structural investments and on the other side preventing from occupying in an invasive way the most fertile land. 2 – The industrial areas should have a tree curtain on the outside of the settlement perimeter. This way, apart from protecting the landscape, the pollution deposits in the surrounding areas would decrease. 3 – In the rural areas should not be allowed the settlement of agricultural processing plants on an industrial scale or breeding activities always on an industrial scale (i.e. earthworm breeding, poultry breeding, etc.). 4 –The farming land is characterised in some areas by typical crops such as winegrowing, olive grove, sheep-tracks and pastures because of sheep farms. It is necessary to provide for a set of guidelines, entrusting those areas with direct protection like in the case of the French territorial farming parks. 4 –The properties allocated to farming activities should, also outside the park area, be built and refurbished using the typical material belonging to the rural civilization such as wood and stone.</p>
<p>Animals welfare.</p>	<p>With regards to the sheep sector, vertical transhumance is widely spread and several farms converted the livestock according to the Reg. (CE) no. 1804/99. With regards to the dairy herds only a few farms provided for paddocks. The small livestock farms that were created in the past in the urban areas are disappearing. Animal feeding is mainly made of manufactured products (lucerne, sainfoin, maize and barley silage) but of course for the dairy cows strong integrations with concentrates are provided for. Livestock houses can seldom be insufficient. In the last years the livestock is undergoing a crisis due to the direct and indirect damages caused by Blue Tongue.</p>	<p>To improve the lairaging conditions of the animals staying in old livestock houses. Better cooperation between the authorities responsible for prophylaxis and animal healthcare and the farmers.</p>
Agronomic aspects		
<p>To encourage and enhance biological cycles within the farming system.</p>	<p>In the whole area the farming systems are still extensive and, thanks to the use of manure coming from animal farms, still sufficiently in balance. A big amount of local manure is sold</p>	<p>To extend the rotation systems currently present where it can be seen a high amount of dried pulses and green fodder. To introduce green manuring practices in order to stimulate the biological cycle of the soil organic matter.</p>

	outside the area though, and therefore local soil cannot benefit from it.	
To maintain and increase the long-term fertility of soils.	The local soil shows a modest fertility, due to its limited depth it's very fragile, especially if submitted to frequent deep cultivation it quickly loses its production capacity.	Introduction of tilling machines not performing layers overturning; limiting the number of ploughings during the complete rotation cycle, to stop the use of milling machines causing destructuring effects.
To aim at closing the system with regards to the organic matter and nutrient elements.	The local farming systems are currently open because, although in a moderate way, chemical fertilizers are in use (in conventional farms); as we already mentioned the local manure is not completely used on the local soil because a high amount of it is sold outside the area.	To spread the farm organic matter composting practice; cultivation proof tests of compost use, compost preparation adding mineral elements (zeolite, phosphorite); use of green manuring with a targeted fertilizing effect, for example the use of crucifer derived green manuring for phosphorus mobilization, as cropping precession of dried pulses.
To design weed management approaches, which consider the beneficial role of weeds and at the same time mainly control them by managing their environment.	Currently the management of weed with chemicals is limited to maize crops in the valley floor lands; no weed eradication practiced on cereals; the presence of green fodder from arable land allows keeping a low level of pressure on weeds. In the area the use of manufactured seeds is still common and this often implies the spread of weed seeds.	Introduction of green manure crops useful for their weed control effect (rye, buckwheat, etc.); to spread seed winnowing systems.
To maintain the local ecotypes to create the basis for the "true typicality".	Many of the local crops are based on the use of local ecotypes, in particular cereals, dried pulses, green fodder.	To promote the exchange of local varieties seeds among local farmers; to set off the establishment of a consortium of producers aiming at protecting the production of local varieties. Research and study of traditional recipes whose typical character could be enhanced by the use of ingredients obtained from local varieties.
To optimise the agritechnique of traditional crops.	Currently, some local crops, in particular dried pulses (chickpeas, lentils, chickling peas) are cultivated mainly using labour considering their low level of mechanization. This is due to the poor attention paid to the manufacture of specific machines for sowing and harvesting operations.	Study and setting up of the prototype of a multiple machine tool for soil refinement, covering stones, levelling and surfacing of the seed bed, broadcast seeding, soil rolling.
To use as far as possible renewable resources in locally organised agricultural systems	There hasn't been any particular indication about the production of renewable energy apart from the use of olive residue (produced by the small local oil mills) for domestic heating; there is also a limited deforestation activity; during the non-irrigation period the electric energy produced thanks to the barrier on the river Tirino of the Reclamation	To raise awareness about and spread production techniques concerning renewable energy especially for the agricultural and food processing industry and hospitality structures.

	Consortium, is handed over to Enel and reused during the irrigation season to pump water in the plant forebay.	
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