

Agri-tourism and rural development: the Low-Valdelsa case, Italy

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Abstract

Purpose – *The purpose of this paper is to analyze the demand of tourists who stay in agri-tourist facilities and assess the impact of agri-tourism on local development in terms of income and employment. The study was conducted in Tuscany, a region which is pre-eminent in terms of the Italian agri-tourist supply and which has a strong attraction for tourists seeking natural resources, the countryside and the local culture.*

Design/methodology/approach – *The methodology called for the use of the input output model based on a regional accounting matrix which was appropriately modified, according to data obtained from a direct investigation. Tourist spending was ascertained by means of a questionnaire submitted to tourists who stayed in agri-tourist facilities. Main weaknesses of the tourist system were highlighted by means of personal interviews which were conducted with key informants.*

Findings – *The results emphasize a lack of coordination between the suppliers of products and services provided in the territory which limits local product visibility. An improved coordination would imply strengthening of individual actions and enhancing the value of products by linking them to the specific resources of the local system and cultural identity. This would determine a higher impact of agri-tourism on the development of the area.*

Practical implications – *The research gains a better understanding of the community's interest in promoting agri-tourism and provides insights for the drafting of local development strategies.*

Originality/value – *The paper intervenes in the debate on the role of rural tourism in local development with a case study in which agri-tourist demand was analyzed, its impact on local income and employment was assessed and existing constraints in achieving socio-economic development were identified and discussed.*

Keywords *Tourism, Rural areas, Tourism management, Italy*

Paper type *Case study*

Introduction

The Community Strategic Guidelines for rural development (Council of the European Union, 2006) define tourism as a fundamental element in safeguarding the cultural and natural heritage of rural areas that also promotes employment and economic growth. The document encourages development of agri-tourism as a valid strategy to strengthen sustainable tourism.

At farm level, agri-tourism enhances the value of the farmer's own products through its association with the social and cultural context (Nilsson, 2002). As a matter of fact, agri-tourism offers an opportunity for the visitor to come into direct contact with the rural world and with those traditions which are reminiscent of nature and of farming customs. It is an opportunity to experience the area and to appreciate the landscape, the quality of local products and of the available services. In other words, through agri-tourism, the farmer offers his or her guests a multifaceted service aimed at satisfying a complex cluster of needs which are not only linked to the natural context but also to the social and cultural context where the service is provided (Becattini and Omodei Zorini, 2003).

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At regional level, agri-tourism can contribute to rural development by creating new job opportunities and new value added. Indeed, the positive effect of agri-tourism on the local system is shared between diverse economic sectors, as tourist spending does not relate only to farms, but also to restaurants, crafts, commerce and other firms located in the region. Moreover, the direct boost given by tourist spending generates multiplying effects in the local economic system as a whole. This happens because those sectors where tourists directly express their demand turn towards other sectors of the local system which do likewise, thus generating indirect positive effects in the entire local economic structure (Archer, 1982; Fleischer and Tchetchik, 2005; Vaughan *et al.*, 2000).

However, as recently highlighted by Saxena and Ilbery (2008) with regard to integrated rural tourism, development models are embedded into cultural settings. This was shown also by Sonnino (2004) with specific reference to sustainability of agri-tourism in Tuscany. In particular, Sonnino emphasises the need of focusing on the empirical dimension of sustainable rural development. These considerations point out the relevance of taking into account existing socio-economic environments while assessing the impact of agri-tourism on local development.

The paper intervenes in the debate on the role of rural tourism in local development with a case study located in Italy; the research entailed the analysis of agri-tourist demand by means of a questionnaire submitted to tourists who stayed in agri-tourist facilities. Following, the impact of this demand on local income and employment was assessed using the Input Output model based on a regional accounting matrix which was appropriately modified, according to data obtained from a direct survey. Finally, existing constraints in achieving socio-economic development were highlighted through semi structured interviews conducted with key informants.

In the next section, agri-tourism is defined with regard to Italian regulations and its relevance at Country and case study level is documented. In the second section, after a description of the relevant fundamentals of Input Output method, the methodology applied is presented. The paper ends illustrating the results and discussing some insights for the drafting of development strategies.

The case study

Italy is the only member country of the European Union that has specific provisions which regulate agri-tourism; the National Law on agri-tourism (Law No: 96 dated February 20, 2006) establishes that this activity must be complementary to the farming activity which, at any rate, must remain the farmer's main activity. This means that the agri-tourist provider is first and foremost a farmer. National provisions state that agricultural activities prevail over tourist activities whenever room and board are provided to no more than ten guests. For larger tourist businesses, instead, the prevalence of the agricultural activity is defined at the regional level. For example, in Tuscany (location of the study case) the entrepreneur can select one of the three following criteria to demonstrate that agricultural activity is prevalent:

1. the working hours;
2. marketable gross output; or
3. expenditures (operating or in the form of investments) (Regional Law No. 30 dated June 23, 2003 and pertinent implementation regulation No: 46/R dated August 3, 2004).

Beside the classic form of farm-based accommodation, agri-tourism can provide board (with products obtained directly from the farm or from other local agro-food producers); it often also involves teaching and cultural activities, excursions and sports.

Agri-tourism is a well-established reality in Italy; in December 2006, there were 16,765 agri-tourist facilities; the number of overnight stays of tourists during the same year was 11.9 million, while the turnover was €964,000,000 (Agritourist, 2007; ISTAT, 2007).

This study was conducted in Tuscany, a region that is pre-eminent in terms of the Italian agri-tourist supply, with a market share of 24 per cent of all such Italian businesses (Caselli

et al., 2006). In particular, the study area consists of four municipalities in the province of Florence (Montaione, Castelfiorentino, Certaldo and Gambassi Terme). It is an area of 188 square kilometres, with a density of about 105 inhabitants per square kilometre. This territory is distinguished by the great value of its hill landscape and for its cultural quality, linked to the figures of Leonardo da Vinci and Boccaccio who is considered one of the fathers of the Italian language. These aspects, together with its proximity to the main cities of art in Tuscany, such as Florence, Pisa and Siena, make the region strongly attractive for tourists seeking natural resources, the countryside and local culture.

Data from the Province of Florence (Direzione Turismo - A.O. Strutture Ricettive) for the year 2006 indicated that the overnight stays of tourists in this area was equal to 548.884; in the same year, the tourists who were lodged in agri-tourist facilities were 18.6 per cent of the total.

Methods

The impact of agri-tourism on local development was assessed in terms of employment and income through an Input Output model, using the spending of tourists staying in agri-tourism facilities as the vector of final demand. The use of this model for the analysis of tourism impact has been widely documented (see, e.g. Briassoulis, 1991; Fletcher, 1989; Jones and Munday, 2004; Tyrrell and Johnston, 2001), however this is the first attempt to use such a model specifically for the agri-tourism sector. The model estimates the impact on the economic system of the final demand sales of end products to consumers, starting with the analysis of interdependence between the productive sectors (described by the account matrix) and assuming that production is linked to the final demand as follows:

$$X = AX + Y$$

where X is the vector of sectoral gross output.

AX represents the output needed to meet industries' demand; in particular: A is the matrix of purchase coefficients; Y is the final demand vector (i.e. agri-tourist demand vector).

Then, this equation is resolved as follows:

$$X = (1 - A)^{-1} Y$$

where $(1 - A)^{-1}$ represents the output multiplier matrix which provides a measure of the impact of tourist demand on output.

Finally, the income and employment multipliers are calculated multiplying the diagonal matrix of added value and employment coefficients by the output multiplier matrix.

The account matrix used as the basis of our analysis was developed for the study area by the Regional Institute for Economic Planning in Tuscany (Bacci, 1999; Casini Benvenuti and Panicià, 2003). This matrix refers to the year 2001 and is divided into 30 sectors of production.

In order to develop the Input Output model with regard to the impact of agri-tourism, our study required two different elaborations: the first served to separate the "agri-tourism" from the "restaurant and hotel" sector where it was included. Indeed, the sector "restaurant and hotel" is too heterogeneous to single out the peculiarities of agri-tourism in terms of cost structure and work organization. The second elaboration dealt with an estimation of tourist spending.

The construction of the agri-tourism sector required a direct survey to assess the purchase coefficients and the employment coefficient of the sector. The questionnaires were compiled with our assistance and referred to a sample equal to 15 per cent of the 72 agri-tourist facilities registered in the area by the Province of Florence until December 2003.

Then, the intersectoral flows between agri-tourism and the other sectors of the local systems were calculated and subtracted from the "restaurant and hotel" sector to which they originally belonged. Tables I, II and III show the output multiplier matrix of the economic

Table I Output multiplier matrix of the study area

Codes	A	B	CA	CB	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL
A	1.083	0.003	0.000	0.001	0.182	0.001	0.004	0.015	0.006	0.000	0.005	0.002	0.003	0.001	0.001	0.001
B	0.000	1.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CA	0.000	0.000	1.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CB	0.000	0.000	0.000	1.044	0.001	0.000	0.001	0.001	0.003	0.000	0.009	0.002	0.042	0.005	0.001	0.002
DA	0.045	0.014	0.000	0.001	1.119	0.002	0.012	0.002	0.003	0.000	0.017	0.003	0.003	0.002	0.002	0.002
DB	0.001	0.027	0.000	0.001	0.002	1.468	0.051	0.001	0.012	0.000	0.003	0.012	0.003	0.003	0.002	0.003
DC	0.000	0.002	0.000	0.000	0.000	0.030	1.341	0.000	0.002	0.000	0.001	0.001	0.000	0.001	0.001	0.002
DD	0.001	0.003	0.000	0.005	0.007	0.008	0.008	1.432	0.006	0.000	0.005	0.010	0.018	0.015	0.006	0.007
DE	0.002	0.004	0.000	0.007	0.018	0.009	0.019	0.010	1.278	0.000	0.023	0.022	0.023	0.012	0.010	0.013
DF	0.015	0.023	0.000	0.031	0.009	0.008	0.011	0.011	0.008	1.005	0.036	0.012	0.023	0.017	0.009	0.008
DG	0.018	0.003	0.000	0.020	0.008	0.014	0.018	0.014	0.033	0.000	1.143	0.151	0.021	0.013	0.009	0.016
DH	0.001	0.003	0.000	0.004	0.007	0.009	0.050	0.005	0.006	0.000	0.008	1.044	0.006	0.005	0.011	0.016
DI	0.004	0.002	0.000	0.076	0.029	0.003	0.003	0.014	0.004	0.000	0.037	0.014	1.164	0.019	0.007	0.018
DJ	0.002	0.008	0.000	0.011	0.007	0.008	0.018	0.022	0.008	0.000	0.012	0.022	0.025	1.186	0.158	0.101
DK	0.001	0.001	0.000	0.026	0.006	0.006	0.011	0.008	0.010	0.000	0.010	0.010	0.015	0.016	1.133	0.017
DL	0.001	0.005	0.000	0.007	0.002	0.002	0.003	0.003	0.004	0.000	0.005	0.007	0.005	0.007	0.028	1.091
DM	0.000	0.003	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DN	0.000	0.000	0.000	0.002	0.001	0.010	0.005	0.007	0.009	0.000	0.003	0.003	0.009	0.016	0.006	0.005
E	0.007	0.008	0.000	0.021	0.009	0.007	0.007	0.011	0.014	0.000	0.017	0.021	0.027	0.014	0.007	0.007
F	0.002	0.001	0.000	0.009	0.006	0.007	0.009	0.011	0.010	0.000	0.010	0.012	0.017	0.012	0.009	0.011
G	0.027	0.019	0.000	0.044	0.075	0.062	0.129	0.051	0.061	0.000	0.049	0.038	0.055	0.039	0.032	0.038
H	0.001	0.001	0.000	0.006	0.005	0.006	0.007	0.006	0.006	0.000	0.014	0.008	0.013	0.010	0.011	0.011
I	0.010	0.009	0.000	0.032	0.032	0.026	0.034	0.033	0.033	0.000	0.043	0.037	0.046	0.032	0.039	0.030
J	0.021	0.018	0.000	0.018	0.018	0.026	0.026	0.033	0.022	0.000	0.017	0.017	0.021	0.035	0.027	0.023
72-73-74	0.010	0.010	0.000	0.080	0.049	0.074	0.087	0.050	0.078	0.000	0.085	0.058	0.071	0.076	0.074	0.084
L	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
M	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
N	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000
O-P-Q	0.004	0.001	0.000	0.007	0.016	0.011	0.013	0.006	0.014	0.000	0.019	0.011	0.009	0.010	0.007	0.010
70-71	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AGT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Multiplier	1.259	1.179	1.002	1.456	1.610	1.798	1.867	1.747	1.628	1.006	1.571	1.518	1.620	1.548	1.590	1.518

Table II Output multiplier matrix of the study area

Codes	DM	DN	E	F	G	H	I	J	72-73-74	L	M	N	O-P-Q	70-71	AGT
A	0.001	0.005	0.000	0.001	0.001	0.050	0.002	0.000	0.001	0.001	0.002	0.003	0.002	0.000	0.004
B	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CB	0.001	0.001	0.001	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001
DA	0.002	0.002	0.001	0.002	0.002	0.194	0.006	0.001	0.003	0.002	0.006	0.009	0.003	0.000	0.004
DB	0.008	0.027	0.000	0.003	0.002	0.004	0.003	0.001	0.002	0.002	0.001	0.004	0.006	0.000	0.003
DC	0.001	0.015	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.000	0.000
DD	0.007	0.318	0.002	0.031	0.003	0.005	0.002	0.001	0.002	0.003	0.003	0.002	0.005	0.000	0.005
DE	0.009	0.011	0.002	0.009	0.019	0.012	0.015	0.010	0.011	0.015	0.006	0.007	0.011	0.001	0.005
DF	0.006	0.008	0.039	0.012	0.024	0.012	0.094	0.006	0.010	0.009	0.004	0.011	0.009	0.001	0.003
DG	0.009	0.019	0.006	0.011	0.004	0.005	0.003	0.001	0.003	0.004	0.003	0.074	0.013	0.001	0.012
DH	0.015	0.009	0.001	0.007	0.003	0.002	0.012	0.002	0.002	0.001	0.001	0.002	0.003	0.000	0.003
DI	0.010	0.013	0.007	0.136	0.002	0.010	0.003	0.002	0.006	0.005	0.003	0.006	0.006	0.000	0.010
DJ	0.091	0.039	0.008	0.056	0.006	0.003	0.004	0.002	0.005	0.006	0.003	0.005	0.004	0.000	0.003
DK	0.030	0.010	0.007	0.013	0.006	0.005	0.008	0.001	0.003	0.009	0.003	0.003	0.007	0.001	0.001
DL	0.024	0.004	0.008	0.019	0.008	0.002	0.005	0.001	0.005	0.003	0.003	0.009	0.003	0.000	0.002
DM	1.013	0.000	0.000	0.000	0.002	0.000	0.002	0.000	0.000	0.003	0.000	0.000	0.001	0.000	0.000
DN	0.004	1.051	0.001	0.004	0.004	0.002	0.001	0.001	0.001	0.003	0.003	0.003	0.002	0.000	0.003
E	0.006	0.008	1.037	0.006	0.007	0.011	0.006	0.003	0.003	0.006	0.005	0.006	0.006	0.000	0.013
F	0.010	0.007	0.048	1.157	0.011	0.007	0.014	0.010	0.045	0.029	0.012	0.022	0.011	0.001	0.033
G	0.033	0.054	0.008	0.024	1.025	0.063	0.039	0.004	0.010	0.015	0.011	0.027	0.015	0.001	0.009
H	0.007	0.005	0.003	0.011	0.010	1.015	0.030	0.007	0.016	0.008	0.003	0.012	0.007	0.001	0.002
I	0.024	0.028	0.008	0.028	0.030	0.024	1.117	0.023	0.020	0.023	0.009	0.017	0.018	0.001	0.005
J	0.012	0.033	0.004	0.021	0.038	0.010	0.033	1.411	0.028	0.022	0.007	0.011	0.017	0.001	0.007
72-73-74	0.047	0.055	0.020	0.057	0.126	0.057	0.060	0.124	1.125	0.062	0.030	0.079	0.103	0.008	0.076
L	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.999	0.000	0.000	0.000	0.000	0.000
M	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.999	0.000	0.000	0.000	0.000
N	0.000	0.000	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.001	0.000	1.163	0.002	0.000	0.000
O-P-Q	0.004	0.007	0.004	0.007	0.016	0.011	0.008	0.011	0.038	0.039	0.021	0.042	1.147	0.094	0.014
70-71	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000
AGT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000
Multiplier	1.375	1.730	1.215	1.625	1.351	1.504	1.468	1.623	1.342	1.273	1.139	1.520	1.399	1.114	1.219

Table III Matrix obtained using the account matrix developed by the Regional Institute for Economic Planning in Tuscany (IRPET)

<i>Codes</i>	<i>Sectors</i>
A	Agriculture, hunting, and forestry
B	Fishing, pisciculture, and related services
CA	Mining of energy-producing minerals
CB	Mining of non-energy-producing minerals
DA	Food, beverage and tobacco industries
DB	Textile and clothing industries
DC	Leather tanning industries, manufacturing of leather and hide products and footwear
DD	Wood industry and wood product manufacturing
DE	Pulp and paper manufacturing
DF	Coke manufacturing, oil refineries, treatment
DG	Manufacturing of chemical products and synthetic fibres
DH	Manufacturing of rubber items and plastic materials
DI	Manufacturing of mineral products
DJ	Production of metals and manufacturing of metal products
DK	Manufacturing of machines and mechanical devices
DL	Manufacturing of electrical machines and electronic devices
DM	Manufacturing of transportation vehicles
DN	Other manufacturing industries
E	Production and distribution of electricity, gas and water
F	Building industry
G	Wholesale and retail trade; auto repairs
H	Hotels and restaurants
I	Transportation, warehousing and communications
J	Monetary and financial intermediation
72-73-74	Informatics, research and development and company services
L	Public administration and defence; social insurance
M	Education
N	Health and other social services
O-P-Q	Other public, social and personal services
70-71	Real estate activities, renting services
AGT	Agri-tourism

system object of our study which includes the agri-tourism sector (AGT). It is worth noting that agri-tourism multiplier (1.219) is more similar to agriculture multiplier (1.259) than to restaurant and hotel multiplier (1.504).

Tourist spending per day was ascertained by means of a questionnaire submitted to tourists who stayed in agri-tourist facilities. We processed data relative to 153 tourists who were lodged in the area for a total of 1,333 nights during the spring to autumn period in 2004; the sample represents 2 per cent of the total amount of tourists who stayed on farms in the study area during 2004. Prices were then updated at 2008.

Main weaknesses of tourist system were highlighted by means of personal interviews which were conducted with thirteen local stakeholders, selected for their role in the tourism sector. In particular, interviews involved five people in charge of tourist bureaus, four members of farmer associations working on rural tourism and four economic development officers of the municipalities object of our study. The survey was carried out by means of semi-structured interviews which allowed us to deal with the issue in depth.

Results and discussion

Spending on the part of tourists who were lodged in agri-tourist facilities is equal to an average per overnight stay of €66.88; 79 per cent of which (€52.84) is made within the study area. As a whole, the spending in the study area is €3,602,194.95; 59.9 per cent of which is made for board and lodging at the farms themselves (Table IV). Other main spending items are food (19.9 per cent), restaurants (10.5 per cent), fuel (5.9 per cent), souvenirs (1.4 per

Table IV Spending within the study area on the part of tourists who stayed in agri-tourist facilities

<i>Spending items</i>	<i>Expenditures (€)</i>	<i>%</i>
Food bought at the farm	120,083.06	3.3
Food, beverage and tobacco bought at the store	599,060.85	16.6
Clothes	30,423.46	0.8
Shoes	16,826.71	0.5
Souvenirs	51,659.39	1.4
Stationery and newspapers	19,964.90	0.6
Fuel	211,369.33	5.9
Medicines	7,144.90	0.2
Repairing	2,744.82	0.1
Restaurants	379,250.99	10.5
Transportation	4,593.50	0.1
Health services	1,833.37	0.1
Agri-tourism	2,157,239.69	59.9
Total	3,602,194.95	100

cent), clothes and shoes (1.3 per cent). Food is mainly bought at the grocery stores (16,6 per cent of the total spending) and partly at the farm (3.3 per cent of the total spending).

Input Output model results show that the impact of the above spending on the local economic system in terms of income is €3,039,982.88 (i.e. 0.3 per cent of the added value produced in the study area), while in terms of employment it is about 66 workers (i.e. 0.4 per cent of the people working in local enterprises). Those impacts are significant within the context of an economic system which, besides the rural area on the hills, includes also an area with a main industrial economy located on the plain.

Table V reports in details the Input Output model results concerning the effects of tourist spending on the different sectors of the local economic system. The sectors which benefit most from tourist spending are those where visitors directly express their demand. In particular, agri-tourism captures 57.88 per cent of the total income produced by the tourist demand and 59.05 per cent of the total employment. A substantial impact of tourist demand relates also restaurants (included in the "hotel and restaurant" item of the regional accounting matrix) and commerce (included in the "wholesale and retail trade; auto repairs" item of the regional accounting matrix). Concerning the "hotel and restaurant" sector, the impact on income is equal to 6.6 per cent of the total income produced by agri-tourism, while the impact on employment is 10.46 per cent of the total employment. As regards the commerce sector, the impact on income is equal to 7.34 per cent of the total income, while the impact on employment is 8.74 per cent of the total employment. Another sector which is significantly affected by agri-tourism is agriculture, where the effect on income is 3.46 per cent of the total income and the effect on employment is 6.64 per cent of the total employment. For this sector the positive consequence of tourist demand is partly dependent upon spending made in the sector itself and partly on spending in the agri-tourist facilities which are closely linked to local agriculture. Other sectors are influenced in an indirect way by agri-tourism; this is the case of food industries (included in the "Food, beverage and tobacco industries" sector of the regional accounting matrix) and of companies providing services for enterprises in terms of consultancy (included in the "Informatics, research and development and company services" sector), transportation, warehousing and communications (included in the "Transportation, warehousing and communications" sector). For these sectors the effect of agri-tourism is lower but still of note; in particular, "Food, beverage and tobacco industries" sector captures 4.45 per cent of the total income produced on the local system by tourist demand and 3.23 per cent of the total employment. With regard to companies providing services for enterprises, the "Informatics, research and development and company services" sector captures 5.8 per cent of the total income and 2.74 per cent of the total employment, while the "Transportation, warehousing and communications" sector captures 1.93 per cent of the total income and 1.90 per cent of the total employment.

Table V Impact of spending on the part of tourists who were lodged in agri-tourist facilities on local system in terms of employment and income

<i>Items of the regional accounting matrix</i>	<i>Employment (workers)</i>	<i>% of the total employment</i>	<i>Income (€)</i>	<i>% of the total income</i>
Agriculture, hunting, and forestry	4.37	6.64	105,294.90	3.46
Fishing, pisciculture, and related services	0.01	0.01	188.12	0.01
Mining of energy-producing minerals	0.00	0.00	15.67	0.00
Mining of non-energy-producing minerals	0.03	0.05	1,540.32	0.05
Food, beverage and tobacco industries	2.12	3.23	135,375.82	4.45
Textile and clothing industries	0.40	0.61	13,945.80	0.46
Leather tanning industries, manufacturing of leather and hide products and footwear	0.13	0.19	3,909.97	0.13
Wood industry and wood product manufacturing	0.30	0.45	8,560.95	0.28
Pulp and paper manufacturing	0.29	0.44	15,714.84	0.52
Coke manufacturing, oil refineries, treatment	0.00	0.01	167,482.25	5.51
Manufacturing of chemical products and synthetic fibres	0.12	0.19	11,740.20	0.39
Manufacturing of rubber items and plastic materials	0.08	0.12	4,053.42	0.13
Manufacturing of mineral products	0.35	0.54	13,696.94	0.45
Production of metals and manufacturing of metal products	0.11	0.17	4,522.17	0.15
Manufacturing of machines and mechanical devices	0.06	0.09	3,008.00	0.10
Manufacturing of electrical machines and electronic devices	0.06	0.09	3,001.75	0.10
Manufacturing of transportation vehicles	0.00	0.01	478.87	0.02
Other manufacturing industries	0.30	0.46	11,061.51	0.36
Production and distribution of electricity, gas and water	0.05	0.07	25,246.05	0.83
Building industry	1.23	1.87	42,688.82	1.40
Wholesale and retail trade; auto repairs	5.75	8.74	223,022.35	7.34
Hotels and restaurants	6.88	10.46	200,571.06	6.60
Transportation, warehousing and communications	1.25	1.90	58,595.82	1.93
Monetary and financial intermediation	0.20	0.31	19,599.24	0.64
Informatics, research and development and company services	1.80	2.74	176,306.45	5.80
Public administration and defence; social insurance	0.00	0.00	93.82	0.00
Education	0.00	0.00	0.00	0.00
Health and other social services	0.04	0.06	1,442.97	0.05
Other public, social and personal services	1.00	1.52	29,319.10	0.96
Real estate activities, renting services	0.00	0.00	0.00	0.00
Agri-tourism	38.87	59.05	1,759,505.71	57.88
Total	65.80	100	3,039,982.88	100

As to the tourist demand, we compared our data to those obtained in a study conducted in Chianti, a neighbouring area with similarities with our case study with regard to landscape and proximity to centres of high tourist attraction, such as Florence and Siena. The comparison revealed that in the study area tourist spending was almost 30 per cent lower than in Chianti (Centro Studi Turistici, 2005). By referring to the daily per capita tourist spending in Chianti as surveyed by the Centro Studi Turistici, a simulation was conducted on the input output model for the reference area. The results of this simulation indicate an impact on the economic system which is significantly higher than the current one, both in terms of added value (€4,679,886.17) and in terms of employment (110 workers).

Local stakeholders in the tourist sector who were interviewed on the reasons of the difference between Chianti and the study area, attributed it to the lack of coordination between the suppliers of products and services provided in the territory. Indeed in the area there are remarkable activities (such as the street theatre festival in Certaldo, crafts and local food exhibitions) which nevertheless have a punctual character. Local stakeholders

recognize that improved coordination would imply strengthening of individual actions, it would favour visibility and, consequently, enjoyment of resources on the part of tourists. It would also enhance the value of products by linking them to the specific resources of the local system and the cultural identity. Moreover, as highlighted by Capriello and Rotherham (2008), it would improve problem solving and information dissemination among local actors. Thus, as showed also by MacDonald and Jolliffe (2003), the ability to develop cooperation and create networks within the system turns out to be decisive for local development.

If the example of rural tourism routes (Briedenhann and Wickens, 2004; Brunori and Rossi, 2000) is followed, farmers, restaurant owners, craftsmen, shopkeepers and public administrators should coordinate in order to enhance and promote local products. This could entail the development of themed routes associated with food, wine and craft products, resulting in visits to farms and typical shops. It could also be linked to local events, such as feasts, festivals and historical commemorations.

As pointed out by Marescotti *et al.* (2006), the development of these initiatives depends on the capacity of local stakeholders to construct a system in which material and non-material resources are combined in a coherent way. This implies that all the entrepreneurs involved share the same rules in terms of production, commercialization and communication. At the same time, they mature the same sensitivity towards quality and the same perception towards the importance of the farm environment and rural landscape. These attitudes, based on a common sense of belonging and local identity, are key elements for consistent management of local resources. Given these considerations, a crucial role is played by institutions that should strengthen their local identity, improve management skills, help the integration of different strategies and contribute to outward communication of the value obtained through this process.

In more general terms, the present study shows that the potential impact of agri-tourism on local development is high, but the real impact depends on the socio-economic environment. The construction of co-operation and partnerships between local actors, by activating synergies can contribute to enhance the role of agri-tourism on local development. In this context, farmers carrying out agri-tourism could play an important role because quite often this is where the tourist is first welcomed. Thanks to their links with the territory, farmers could contribute to the enhancement of local resources, they could consolidate the local identity and significantly strengthen the actions implemented by the public administration.

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