

New formative horizons for a multifunctional agriculture¹

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1. Introduction

The rules which control the worldwide and national agri-food production are exposed to frequent and intense solicitations due to changes in: the width and extension of the markets, the mechanisms of controlling these markets, the evolution of technology, the quality and quantity changes in the customers' demand. The answer of the European Agri-Food System (SAA) seems to represent a way of

"controlled evolution" compared to the one based on assuming technological models depending on the productive scale and on the building of more and more co-ordinate units of firms (according to this, the evolution of the input production in agriculture, and not only this, after the introduction of GMOs is a plain example) prevalent in

¹ This article is the synthesis of a research carried out within the Program of Regional Interest (PIR) 97, "Formative Initiative supporting Work" - promoted by Cipa-at (Centre of professional agricultural education and technical assistance) and Iripa (Regional institute for promotional intervention in agriculture) - which wanted to identify the training needs of the different job profiles that work in interesting agri-food "chains" on the Tuscan territory and in the precincts of agri-tourism. It also wanted to identify the training courses that must be activated to satisfy such needs. For a deeper and more detailed knowledge of the research you can refer to the final report "Matrix of competences, professional skills and training needs in the main Tuscan agri-food chain and in providing agri-tourism services", Agritec s.r.l. Series Agriculture-WorkInnovation. The contents, the general definition of the work (introduction) and the conclusions are all the results of a common discussion among the authors; Prof. F. Di Iacovo wrote Chapter 3 "A synthesis on the results of the work carried out"; instead Dr. Moruzzo prepared the writing out of Chapter 2 "New competencies in the agricultural Tuscan system".

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Abstract

Globalization in agriculture, the growth of diversification and of the complexity of the agri-food system ask for a strong investment in long life learning in agriculture. Aim of the paper is to analyze the evolution in some agri-food "chains" in Tuscany and in agri-tourism activities.

In the first part, the focus of the paper is on the methodology used, on its weakness and the strength points. A participatory approach was used with focus groups for each "chain" and activity considered. In the second part, the authors explain the main results obtained for each "chain" and activities. The characteristics of each field and the new knowledge are taken into account.

Résumé

La globalisation et une demande alimentaire toujours plus diversifiée et complète nous rendent plus conscients de la nécessité d'activer un processus de formation continue dans les différentes activités du secteur agricole. Ce travail analyse les caractéristiques de ce processus dans certaines filières agro-alimentaires et de l'agritourisme en Toscane. La première partie du travail a pour but la recherche des limites et des avantages de la méthodologie utilisée (la gestion de groupes à travers lesquels analyser la demande de formation) et la deuxième partie la connaissance des typologies d'actions formatives qui doivent être assurées par rapport aux caractéristiques de chaque filière agro-alimentaire et de l'agritourisme.

the North American model and, with necessary distinctions, in some areas, today in crisis, of South America. Such an answer offers a possible way of mediation able to consider a prevalently family run and small scale productive system, strongly heterogeneous inside, but able to provide various answers to the increasingly broader demand for goods and services which the European citizens address to the agricultural system and to the set of rural areas.

From this point of view the controlled evolution of the European SAA seems to be addressed to a dual horizon:

- the one of a balanced competitiveness, especially for what concerns the elements regarding healthiness and health of food, through a complicated system of instruments and procedures due to certify, test and control (traceability, findability, self-control and inspection systems, etc.);
- the one of a productive model capable of creating strong added value, of the material type (for enjoyable goods and services) but also, and in a more substantial way, of the immaterial type (social, environmental, cultural), bound to the local system in its phases of distribution of produced goods.

The European model of agriculture aspires to a very high level of production contextualization and liability even if within an efficient market management.

The demand for food healthiness, the management of more and more open and competitive markets, the demand for environment related services, the management of control standards, of instruments which increase the value of products and of communication with the clients, the innovations in processes and products (from the typical to the organic, to productions with or without

GMOs), and the definitions of international agreements for the governance of markets are only some of the changing trends that the SAA operators are called to manage and, if possible, to anticipate trying to guarantee economic vitality to their own firms, to reach a competitive advantage on the markets and to acquire social consent in the local systems in which they operate.

For the above mentioned reasons the farming operators are asked to have a very high technical, productive, management and business background, combined with a strong contextual knowledge (Ventura et al., 2001) as well as with the capability to participate in the local governance processes (Di Iacovo, 2001; Brunori, 2001).

In a parallel way, and especially in the Italian reality, the strong present and future generation contributes to changing the social structure in the rural areas and to promoting a strong mix of presence and knowledge, laying the bases for intense change but, in the same way, also great needs for the reorganization of the social and productive structure.

The great spiral of change which collides with the rural society and with a rapidly-changing entrepreneurial agro-industrial system, requires to specify new competencies and, consequently, to identify new already existing training needs. But above all through such spiral of change orders to estimate and to revise the systems and the organizing modalities useful to encourage the updating process and the continuous training process in many fields of activities and of knowledge which characterize the main area.

The present article, result of a research started off in Tuscany to identify the needs and the training courses of the job profiles which work in some agri-food chain of regional interest, has a double finality:

- first, to critically analyze a methodology of research-intervention tested by the authors with the intent of ensuring the identification of the real demand for professionalism in the Tuscan SAA;
- second, to point out the empiric evidence of the research-intervention course followed.

2. New competencies in the Tuscan rural system

The research in question had the purpose to identify the necessity of professional competencies in the precincts of what has been defined as “work areas”, and in particular of the agri-tourism activities and some interesting “chains” for the Tuscan region such as: floriculture and nurseries, fruit and vegetables production with particular attention for the vegetable production area; zoo-technical activities with exclusive attention to the bovine meat area; olive-oil production with interest for the oil area; vine-wine production regarding the wine area.

Such a choice finds a justification, in the relative economic importance, and also in the image of the Tuscan agri-

culture given by some of these “chains”. In terms of saleable production, as a matter of fact, the productions of the above-stated “chains” are more than 42% of the regional production and they find themselves excelling (positioning themselves in any case within the third place) in the circle of producing groups of relative belonging – such as zootechnical, herbaceous and arboreal – (Pagni R., 2001). As far as the agri-tourism activity is concerned, this one, besides excelling on a national scale, agri-tourism represents an important development hinge of the Tuscan rural model, in addition to having registered in 1999/2000 a significant increase of activities (equal to 25%) and also a higher increment of sleeping places.

Some of the chosen “chains” (and specifically the vine and wine producing one and floriculture), are strongly export-oriented, so contributing to introducing detailed results in the analysis of competencies in the rural field. Moreover, among the Tuscan agri-food exportations an important role is given to extra-virgin olive oil, which finds its place on high quality markets, even though the main productive regional unit cannot satisfy the whole demand, outside and inside the region. Finally, even though the cattle, fruit and vegetables divisions cannot be placed among those of major regional importance, the analysis of these specific “chains” made it possible to enrich the picture of the problems dealt with. Such pictures were enriched both in relation to their territorial characterization and regarding the typology of the subjects involved and the roles they take on, even outside the local context, in strengthening the Tuscan agri-food image.

2.1 Strategic aims of the research

The research intended to reach the following aims:

- the preparation of a quantitative and qualitative type cognitive tool, capable of highlighting the weaknesses, strengths, bonds and opportunities that influence the demand for professionalism;
- the realization of informative support, related to the training requirements which must be satisfied in order to face some problematic areas which condition the expansion and the re-qualification of the single “chain” and agri-tourism;
- the definition of the “set of the competencies”, as a premise for the identification of training standards, able to establish a landmark to plan and program the regional training offer;
- last, but not least, the creation of a work path capable of being adopted by training institutes in order to ensure a continuous updating of the need for competencies and training together with the development of the reference context.

From this last point of view, the activities carried out allowed promoting the definition of a working methodology able to ensure, even further on, the monitoring and the surveying of the professional and training needs in the pri-

mary area. In particular, the work model followed allowed:

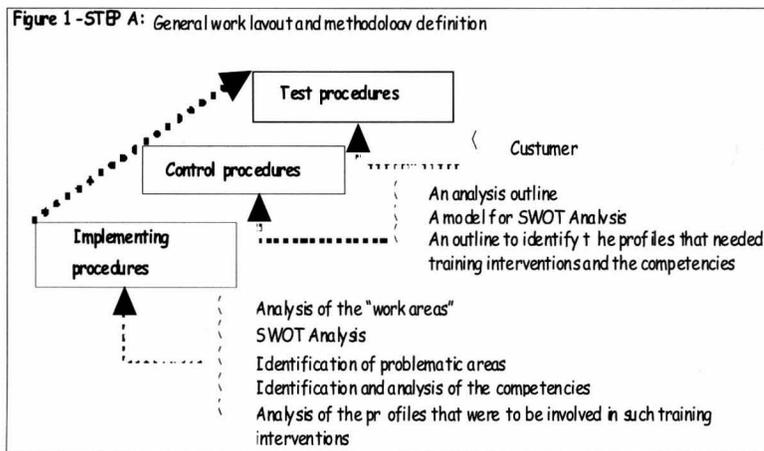
- the building up of a useful support for the programming and the planning of training initiatives to embark on a territorial level;
- the support of transparence and of comparability of training initiatives;
- the defining of the minimum standards, referring to the single competencies, regarding the knowledge level to ensure and the capabilities and the aptitudes to guarantee;
- finally, taking the bearings of the situation about the critical elements of the “chain” or of the area that can condition the real need of professionalism and of competencies.

2.2 The methodology used for research-intervention

To reach the above-stated aims the research developed in a sequence of distinct phases.

STEP A: general work layout and methodology definition

The research was planned and programmed, defining some implementing, control and test procedures (figure 1).



Implementing procedures

At the beginning of the research, on the ground of the aims, it was necessary to precisely define the type of activities to develop, to separate them and, then, re-aggregate them according to a functional homogeneity.

Among the activities there were:

- analysis of the “work areas”;
- identification of the bonds/opportunities/weaknesses and strengths (SWOT analysis) which refer to every “work areas”;
- identification of problematic areas, where training interventions were necessary;
- identification and analysis of the competencies which were to be ensured to be able to provide the training

needs found;

- analysis of the profiles that were to be involved in such training interventions.

Control procedures

For better controlling the results of the above-stated activities, it was necessary to prepare documents, to fill in at the end of every activity. Among these documents there were:

- an analysis outline to assign to every “work area”;
- a model for gathering information about the relative weaknesses, strengths, bonds and opportunities;
- an outline to identify the profiles that needed training interventions and to determine the competencies which were to be ensured to these figures.

These documents permitted to gather information regarding the type and the amount of work done by subjects which, in many ways, took part in the research.

Test procedures

Moreover, it was planned to test the work done through a customer satisfaction questionnaire that the subjects involved in the research were to fill in.

STEP B: preparation of a “report” containing the analysis of each working area

Before dealing with the training needs it was considered useful to write a report on the analysis of each one of the working areas. The above way of proceeding had the following general goals:

- even out the level of knowledge among the various subjects involved in the carrying out of the job;
- support transparence regarding the elements that characterize each “filiere” and the agritourism activity;
- create the bases to carry out, later on, a SWOT analysis for each working areas.

Such step allowed the authors to state precisely some points to be thought over in relation to those elements that recall the need to activate training interventions. An expert in “chains” was in charge of writing the “report” according to a working outline prepared beforehand.

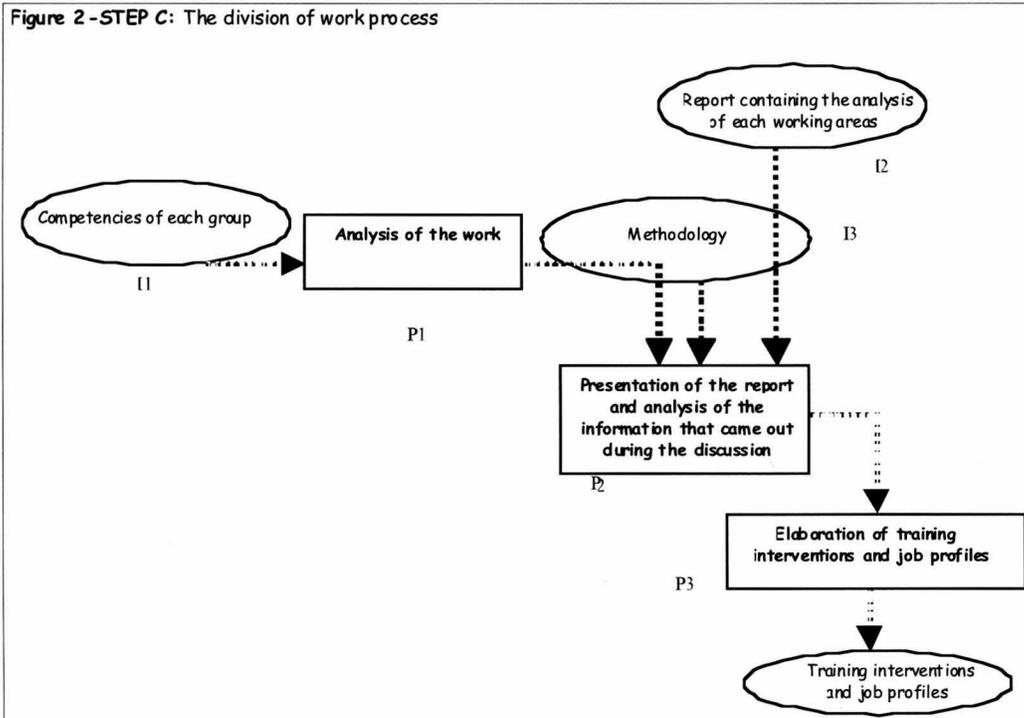
STEP C: carrying out of a “focus” in which the aim was to identify the strengths and weaknesses that characterize the various working areas and the menaces and opportunities that the above areas have to deal with.

Some work groups or “focus” were organized to obtain more precise information on the requests of professionalism to which it was important to answer.

The work process that led to the carrying out of the various “focus” can be divided into three different sub-processes (figure 2):

sub-process A: regards the definition of the working me-

Figure 2 - STEP C: The division of work process



thodology within the “focus”. As for the development of the “focus” the discussion proceeded in a structured way so that the various participants could express their opinion about the topic dealt with. The meeting was organized according to a specific timing (previously communicated to the participants). During the discussion the various opinions of the participants were filed, outlined, and put into images by means of computer aids in order to allow the sharing of the course. Afterwards each participant received a synthesis that represented the positions that had come out during the discussion. Further observations relative to such synthesis were collected from the participants;

sub-process B: focuses on the SWOT analysis;

sub-process C: offers some early hypothesis on the training courses towards which to tend in order to re-qualify every single working area and on the job profiles (traditional or innovative) that could be interested in embarking on such training courses.

STEP D: elaboration and integration of the information that came out during the discussion within the “focus” in order to identify relevant areas for the planning of the training courses to activate. Through the SWOT analysis it came out that still nowadays there are training needs that limit the development of the various working areas.

Such training needs were grouped (Isfol, 1991, Di Francesco, 1997) in problematic areas of intervention. It means

that in order to solve a specific problematic area it is necessary to think of different training interventions for the different job profiles traditionally working in each working area (“chain” and agri-tourism). In other cases it is necessary to provide the introduction of training interventions for the creation of innovative job profiles.

STEP E: for each one of the problematic areas pointed out, identification of the training courses to activate and of the competence to ensure for each type of job

profile.

The above described proceeding led to the pre-arrangement of an outline that underwent the reading and critical discussion on the part of the participants of the “focus” (figure 3).

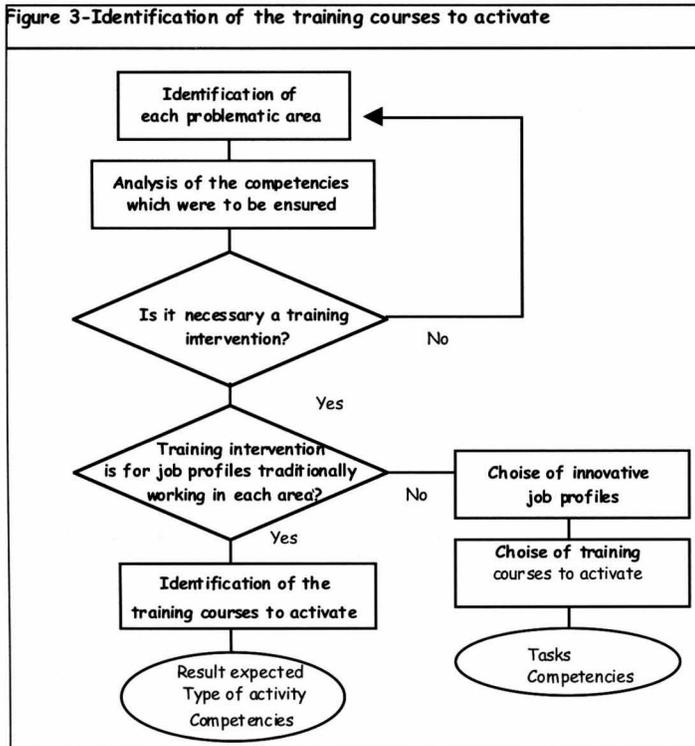
In arranging such outline the following was indicated:

- for each problematic area and for the traditional job profiles (entrepreneur, operator, technical consultant, service and maintenance supplying center):
 - types of training intervention required;
 - result expected from each specific type of training intervention;
 - type of activity that the trainee was to carry out;
 - competence to be acquired (Isfol, 1992), in terms of:
 - knowledge: divided into basic or transversal; technical-professional;
 - know-how: in the sense of operational know-how;
 - attitudes: behavioral attitudes necessary for correct task solving.
- for each problematic area and for the innovative job profiles (where necessary):
 - tasks: that refer to that specific job profile;
 - competence: as above described.

As for the training interventions required within each working areas, these were classified according to how deep the training action was to be in three different types:

- retraining (training interventions to integrate/strengthen already existing competence);
- updating/improving (training interventions to update already existing competence);

Figure 3-Identification of the training courses to activate



- specializing (training interventions to acquire new competence).

The training courses were identified in details as follows:

retraining courses (transversal competence):

- *Expected result:* improvement in the personal and professional abilities of each job profile, in order to become adequate to the evolution of the “chains”/agri-tourism.
- *Activity:* ability to adequately play their strategic role in the “chains”/agri-tourism and therefore to ensure the roles of directing and supervising the firm, of process managing, of competence transfer and of organization-coordination.
- *Competence:* ability to evaluate in a long run perspective the advantages and disadvantages of the activity carried out, to develop programming and planning ability, to collect and analyze information regarding the trend of the market and the work done by firms, to rationalize and optimize working methods, procedures and technologies, and to compare oneself with other operators in the same working area.

updating/improving courses (technical competence):

- *Expected result:* improvement of management results in terms of efficacy and efficiency.
- *Activity:* technically operate within the production or service distribution process.
- *Competence:* ability to carry out the production/service, to place on file information relative to the operations of the production process, to transmit information to the

other operators, to establish dialogic relationship with the “client”, market the product/service, to promote the product/service.

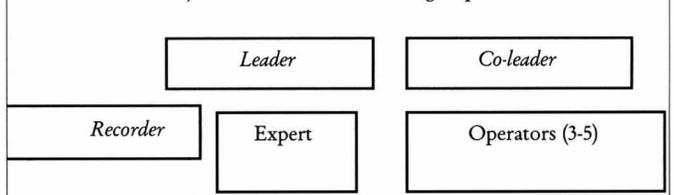
specialization courses (technical competence):

- *Expected result:* acquisition of innovative information and technologies in order to confront competitively the changed market requests.
- *Activity:* becoming active part of the “chain”/agri-tourism in order to develop new products/services/methodologies/resources.
- *Competence:* ability to promote the usage of new products/services/methodologies/resources, to integrate the traditional working methods with the innovative ones, to communicate with the other operators of the “chain”/agri-tourism, to transfer innovations regarding cultivation systems, regulations and market prospects.

In order to obtain the above mentioned information, it was decided to adopt work groups as methodological working tool (Lazzari L., 1998). Six groups were set up (one for each “chain” and one for the agri-tourism) and in each group subjects (from a minimum of 7 to a maximum of 9) with different competencies or to be employed in different levels of the “chain” were placed as to have a transversal view of the problem to be dealt with (outline 1).

Where possible the priority was to ensure that the people included in each group could work, at certain times, together, at the same time and in the same place, thereby implementing cooperative and supportive behavior. Actually the group worked together during the implementation of a “focus” in which the goal was to identify the strengths and weaknesses that characterize each “chain” and the agri-tourism and the menaces and opportunities that limit or implement its development. As for the other steps the group members acted separately, each one according to the role given to them within the research

Outline 1 - The subjects included in each focus group



3. A synthesis on the results of the work carried out

3.1 The diagnosis of the working areas

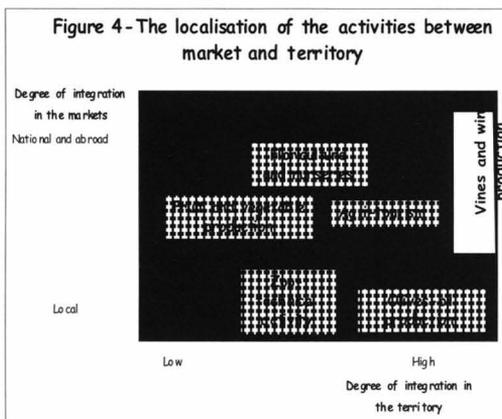
Before highlighting homogeneity and diversity of what emerged from the different focuses in regard to the training requirements distributed in the single working areas of Tuscany, it is maybe useful to point out the copiousness of the

solicitations expressed by the operators participating in the focuses; a signal of the vitality and of the ferment that is going through the primary area in its different components but, also, of the strong renewing tensions that the agricultural activities and the rural areas are experiencing on the whole. There isn't a single activity, which does not denounce a clear demand for conforming as an answer to the requests of the dynamics of consuming and of the evolution of technologies and of markets. That is noted both for those activities more traditionally integrated in the markets (as in the case of the fruit and vegetable production "chains" and in that of floriculture and nurseries), and for those which in the past survived thanks to connections with traditional local markets, today often in a crisis and in search of new identities.

In order to synthesize some of the results emerged, some two by two matrixes were created in which the examined "chain" were placed and their possible evolutionary trajectory analyzed. Figure 4 places the Tuscany "chain" in relation to that the degree of integration in the markets (local Vs national and abroad) and the degree of integration in the territory (low-high).

In this scale of values the "chain" of olive-oil production presents itself well rooted in the territory and in a prevailing position in the local markets, in spite of the positive image that characterizes the product of Tuscany.

The floriculture and nurseries "chain", instead, in an almost analogous way to that of the fruit and vegetable production, even if presenting a certain rooting in the territory, shows a more elevated degree of integration in the non-local markets. The zoo-technical activity is paying for the modernizing process (except for ovine-goat production and for the PGD products) which doesn't always makes it a strongly integrated activity on the territory, while, on the contrary its products

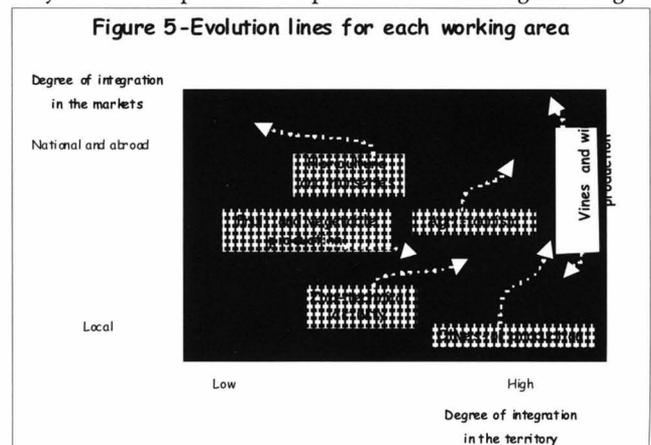


find room chiefly in the local markets. Agri tourism and vine growing place themselves on the high integration quadrant in the markets and in the territory, yet with the necessary differences, especially for what concerns the vine-wine producing "chain".

In the same instructive way (figure 5), with the use of some arrows, the expected evolution lines for the single working areas of the operators are reproduced. These are trends that mark for the floriculture and nurseries a growing inte-

gration in the markets to the prejudice of the relation with the territory, as a result of the increasingly frequent cases of delocalization connected to the scarcity of ground and water resources in the elected areas. For the fruit and vegetable production and for the animal husbandry these trends mark a rapid and progressive integration with the local values, also through a renewed capacity to operate in the markets of the local consumption even though these are no longer of the traditional type.

For the agri-tourism, they mark a deepening of the rooting in the territory, especially for what concerns the connection between firm and system activity. For the oil production, they mark a deep renewal capable of maintaining unchanged

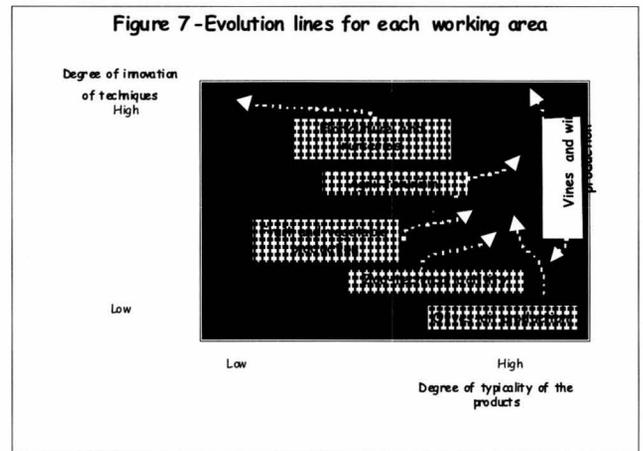
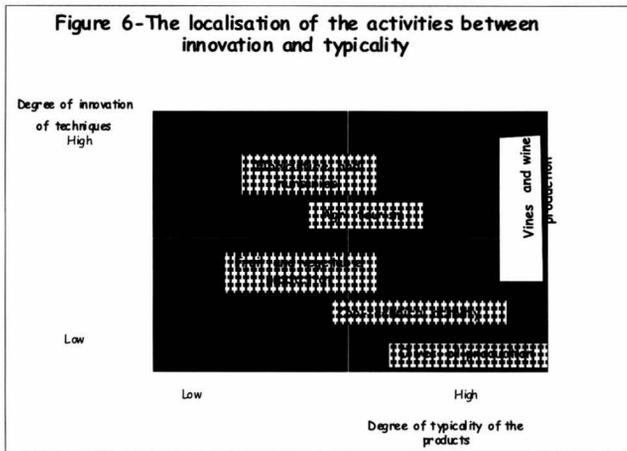


its local attractions, even if it increases the capacity of integration in the markets.

A similar reading was operated for what concerns the binomial innovation of techniques (low-high) and the characteristics of the typicality of the products (low-high) (figure 6). The initial distribution of the "chain" reproduces partially that of figure 4. The evolution trends (figure 7), instead, indicate for almost all the "chains" the necessity of emphasizing the characterization of the productions, except for what concerns the floriculture and nurseries, where the trends appear to be that of delocalization of the production and the research of productive resources at lower costs. The research of the product characterization doesn't go through a reduction of the degree of renewal of the techniques that were adapted but, on the contrary and especially for what concerns the oil production, it goes through a strong capacity to generate a technological innovation, surely more coherent with the local specificities.

The sharing of the diagnosis allowed the analysis of aspects on which to operate to develop adaptation routes of the individual working areas. From the description that emerged, two are the elements on which the operators' attention is fixed:

- human resources, and the entrepreneurial ability in particular;
- an innovation effort from the point of view of the organi-



zation.

For what concerns the first of the two just mentioned elements, it seems evident the need to define once more the role of the entrepreneur in the management of the agricultural activity, an activity that nowadays lives less and less thanks to public support and that, for this reason, has the necessity to find a proper collocation through a closer integration in the markets: both in the markets of conventional products and in the high quality markets, both in the organized distribution and in the short selling circuits.

It clearly emerged, though, that the possibilities for change are not so granted, especially if human resources are lacking. For this reason, in the different working areas the firm capacity is seen as the key to change in order to center again the role and the possibility of economic development and occupation in agriculture and rural Tuscany. Strictly connected to this first aspect is the necessity to aim at an organizing innovation: the search of suitable organizing solutions, in the firms but above all among the latter ones, is estimated of great utility to overcome the structural limits of great part of Tuscany's productive reality, incapable of incorporating the necessary functions - increasingly more numerous - in order to relate to the continuous changes of the markets and of the consumption. In this direction the adoption of flat organizing models, of the reticular type, imprinted on a strong dynamics of relation between subjects, on a thick exchange of semi works, information, factors, services - also regarding the professional training and qualification -, can represent the right premise to enter in development paths as pertinent to the necessity of management of change through models endowed of high flexibility, as to the structural conditions of large part of the primary area of Tuscany.

If it is true that the managing and the innovation of the organizing arrangements adopted constitute the steady points that offer support to the various adjustment interventions in each individual working area considered, it is also true that starting with the analysis of each area, it is possible to outline the matrix of the competencies to be ensured to the operators to facilitate the change and to maintain vital the area

itself.

We would like to highlight the demand for professionalism associated to each working area taken into consideration ad-journing to the reading of the final report (see note 1) the analysis of the weaknesses and the opportunities that can turn into specific training requirements or that, on the contrary, can give birth to innovative job profiles within each working area.

3.2 The emerged demand for professionalism

It is necessary, however, to state that the different working areas in Tuscany appear to go through a deep change that will modify its structure in the near future. The forms taken by the evolution process will have to be put in relation with the competencies (in terms of knowledge, know-how, and aptitude) owned by the operators. Investing on accurate training, strongly integrated with the development planning, could represent, therefore, an inducement for a pro-active and early management of the change, according to an evolutionary line capable of generating opportunities for the system of Tuscany.

From this point of view, three different types of problematic areas were identified in which it will be necessary to activate the training of specific competencies (outline 2):

- a first type, of transversal nature, which stood out in all the focus groups;
- a second type, where competencies, even though with different accents, were found to be common to all the different working areas;
- a third type of competencies, more specific for the managing changes in the single working areas.

The solution of each problematic area (reconstructed from the weaknesses and the opportunities found in each working area) activates specific training moments (of retraining and professional training updating, of specialization) and involves the different traditional profiles introduced (distinguished between entrepreneur, operator - both profiles of production or of transformation - of technical consultant and of service center) according to the development of competen-

cies suitable to the specific tasks that each figure is called to carry out (of organizing and managing, operative, of assistance, of coordination of service activity).

From the point of view of the competencies of the transversal type, two different requirements are to be pointed out:

- the first is strictly connected to the need to generate an adequate turnover in the farmlands of Tuscany and regards the training of basic competencies of those that get ready to enter the agricultural productive system. This aspect regards the generation turn-over of the entrepre-

Outline 2. The specific training competencies to activate

- **The competencies of transversal nature**
 - The generation turn-over of the entrepreneurial class
 - The formation of management and wide-ranging competencies
- **The common competencies**
 - Product and of process innovation management
 - The management of regulations
 - The adoption of tools for certification and trademarks
 - The management of higher environmental compatibility process
 - The complex organization and planning
 - The management of logistics and integration in the markets
- **The specific competencies**
 - Olive-oil production: in the middle between technical-organizational innovation and landscape conservation
 - Vines and wine production: between further specialization and system competencies
 - Fruit and vegetable production: qualitative elevation and integration of the "chain"
 - Floriculture and nurseries: organization and qualification of the offer and of the logistics of sale
 - Agri-tourism activity: retraining and diversification of the offer and strengthening the system management
 - Zoo-technical activity: manageability and development

neurial class, just as much as that of the area operators, more and more frequently represented by immigrants with a strong need for social and professional integration;

- the second, instead, regards the professional retraining and updating on the administrative management topics, meant as the ability to ensure the operators with a wide vision of the problematic and to understand in time the signals of the changing markets and, at the same time, the ability to bring back inside the firm the managing of change and, in comparison with other firms, the construction of complex planning. This second requirement came out strongly during the different focuses and underlines a training demand in the agricultural and in the rural area that is not only of technical type. The formation of management and wide-ranging competencies would have exactly the task to promote a fast management of change, coherent with the markets dynamics.

Common competencies, instead, deal with the following aspects:

- *product and of process innovation management*: in this case the competencies regard, on one hand, the activation of specific updating and specialization on techniques in

constant evolution, especially in the more dynamic "chains" (fruit and vegetable production and floriculture and nurseries); on the other hand, it concerns the development of a different attitude towards the management of change and the effort towards a continuous adaptation. Moreover from a product point of view, it is important to develop competencies that can produce and distribute, besides understanding, innovation and cope with markets evolution. Indispensable knowledge to characterize the production of Tuscany and to contribute to strengthen its image of uniqueness in the markets;

- *the management of the regulations*: this aspect is taking on an increasingly decisive role in the management of the different "chains". The regulations are not only obligations but also opportunities for the firms, which have to acquire the information elements useful to define behavioral strategies capable of developing at an early stage the promulgation of new regulations (it's sufficient to think about traceability in the case of meat or about HACCP in the case of transformations) and translate them into operating advantages on the markets;
- *the adoption of tools for certification and trademarks*: also this aspect is present in a common way in the different "chains" and follows the need to establish more productive business relations with saturated and competitive markets. The introduction of trademarks and certification tools tends to modify the relationships along the "chains" emphasizing the relationship of cooperation between firms. From the competence point of view, this element translates itself into the growth of knowledge of the operators respect to the current possibility range, but also of the aptitudes and abilities to organize the firm production as to obtain processes endowed with more standardization and to start productive relations with partner firms;
- *the management of higher environmental compatibility processes*: the production of environmental services in agriculture is a current topic. Also in this case it is necessary to improve the operators' competencies for what concerns the management of the processes that make a great use of environmental resources (water and the intake of chemical inputs) with the intention to encourage the introduction of processes with a more reduced input consumption (integrated production, organic, MPS systems in floriculture, environmental certification, etc). Moreover, given the higher added value in Tuscany, the reproduction of knowledge that regards the landscape, its production and its management through the planning regulations will have to take on themselves specific attention;
- *the complex organization and planning*: in all the "chains" the fragmentation of the structure and the individualism of the evolution paths was singled out as a weakness. The management of complex markets – as are also those of quality – is in the position to offer opportunities to the operators that are able to overcome a critical threshold in their position in the markets. The result is that from an

organizational point of view, it is necessary to stimulate knowledge, aptitudes and capability, such as to reduce that which often presents itself as an obstacle to the access to innovative markets (in the case of floriculture and nurseries, and the fruit and vegetables in particular, but also in the remaining working areas). The aspects regarding the organization reflect themselves also within the local systems in the building capacity of closer connections and useful for the definition of complex offering packages (see the case of rural tourism) or for the reorganization of short selling circuits, as in the case of typical productions;

- *the management of logistics and integration in the markets*: the assertion of new markets and typology of sale imply a different way to face the difficulties of the supplying logistics and sale. This aspect regards as much the assertion of the Organized Distribution and its increasing interest in the local production, as the emerging of new forms of sale tied to the electronic commerce (business to business, or business to consumer), and finally, the reactivation of short circuits of sale tied to the rural tourism. The competencies in this case are placed side by side to those relative to the organization and become rich of important technical elements, both from the point of view of the knowledge of the markets, and for what concerns the computer science technologies and of the management of a logistics made specific and dynamic by forms of sale closer to the just in time.

In relation to the specific aspects of the different working areas, it is possible to outline the following:

- **olive-oil production**: *in the middle between technical-organizational innovation and landscape conservation*: for this “chain” there are three central aspects on which it is necessary to have specific training courses: the technical training for the operators concerning the management of innovative systems and the re-qualification of those already in existence; the characterization of oils and the management of quality, the aspects relative to the organization of the different phases of harvesting and marketing of the products.
- **vines and wine production**: *between further specialization and system competencies*: in the case of the vine “chain” the fields of work are substantially two, the first regards an integrated technical adaptation on the “chain” system (from the system to the transformation and from the recovery of local vines), in particular after a substantial phase of internationalization of the productions it is now necessary and possible to characterize once again and even better the product of Tuscany; in terms of rural context it is necessary to promote a stronger connection between the wine system and the valorization of the rural areas system.
- **fruit and vegetable production**: *qualitative elevation and integration of the “chain”*, for this “chain” the greater efforts regard the characterization of the supply and a better organization in order to penetrate innovative and expanding markets, the realization of sounder forms of un-

derstanding with the distribution structures present on regional scale.

- **floriculture and nurseries**: *organization and qualification of the supply and of the logistics of sale*: for these productions the integrated management of the offer and an efficient logistics mark the ability to emerge on the markets. Perhaps it is one of the most difficult “chains” because of its inner complexity. In this case managerial abilities are lacking and therefore jeopardizing the management of markets extremely dynamic and volatile. On the domestic and international markets there are areas that introduce certain advantages on costs and areas endowed with a systematic organizational culture capable of generating competitive opportunity of absolute importance and also capable of making the most of the local abilities.
- **agri-tourism activity**: *retraining and diversification of the offer and strengthening the system management*: a large part of the receptive structure of Tuscany still presents itself relatively punctual and inclined on the business offer rather than on the creation of territorial packages. Moreover the fast expansion of the area encouraged the emerging of an offer variegated from a qualitative point of view and especially for its ties with the specificity of the territory. The training actions in this field would have to offer a deepening of the operators’ background regarding the values and the local resources, and would also have to emphasize the ability to develop planning linked to the proposing of mix of offering. These mixes should be composite and flexible to the requirements of target of specific users.
- **animal farming activity**: *manageability and development*: the strong crisis that concerned the animal farming “chain” imposes an afterthought on the inner organization of the companies and in the dynamics of the entire meat and milk “chains”. The characterization of the business processes in terms of health and safety forces the introduction of specific business procedures whose management is not always taken for granted and which requires the training of specific competencies. The logistics and market management is becoming a strategic factor, especially for productions which distinguish themselves for the introduction of certification tools and of trademarks. Product innovation in favor of the integrated productions and of the organic implies a radical revision of the techniques adopted in the company.

During the focuses the demand to introduce profiles of the innovative type never emerged, on the contrary, what emerged more frequently was the requirement to expand to new competencies the available baggage of the technical profiles and of the service centers that supply supports to the primary activity. In particular these new competencies are useful to the management of complex relations, often of cross-sectional character between the “chains” and the inner local systems of production. In many cases these are competencies capable of bridging a gap between a part of the organizational deficiency that characterize the product system of Tuscany.

In particular have been characterized competencies that concern:

- *the management of system planning*: meant as a complex planning definition within which to construct and to direct the action of the individual operators present in the territory;
- *the management of the regulations complexity*: especially in some areas the presence of specialized profiles is now felt as a specific need. These profiles should be specialized in the management and the acquaintance of the area regulations, both in terms of processes and of products management and for what concerns the correct use of the resources made available to the rural areas and the specific "chain" by political actions;
- *system organization and/or phase coordination of chains*: it deals with useful competencies that allow a technical figure to carry out versatile tasks in the planning and in the management of relations' flows with the purpose of coordinating the action of various actors on specific topics and goals (of "chain" or of system);
- *the management of innovation and of markets*: it deals with useful competencies to manage the markets in terms of marketing, and to supply input of adaptation to the production system.

4. Conclusions

As in the discussion, even for the conclusions, it is necessary to distinguish the aspects tied to the methodology adopted from those bound to the results emerged. The implementation of this research activity, in fact, permitted not only to analyze the question of professionalism associated to each working area considered, but also to point out the benefits and limits of the methodology used.

In these conclusions we shall start by examining the limits observed in order to move to the development of the advantages attributable to such methodology (outline 3).

Facing the topic of the definition of new competencies and professionalism in the agricultural field, however, created difficulties and therefore the need for a more detailed study that were completely unexpected beforehand. In particular, as the work gradually proceeded and the research started some problematic aspects came up. These engaged the research group in heavy argumentation that concerned: terminology and definitions, representation method of the results emerged, level of analytic detail to privilege in a reflection, discussion and information feedback.

Schematically, the main limits attributable to the methodology concern its replication and the necessary investments in professional terms. The major problems are found both in the action

planning phase and in that of management/realization and in the spreading of the emerged results, as shown below:

- **action planning**
 - *characterization of the subjects/competencies to be involved in the focuses*: making sure that competencies present in the focus are complementary in order to face the range of problems of the working area;
 - *willingness of the participants to compare each other*: making sure that between the subjects there is no leader figure capable of conditioning the course of the argument;
 - *time-space planning of stakeholders groups*: ensuring time and meeting places coordination in order to support a full and harmonious development of the argument by subjects usually engaged in other activities;
 - *identification/training of a person who facilitates group discussion*: large part of the success of the focus depends on the ability of the facilitator. The singled out figure must be found authoritative by the participants, must have expertise in the management of groups and of communication.
- **management/performance of the focuses**
 - *management of the focuses discussions*: the group discussion has to be guided, and that demands the predisposition of specific working material in order to facilitate the active participation of those present;
 - *resetting of the terminology inside the discussion group*: the focus richness is ensured by the presence of very different competencies and professionalism; in order to make advantageous the confrontation it is necessary to operate with clarity with respect to the terminology that will be used.
- **disclosure of the results**
 - *make the information gathered usable in the discussion group for the programming of formative interventions*: the materials that emerge from the discussion groups almost always prove out to be strongly heterogeneous and composite, for this their full use needs deep work of analysis and elaboration.

Outline 3 - Identification of the weaknesses and strengths which refer to the methodology	
Strengths	Weaknesses
<ul style="list-style-type: none"> • This methodology privileges the confrontation between different subjects, with different qualification and level • Encourages the discussion between the operators who know the problems of the working areas in which they are involved • The comparison among operators can in many cases find good vitality to start incisive actions of development • The creation of development paths pertaining to the local resources • The discussion on innovative aspects of the agriculture system 	<ul style="list-style-type: none"> • Characterization of the subjects/competencies to be involved in the focuses • Willingness of the participants to compare each other • Time-space planning of stakeholders groups • Identification/training of a person who facilitates group discussion • Management of the focuses discussions • Resetting of the terminology inside the discussion group • Make the information gathered in the discussion group usable for the programming of formative interventions

Even if the limits stated above are taken in account, there is no doubt that the management of a research-participation methodology through the management of focus groups allows to obtain results using means that are difficult to achieve in other ways. It is because of this consideration that, to check the existing formative needs in the main agri-food "chains" of Tuscany and in the field of agri-tourism services we based the work on a working methodology which privileged the confrontation between the consumer and the subject that, with different qualification and level, works in the field of production, of assistance and research in the agricultural field. As a matter of fact, if it is true that the training system represents an essential inducement for the management of change and for the elevation of the system efficiency, it is also true that the same planning formality of the formative intervention will have to take in account: both the need expressed by the world of production and that of the technological and scientific research. It is thanks to a dialogue with them that it was possible to build again the range of the existing formative requirements, defining a work methodology that could find further improvement from a routine management of updating the inputs, necessary for the definition of the training intervention.

Encouraging the discussion between the operators and arranging the conclusion to which these arrived during their general consideration, allowed to increase the local knowledge by putting it in communication, already in a phase that was introductory to that of the intervention planning. Often, in fact, the formulation of training actions gets its initial impulse from elements which don't always find the necessary verification in the practice. The adapted research procedure has maybe the merit of obviating to this circumstance, reaching the results that are well known to the operators in the measure in which they themselves were authors of the consciousness of the production with respect to the profiles of the working areas in which they were involved.

This first consideration calls upon a second one: the creation of development paths pertaining to the local resources (human, environmental, and material) implying the necessity to approach the definition of solutions within local contexts. This is true for the research activity but, all the more, for the same training activities. In addition, the necessity to find diversified solutions, innovating and pertaining to the local endowment of resources manages to make more favorable the integration of knowledge that come from the scientific knowledge, with that held by the firm or system operators. These latter ones, in fact, are the ones that have to verify coherent solutions with external solicitations (of markets, of technologies, of politics) and with restrains internal to the firm and environment contexts. This circumstance is particularly true if one analyzes the context in which the multifunctional offer is built by the primary area and by the rural areas. The absence of experimental models in this field is often replaced by the best distribution practices in the reference context. Putting in circulation good procedures, of successful experiences tested in loco, can contribute to acti-

vating virtuous development routes also capable of modifying the local economies (from this point of view agri-tourism and typical producers constitute a good example).

It is a relevant aspect that cannot but have its repercussions on the modalities of organization of the training actions that, beginning from the diffusion of good procedure and from the comparison among operators, can in many cases find good vitality to start incisive actions of development.

As for the results of the research, the first impression that strongly emerges is the extreme dynamism that characterizes the area and the necessity to ensure a strong injection of competence in the different working areas. Agriculture is an area which cannot avoid an increasingly elevated dynamics of change of the markets, of the regulation systems and of the local contexts. The call for the transition in this case is as much as ever pertinent, not only and just to manage a phase of transition, but rather to underline the getting off from a relatively static moment of the primary area. After all the transition will become with good probability -and the operators seem convinced that it will happen- a continuous condition for which one will have to prepare in order to give adequate answers.

Starting from these considerations, as described in the methodology section, the formative interventions were classified in three different typologies according to the depth of the training intervention:

- of retraining (training interventions aimed to the integration/strengthening of competencies already in existence);
- of updating/improvement (training interventions aimed to the updating of competencies already in existence);
- of specialization (training interventions aimed to the acquisition of new competencies).

From the analysis of the information gathered a large part of the interventions regard the updating and the improvement of the different job profiles that operate in the single activity/"chain". On the contrary, the retraining and specialization actions are in all obviousness more limited in number. By analyzing better this circumstance, it is however evident how the specialization actions refer more often to the profiles of technicians and of service centers. It is an understandable need, owing to the opportunity to ensure in some poles of knowledge the concentration of competencies useful to the technical-productive relations underway in the interior of the local system. In spite of this, especially when referring to entirely innovative activities, as in the case of the adoption of procedures of self-control and/or certification, the specialization actions are more often addressed to the entrepreneurs themselves, such as to encourage the acquisition of new innovative competencies that have become necessary for the management of the firm's activity. Finally, even though the activities of retraining are less frequent and widespread, at least with respect to those of updating, they are relevant for the different job profiles, useful to ensure a more correct and incisive management both of the activity of administrative management, and of the relations between firms and environment.

Never as at the moment, therefore, training constitutes an important inducement to change and to a stimuli to a new comparison among the operators of the area. In front of an improved and diversified system of firms, the role of the administrative organizations, public and private, is that of operating actively in the creation of conditions capable of increasing the competitive efficiency of the rural system in Tuscany.

From the point of view of the typology of the formative interventions (outline 4), also in agriculture it is happening what is happening in the other productive areas. Many times in the course of the focus the accent was put on the necessity to start off formative interventions of short duration, well calibrated on the problematic to be faced and in continuous succession one after the other.

To these considerations some others must be added. These concern the necessity to encourage and enhance, as much as possible, the contact between the operators. This is so for two different reasons:

- for the reason that the best experiences already realized can in this way circulate;
- for the reason that the formative actions can benefit from the internal comparison among participants.

From this second point view the training actions can take the catalyst role in the development of activities, starting right from a stimulated and guided confrontation between the same participants.

This does not mean encouraging the self-reference of the formative circuit, but rather, to support a full development of the competencies available, on the part of technicians, professional operators, representatives of the research world.

Training and liveliness to the social-economic development have the necessity to merge in a unambiguous strategy, observant of the results during a medium-long period that can and want to be obtained within a local context.

As for the efficiency of the intervention the training action can result:

- introductory to the improvement interventions in the "chain", meaning that it can stimulate directly the improvement action;
- or, on the contrary, it can be placed within a complex planning.

In the first of the two points of view indicated, a role of intervention on the human capital is assigned to the training, such as to create some of the pre-conditions useful for the start of development and adaptation routes, but outside a true coordinated strategy of intervention, intended to bind training, technical assistance, boosting of firm innovation.

In the second point of view, the connection between the specific training action and the management of development projects – of firm, of "chain" or of system – that can draw benefit from a renewal of the operators' competencies, has the merit of offering immediate applied answers to the acquired competencies and to provide value to the training action.

Adhesion to the specific requirements of the operators, connection to the existing planning, flexibility in the organizing models and adoption of innovating training tools, can be some of the reading keys of training in the agricultural field. To consolidate a virtuous circuit of development, it becomes important to stimulate a more intimate connection between the moment of the analysis of needs, the phase of planning of the development actions, the definition and management of the typologies and of the training modalities adopted. This is a field of work where, maybe, a big effort has to be made by the many components that characterize Tuscany's agriculture and rural and not only.

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Outline 4 - The formative interventions

- **The typology of the formative interventions:**
 - Interventions of short duration
 - Calibrated on the issue
 - In continuous succession
 - With a development of the training modalities adopted.
- **The efficiency of the formative interventions**
 - Interventions which anticipate an entrepreneurial agro-industrial system, rapidly changing
 - Interventions which stimulate a more intensive connection between the moment of analysis of needs and the phase of planning of the development actions