REPORT

APPLIED PLANT RESEARCH

ESoF
Entrepreneurial Skills of Farmers

Exploring the Significance of Entrepreneurship in Agriculture



Edited by Pieter de Wolf and Herman Schoorlemmer

Published by FiBL

SIXTH FRAMEWORK PROGRAMME

Funded by the European Commission under the Sixth Framework Programme for European Research & Technological Development (2002-2006), Thematic Area Scientific Support to Policies, and by the Dutch Ministry of Agriculture, Nature and Food Quality

Developing Entrepreneurial Skills of Farmers ESOF

The project Developing Entrepreneurial Skills of Farmers (ESoF) is a Specific Targeted Research Project, funded under the Sixth Framework Programme for Research & Technological Development of the European Commission. The project is running from 2005-2008.

The ESoF project examines the economic, social and cultural factors hindering or stimulating the development of entrepreneurial skills of farmers.

The primary concern of the project is to recommend ways how conditions of the social, economic, political and cultural frame-work can be changed in order to facilitate the adoption of entrepreneurial skills for farmers and how farmers themselves can improve their entrepreneurial skills. The guiding idea comprises the persuasion that the kind of necessary entrepreneurial skills is strongly dependent on the strategic orientation of the farm.

Besides recommendations a diagnostic tool will be elaborated with which farmers can be positioned according to their entrepreneurial strategy and their entrepreneurial skills. This tool can be used by decision makers to evaluate and advise farmers to become more entrepreneurial, and farmers can assess themselves, learning their strengths and weaknesses concerning entrepreneurship.

Contact:
Dr. Christine Rudmann
Project Coordinator
Research Institute of Organic Agriculture FiBL
Ackerstrasse, CH - 5070 Frick,
Phone +41 62 8657-272, Fax +41 62 8657-273
christine.rudmann@fibl.org,
www.fibl.org,
project homepage www.esofarmers.org

Exploring the Significance of Entrepreneurship in Agriculture

Edited by Pieter de Wolf and Herman Schoorlemmer

The editors gratefully acknowledge financial support from the Commission of the European Communities, under Priority Area 5 (Food Quality and Safety) of the Sixth Framework Programme for Research, Technological Development and Demonstration, within the Specific Targeted Research Project SSPE-ct-2005-006500 (Developing the Entrepreneurial Skills of Farmers) and co-funding by the Dutch Ministry of Agriculture. The articles in this report do not necessarily reflect the Commission's views and in no way anticipate the Commission's future policy in this area.

This publication constitutes the report on work package 3: 'Exploring the Significance of Entrepreneurship in Agriculture' of the Specific Targeted Research Project SSPE-ct-2005-006500 'Developing Entrepreneurial Skills of Farmers' (Sixth Framework Programme for Research & Technological Development (2002-2006) of the European Commission). For further information, see the project homepage at www.esofarmers.org.

de Wolf, Pieter & Herman Schoorlemmer (Eds.) (2007): Exploring the significance of Entrepreneurship in Agriculture. Research Institute of Organic Agriculture, Frick, Switzerland

With contributions from Pieter de Wolf & Herman Schoorlemmer, Applied Plant Research, Lelystad, the Netherlands; Gerard McElwee, University of Lincoln, Lincoln, United Kingdom; Kari Vesala & Jarkko Pyysiäinen, University of Helsinki, Helsinki, Finland; Tanja Bastia, Diego Pinducciu, Antonella Ara, Mara Miele & Terry Marsden, Cardiff University, United Kingdom; Noen Jukema & Bartold van der Waal, Applied Plant Research, Lelystad, the Netherlands; Krzysztof Zmarlicki & Lilianna Jabłońska, Research Institute of Pomology and Floriculture, Skierniewice , Poland; Conradin Bolliger, Christine Rudmann, Darren Halpin, Research Institute of Organic Agriculture FiBL, Frick, Switzerland.

ISBN 978-3-03736-008-8

Language editing: Christopher Hay

Cover photographs: K.M. Vesala, University of Helsinki, Finland; M. Miele, Cardiff University, United Kingdom; J. Jäckel, FiBL, Switzerland.

Cover: Claudia Kilchgraber, FiBL, Frick, Switzerland

Layout: Helga Willer, FiBL, Frick, Switzerland

A PDF version can be downloaded free of charge from the project internet site at www.esofarmers.org and at the Organic Archive at http://www.orgprints.org/10915. Printed copies may be ordered from the FiBL Shop https://www.fibl.org/shop/, order nmber 1471

Table of Contents

Preface

It is not very innovative to talk about a changing world. After all, the world has been changing ever since it began. What is new today, however, is that change is happening faster and faster. The implications of this change are far-reaching for all of us and affect both our personal life and our work environment. For instance, most of us have changed our job or the job itself has changed. The ability to deal with change has become a basic skill we all need.

One sector in particular that has to deal with large-scale and rapid change is the agricultural sector. When we speak of the agricultural sector, we are still referring to a large number of farms, each run by one person or a few people. Given that this is the case, changes in the business environment affect a very large group of European citizens who have a job in agriculture. If they want to continue in business in a changing environment, they face major challenges.

One could say that farmers themselves are responsible for the continuation of their business. However, there are many reasons why society should take some responsibility. The importance of the agricultural sector in Europe is often underestimated, for some of our food is imported from other parts of the world and only a small section of the population works in this sector. However, a large proportion of our food is still produced in Europe and the agri-food complex is still a major economic activity in many European countries. Last but not least, agriculture has shaped the landscape of a large part of Europe. So-called 'rural areas' are in most cases agricultural landscapes that give us pleasure. These are the reasons why it is important to work on the continuity of agriculture in Europe and therefore, National and European governments want to support farmers through various means to enable them to continue running their farms.

We are more than happy that the EU Commission is willing to finance our project about the development of entrepreneurial skills of farmers. These entrepreneurial skills form part of the qualities a business owner needs in order to deal with a changing environment and to continue his or her business. The project partners are very aware of the opportunity this project offers to contribute to the continuity of a vital agricultural sector in Europe.

Cooperation within the project between various people from research institutes and universities in six European countries has brought together complementary areas of expertise and perspectives. We have come together on the basis of our common interest in the development of entrepreneurial skills of farmers. For us, the task of exploring the significance of entrepreneurship in agriculture as a pilot study was a challenging job that enabled us to take an initial look at the results from the various countries.

We want to thank the EU Commission for supporting our research project. We also want to thank the Dutch Ministry of Agriculture for funding 50% of the Dutch part of the project. A special word of thanks goes to the experts, stakeholders and farmers who were involved in the project activities described in this report. Last but not least, we want to thank all project partners for their co-operation and their contributions to this report.

Pieter de Wolf and Herman Schoorlemmer, Lelystad, the Netherlands, March 2007

Executive summary

Introduction and methodology

Entrepreneurship in agriculture is an important issue in Europe. Policy makers, researchers, farmers' unions and advisory services are all working on the development of entrepreneurship in agriculture. The question answered in this report is why entrepreneurship in agriculture is important and what kind of entrepreneurial skills farmers require. This report is part of the European research project 'Developing Entrepreneurial Skills of Farmers' (www.esofarmers.org). Research institutes from six countries are involved in this project (England/UK, Finland, Italy, The Netherlands, Poland and Switzerland). The report covers one phase of the project, which has the following objective: *Exploration of the significance of entrepreneurship in agriculture in selected European countries*.

In this EU project the terms entrepreneurship and skills are used in a certain context: Entrepreneurship is connected with finding ways and means to create and develop a profitable farm business. Skills are the competencies required to accomplish tasks and activities related to the farm business. These can be developed by learning and experience. We think the development of entrepreneurial skills could be stimulated by changing the social and business environment and by directly influencing the farmer and his personality and capacities.

This objective is supported by empirical research: 20 experts and stakeholders in six countries were asked the following open questions:

1) *Which important trends and developments do you see in the operational environment of the farming business (market, society) in your country?*
2) *What are the most important skills that a farmer needs in order to succeed in a farming business?*

The interview notes were transcribed in the national language and analysed by country. The results from the interviews were clustered and subsequently grouped. The national results were discussed in national discussion groups, in which interviewees and other experts participated. The national results were described in 6 national chapters in this report and are compared and combined in the international synthesis chapter.

Results and discussion

The chosen research methodology worked out very well, resulting in a varied picture of trends and developments and a broad perspective on the significance of entrepreneurial skills in agriculture.

Trends:

The question on trends proved to be a good introduction to the skills question, opening up the perspective of the respondents.

The main trends mentioned by experts and stakeholders in the six EU countries were:

- Globalisation of the market;
- Changing EU and national policy (CAP reform 2003, accession of new countries, legislation);
- Changing consumer demands;
- Changing supply chain;
- Changing environment;
- Growing demand for functions and services;
- Climate change and
- Rising energy prices.

Respondents mentioned these trends because of their expected impact on agricultural businesses. At the same time, respondents mentioned some trends they identified within agriculture, such as cost reduction, scale increase, product diversification, and product packaging and processing. Three main farm strategies can be recognised clearly in these trends:

- Cost price reduction, related to economies of scale and bulk production;
- Adding value to agricultural products, related to niche markets and
- Diversification, related to non-agricultural niche markets.

The responses to the trends question show that some respondents had difficulty recognising trends and developments in the external environment – they mentioned trends that are visible on many farms in their country. Regarding trends in the environment of the farming business, it is striking that some respondents perceived mainly opportunities while others perceived mainly threats, even though they were talking about one and the same trend. A general conclusion from the trends is that the outside world is changing rapidly, and this is affecting the farming business.

Skills:

The answers to the skills question are highly interesting, for three reasons. The first is the variety of skills mentioned. The second interesting element are the many skills-related remarks made by the respondents, such as traits and attitudes. The third is that the results in all the countries are very much alike. The skills mentioned by respondents as a result of question two can be categorised in five groups, as shown in the table on the next page.

Category	Underlying skills
Professional skills	▪ Plant or animal production skills ▪ Technical skills ▪
Management skills	▪ Financial management and administration skills ▪ Human resource management skills ▪ Customer management skills ▪ General planning skills
Opportunity skills	▪ Recognising business opportunities ▪ Market and customer orientation ▪ Awareness of threats ▪ Innovation skills ▪ Risk management skills
Strategic skills	▪ Skills to receive and make use of feedback ▪ Reflection skills ▪ Monitoring and evaluation skills ▪ Conceptual skills ▪ Strategic planning skills ▪ Strategic decision making skills ▪ Goal setting skills
Co-operation / networking skills	▪ Skills to co-operate with other farmers and companies ▪ Networking skills ▪ Team-working skills ▪ Leadership skills

In all six countries some attention was paid to professional skills, which are a basic requirement for farmers to succeed in the farming business. Many respondents from all the countries emphasised the importance of management skills for farmers: in their opinion, farmers have to become business people because of the growing complexity of the farming business.

Besides professional and management skills, other skills were also frequently mentioned, such as opportunity skills, co-operation and networking skills and strategic skills. These skills are required in order to find ways and strategies to develop a profitable business, to realise business opportunities and to develop and improve the business continuously. Comparing these skills with the research literature, they can be regarded as part of the qualities of an entrepreneur (e.g. Stevenson and Jarillo, 1990; Man et al, 2002; European Commission, 2003).

Besides this, respondents made many skills-related remarks that are important if farmers are to succeed in business, as shown in the following table.

Personal characteristics	Attitudes	Other
Flexibility, dealing with uncertainties	Positive attitude	Education
Creativity, innovativity	Pro-active attitude	Experience
Ambition, motivation, commitment	Open minded	Age
Self-knowledge	Open to new things	Gender
Feeling responsible	Attitude to feedback	
Courage to do new things	Being interested in the job	
Carefulness	Risk-taking attitude	
Honesty		
Immunity to stress		
Communicativeness, politeness		
Humour		
Dynamism		

Many of these remarks were related to the key concept of entrepreneurship as used in this study, e.g. flexibility and the ability to deal with uncertainties, a risk-taking attitude and commitment. Many respondents suggested that these were a pre-condition for certain skills: without these qualities entrepreneurial behaviour is constrained and the development of skills is hindered.

In many interviews, higher education was assumed to have a positive effect on the entrepreneurial qualities of farmers. However, some respondents perceived that agricultural education is mainly focused on professional and management skills. Italian interviewees questioned whether the current educational and training establishments were adequate for teaching and developing entrepreneurial skills. They suggested that innovative educational and training concepts are needed.

Age is a difficult element in relation to entrepreneurial qualities: Some respondents thought that younger farmers are better entrepreneurs because they are ambitious, more flexible and more open to new things. Others thought that older farmers are able to act in a more entrepreneurial way because of the life cycle of their farm organisations and their experience in business. The definition of younger and older farmers depends very much on the average age of the population, which differs between European countries.

Conclusions

Research question 1: What are the major trends and developments in the environment of the farming business?

The business environment of European farmers in all participating countries is changing rapidly. The main trends and developments are the globalisation of the market, EU enlargement, the CAP reform (and Swiss agricultural policy), changing consumer demands and changes in the supply chain. These trends are perceived partly as opportunities and partly as threats by respondents.

Research questions 2 and 3: Which skills are demanded from farmers by the trends and developments in the business environment? Which skills can be seen as entrepreneurial, and how could entrepreneurial skills be defined?

To succeed in business, a farmer needs professional and management skills, strategic, opportunity and co-operation/networking skills. In our understanding of the entrepreneur concept, the last three categories can be categorised as entrepreneurial skills.

These categories were selected with help of the scientific literature, although the literature on this topic displays significant divergences. Generally, entrepreneurial skills are related to the identification of business opportunities, finding the relevant means and resources to realise business opportunities through networking and co-operation, the development of a business strategy, and managing and improving the business.

Entrepreneurial qualities are not limited to skills alone. Interviewees mention various traits and attitudes that are considered to be a pre-condition for entrepreneurial behaviour and the development of entrepreneurial skills. The role of age and education is not very clear in respect to entrepreneurship, although respondents often mentioned both factors.

On the basis of the discussion about research questions 2 and 3, it was possible to formulate some research proposals:

Research proposal 1

How can farmers be supported in the process of finding, selecting and using relevant information to develop a farm strategy and to recognise and realise business opportunities?

Research proposal 2

How can entrepreneurial skills be developed through education and training?

Research proposal 3

Do entrepreneurial qualities and the potential for their development differ between age groups, and how can age groups be defined in this regard?

Research question 4: Do farmers need different skills compared to other business people?

Some respondents suggest that farmers do need the same skills as other business people, mainly when talking about management and entrepreneurial skills. The interview results show a great similarity with literature about entrepreneurship in small and medium enterprises (McElwee, 2005). It would be worthwhile to conduct research on whether the production of food and public goods demands other entrepreneurial qualities:

Research proposal 4

Does the production of food and public services increase the significance of specific (entrepreneurial) skills in comparison with other types of business?

Research question 5: How important is farm strategy in relation to the required entrepreneurial skills or to skills in general?

The results suggest three main strategies: cost reduction, adding value and diversification. Some of the interviewees think specific skills are required for some strategies, but the results provide insufficient information to draw any conclusions on this:

Research proposal 5

How important are different farm strategies in relation to (entrepreneurial) skills? Are certain skills more important for specific strategies, e.g. diversification?

Research question 6: Can any conclusions be drawn from the comparison of country-specific results?

The results from the six participating countries show a high level of uniformity, suggesting that farmers in all countries need the same entrepreneurial qualities. Two countries are somewhat exceptional: Poland is a new member state of the EU and Switzerland is not a member of the EU. This gives rise to certain divergent conditions compared with, say, the Netherlands or Italy.

Although the entrepreneurial qualities required are highly uniform throughout the EU, the current level of entrepreneurial skills varies greatly between and also within countries. The results suggest that farmers who are fully responsible for their own business activities are more entrepreneurial than farmers who depend on price and income subsidies, market regulation measures and on the marketing and business qualities of large (co-operative) firms in the supply chain. Some interviewees suggest that some farmers will not be able to improve their qualities if a higher level of entrepreneurial skill is required, causing a process of self-selection. This may also explain the differences in the level of entrepreneurial skills between and within countries.

Preview of the following stage of the project – main study

The next stage is concerned with research into whether farmers have certain entrepreneurial skills and which factors hinder or stimulate their development. The results from the present report provide valuable input for that next stage. The main focus of the project will be on three entrepreneurial skill categories:

1) Skills to recognise and realise business opportunities;
2) Skills to interact with other people/groups (networking, co-operation);
3) Strategic skills.

Price and income subsidies and market regulation measures are often mentioned as factors that hinder the development of entrepreneurial skills. In addition, certain personal characteristics and attitudes, including the age and education level of the farmer, are considered to be major factors that hinder or stimulate the development of entrepreneurial skills.

1 General introduction

Pieter de Wolf

Entrepreneurship in agriculture is an important issue in Europe. Policy makers, researchers, farmers' unions and advisory services are all working on the improvement of agricultural entrepreneurship. But why is entrepreneurship important for farmers, and what type of entrepreneurship do they need? These questions are addressed in this report, which is a constituent component of a European research project 'Developing Entrepreneurial Skills of Farmers' (www.esofarmers.org).

1.1 Background

A few decades ago, farmers in many European countries were encouraged to produce as much as possible. Price subsidies, market protection and other regulatory measures meant that increased production received a good price. In many European countries, large cooperative firms were set up by farmers to sell their products. However, over the last decade these things have changed, and in the coming years these changes will probably continue. Due to the accession of new countries to the EU in 2004, the costs of the traditional agricultural policy have risen. In addition, there is pressure from the WTO for the EU to open up its markets. Therefore, the European Union wants to decrease almost all market regulations and price subsidies (CAP Reform 2003) so that the market becomes a more internationally oriented market with more intensive price competition.

These developments have created a situation in which farmers with high levels of production do not automatically have an acceptable level of income. Nowadays, farmers have to produce and sell products that the customers want to pay for, and they are responsible for their own income. The Dutch minister of Agriculture, Dr. C.P. Veerman, told farmers in 2005: 'Being a farmer is your own choice, you are responsible in the first instance for creating a profitable business.' This renewed sense of self-responsibility calls for entrepreneurship on the part of farmers.

At face value, it may appear that there are exceptions to the above scenario. The European Union has expanded geographically and economically through the accession of Central and Eastern European countries. Importantly, they have a totally different socio-economic history, in most cases dominated by socialism. However, farmers in these countries also face a totally changed situation: a high degree competition on the international market in terms of price and quality, without any state market assistance or price subsidies.

Another exception is found in sectors where, historically, no price subsidies have been provided and the market has always been open. For example, the greenhouse horticulture sector has a longer history of operating in a liberalised international market. However, competition from other European and non-European countries is increasing, resulting in an increased demand for entrepreneurial skills.

Entrepreneurship is therefore a very important issue for all European farmers. From the perspective of the European Commission, too, entrepreneurship in agriculture is seen as a necessary precondition for

creating a vital and sustainable countryside. But some questions do arise. The literature review conducted by McElwee et al (2005) shows that entrepreneurship is a term that is used in many different ways, resulting in multiple interpretations. De Lauwere et al (2003) distinguish personal characteristics, knowledge and skills as important elements of entrepreneurship. The EU project 'Developing Entrepreneurial Skills of Farmers' (www.esofarmers.org) focuses on skills, but still the question exists: which entrepreneurial skills do farmers need in order to succeed in the farming business? This question is addressed in this report, which contains the results of the pilot study of the EU project.

1.2 Objectives

The main objective of the pilot study is: *'Exploration of the significance of entrepreneurship in Agriculture in selected European countries.'* The selected European countries are: England, Finland, Italy, The Netherlands, Poland and Switzerland.

The focus of the entire project is on entrepreneurial skills, as will be explained in the section below on key concepts. The pilot study attempts to identify the meaning and the importance of entrepreneurship in agriculture, while the main study examines how the development of entrepreneurial skills of farmers is influenced positively or negatively. The last step, which contains the synthesis, will formulate suggestions on how to stimulate the development of entrepreneurial skills.

1.3 Key concepts

To enable the reader to understand the research methodology and the results, some key concepts need to be explained.

1.3.1 Entrepreneurship

Entrepreneurship is a concept that has to be defined clearly because of the large range of interpretations that exist in the literature, as demonstrated by the literature review (McElwee, 2005). In the EU project, the concept of 'entrepreneurship' is used to explain the phenomenon of value creation within new or existing businesses. Some elements of the key concept of entrepreneurship as it is used in the EU project are as follows: entrepreneurship is connected to a person (the entrepreneur) and his or her activities and tasks; entrepreneurial tasks and activities are focused on starting, developing and continuing a profitable business; the entrepreneur has to be able to find ways and means of creating and developing a profitable business. This is in line with the major literature on entrepreneurship, as analysed in McElwee, 2005.

Entrepreneurship is therefore different from professional and management tasks and activities, although it affects all professional and management activities. McElwee (2005) quotes Corman and Lussier (1996), who state that the ability to operate an organisation requires different skills and abilities than those required for being an entrepreneur.

1.3.2 Skills

The project concentrates on entrepreneurial skills. Because of the large range of definitions available, the project group explains the skill concept using two statements:

- Skills are *related to tasks and activities*. For example, a farmer needs certain skills to be able to …deal with customers / …grow crops / …identify business opportunities etc.
- Skills *can be developed by learning and experience*, excluding traits and personality characteristics. For this research project, it is important to focus on aspects of entrepreneurship that can be developed.

Entrepreneurial skills are such qualities that are required to recognise business opportunities and to put them into business practice.

1.3.3 Development of skills

The title of the EU project implies that skills can be developed. This is also part of the skill concept. The EU project identifies two approaches to developing entrepreneurial skills:

- The first is the improvement of the social, economic, political and cultural framework which hinders or stimulates the development of entrepreneurial skills.
- The second approach is the exertion of a direct influence on farmers and their personalities and capabilities in order to stimulate the development of entrepreneurial skills. Learning could be part of this approach.

1.4 Research methodology

1.4.1 Methods

The significance of entrepreneurship in agriculture is largely determined by trends and developments in the environment of the farming business, as assumed in the EU project. Therefore, the significance of entrepreneurial skills is explored by interviewing a number of experts and stakeholders in six European countries, on the assumption that experts and stakeholders have a better perception of trends and skills than farmers. These interviewees were selected according to their knowledge of the environment of the farm business and/or their ability to connect these developments with the perspective of the farmer. In all countries, scientists, advisors, farmer representatives, representatives from society (politicians, policy makers, tourist organisations) and actors from the supply chain were interviewed. About 20 persons were interviewed per country.

The results of the interviews were categorised and discussed in a national discussion workshop with stakeholders and experts (interviewees and other people). This workshop discussion enabled the results to be checked and some discussion elements added.

The national results of each country were analysed separately and a national chapter written for the public report. The national results were synthesised in a European overview, in order to be able to make comparisons between countries and draw conclusions for the EU.

1.4.2 Interview questions

Entrepreneurship is considered a major requirement for farmers to survive successfully in a changing business environment. In this project, the significance of entrepreneurship was therefore assumed to be determined largely by the trends and developments in the environment of the agricultural business. Given this starting point, two main research questions had to be answered in the pilot study presented here: a. What are the trends and developments in the environment of the farm business, and b. which skills do farmers need in order to continue in business? In order to formulate selection criteria and hypotheses for the following main study, a third question could be added: c. Do farmers have these skills, and are there some differences between groups in this respect?

The interview consisted of three open questions which were used by each country partner, thus ensuring a degree of standardisation in the approach:

1. *Which important trends/developments do you see in the operational environment of the farming business (market, society) in your country?*
2. *What are the most important skills that a farmer needs in order to succeed in the farming business?*
3. *Do farmers in your country have these skills? Are there some differences in this respect?*

1.4.3 Interview technique

The interview and analysis methodology is a qualitative interview technique. The questions were designed as open questions so as to elicit as wide a range of responses as possible. The interviewers were instructed to try to avoid asking supplementary questions, unless this was for clarification. This generated a free flow of information. An interview guideline was developed by all the partners in the consortium and a workshop was held by all the interviewers in an attempt to develop a common approach. Interviews ranged from 45 minutes to one and a half hours. All interviews were transcribed and analysed in the national languages. The results of the analysis were translated into English.

The research methodology is empirical, so no scientific definitions are used in the interviews. This means that interviewees define what skills are. The national interview results are categorized in groups of comparable observations. All national results are categorized in the same way. This is the input for the analysis, which aims to identify the most important entrepreneurial skills.

To create a uniform approach for the interviews and the analysis throughout all countries, all interviewers were instructed in a workshop how to do the interviews and how to analyse the results. In addition, the approach used for the national discussion workshops was more or less standardised by means of a guideline provided by the editors of this report. Wherever partners in some countries made changes to the approach for the interviews or the workshop, this is mentioned in the methodology paragraph in the national chapters.

1.5 Readers' guide

The report starts with six national chapters, each providing an overview of the results of the interviews in England/UK, Finland, Italy, The Netherlands, Poland and Switzerland. Each chapter starts with a brief description of the country-specific situation in agriculture. This should provide sufficient background for the readers to be able to interpret the results of the interviews. The national chapters also contain some conclusions and comments concerning the national level. In chapter 8 the national results are synthesised into a European overview. Conclusions and discussion notes are formulated at a European level on the basis of this overview. Each chapter can be read on its own.

NB The authors are fully aware of the role of women in agriculture and the existence of female farmers and entrepreneurs. In order to simplify the reading, though, the authors decided to use only the male formulation.

2 Important trends and required skills in England (UK)

Gerard McElwee

2.1 Introduction

2.1.1 Methodology

The UK is a large country with a great spatial variety in agriculture and in economic development. We decided to focus on England as a specific part of the UK, because we expected that the large differences between the different regions would give problems with the selection of a coherent interviewee population and also with the analysis of the results. A more practical reason was the large size of the UK, which would lead to organisational problems with carrying out the interviews and the organisation of a national discussion workshop with respondents.

A database of relevant actors was compiled from a number of sources and used as a sample population from which to select our initial respondents. Between May and September 2005, we interviewed 18 respondents who were connected in some way with the farm sector. These respondents included: representatives from food distribution companies, supermarkets, farmers, food producers, pressure groups, politicians and farmer support groups. We chose such a group of respondents in order to achieve a purposive sample of those who are involved in the farm sector and who might be expected to exhibit the characteristics considered theoretically important and to represent a cross section for comparative purposes. 1 shows the breakdown of respondents.

Very little was known about each of the respondents. They were located from a variety of sources: those who had participated in earlier studies, which we had undertaken, and through word-of-mouth recommendation from the UK National Farmers Union.

Table 1 Breakdown of English respondents

Category	Number
Government and Policy makers	5
Production	3
Scientist	1
Supermarket	1
Farmers	6
Farmers representatives	2
Total number of interviews	18

2.1.2 Description of English situation 2005

The data shown in the tables below specifically relates to England, and not the UK (i.e. England, Scotland, North of Ireland and Wales).

Farming in England is a mixture of arable and livestock. The majority of the larger arable farm holdings are located in the Eastern regions of the country whereas livestock production is more prevalent in the Western regions.

The total agricultural footprint in England is 9.7 million Hectares. Around 40% of this land is used to grow crops and 38% is either grass or rough grazing. The most common crops grown are wheat and barley, which account for 18% and 6% of land utilisation, respectively.

Crops and livestock

The areas of crops grown and the numbers of animals farmed in England are shown in Tables 2 and 3.

Table 2 Areas of crops grown in England

Crops	Area (1,000 hectares)
Wheat	1,748.4
Barley	595.5
Oats	65.5
Rye	5.9
Mixed Corn	2.8
Triticale	11.2
Total Cereals	*2,429.4*
Oilseed rape	480.0
Sugar beet	148.3
Potatoes	102.4
Hops	1.4
Linseed	44.8
Flax	0.5
Industrial, energy or other non-food use crops	16.0
Other crops	34.2
Total other crops not for stock feeding	*827.7*
Mainly fodder or compounding crops total	386.1
Total Vegetables and salads grown in the open	108.7
Total orchards	21.8
Total small fruit	7.4
Total hardy nursery stock	7.3
Total bulbs and flowers grown in the open	5.2
Total glasshouse area	1.8
Total Horticultural crops	152.1

Source: Defra Survey of Agriculture and Horticulture: 2 June 2005

Table 3 Numbers of animals farmed in England

Livestock	Number (1,000 animals)
Total cattle and calves	5,527
Farmed deer	22
Goats	83
Total pigs	3,959
Total sheep and lambs	15,877
Total poultry	125,576

Source: Defra Survey of Agriculture and Horticulture: 2 June 2005

Farm holdings

There are 192,877 farm holdings in England. Table 4 shows the number of farm holdings for each farm type based on the UK Government Department for Environment Food and Rural Affairs (Defra) 'farm type' classifications. 5 shows the average sizes of arable holdings in England. 6 shows the average sizes of livestock holdings in England.

Table 4 Number of Farm Holdings in England

Farm Type	Number of Holdings
Cereals	22,894
General Cropping	9,373
Horticulture	9,595
Pigs	2,161
Poultry	5,538
Dairy	13,264
LFA Grazing	11,366
Lowland Grazing	36,019
Mixed	11,010
Other	71,656

Source: Defra Agricultural Census June 2004

Table 5 Average Sizes of Arable Holdings

Crop	Number of Holdings	Hectares	Average Size of Holding (Hectares)
Wheat	33,864	1,865,163	55
Winter barley	14,846	351,017	24
Spring barley	12,043	291,484	24
Potatoes	6,709	111,519	17
Sugar beet	7,233	153,776	21
Horticulture	15,026	157,348	10
Vegetables grown in open	5,531	112,455	20
Area under glass/plastic	5,724	1,751	0.3
Total fruit	5,523	29,739	5

Source: Defra Agricultural Census June 2004

Table 6 Average Sizes of Livestock Holdings

Livestock	Number of Holdings	Animals	Average Size of Holding (Animals)
Dairy cows	15,554	1,374,456	88
Beef cattle	27,305	730,376	27
Pigs	9,246	4,236,342	458
Sheep	48,595	15,873,166	327

Source: Defra Agricultural Census June 2004

Labour

The average age of farmers in England is 55 (Defra, 2004). There are almost 365,000 people working in agriculture, which accounts for 1.74% of the working population of England. However, 42% of them work part time and another 13% are seasonal or casual labour. Table 7 illustrates a breakdown of the labour force.

Table 7 Agricultural Labour Force in England

Labour Force	Number (1,000)
Farmers, Partners, Directors and their Spouses working on the holding	
▪ Full time	97.9
▪ Part time	125.1
Salaried managers	15.4
Other workers	
▪ Full time	50.5
▪ Part time	29.7
Seasonal, Casual or Gang Labour	46.3
Total Labour Force Including Farmers and their Spouses	**364.9**

Source: Defra Survey of Agriculture and Horticulture: 2 June 2005

The total value of output from farms in the UK was estimated to be £6.9 billion (= € 10 billion). The main export products in terms of value are milk, beef, wheat, poultry meat and sheep meat. The ban on live exports during the foot and mouth outbreak of 2001 caused a dip in exports, but this has now almost recovered.

2.2 Results

This results section is structured as follows. A 'global' picture of all of the responses is presented followed by a discussion of the responses to each question in an attempt to determine if there are any emergent trends.

It may be suggested that questions 1, 2 and 3 will allow a qualitative examination of the issues, which the respondents deemed to be most critical and important to the farming industry. These issues have been 'ranked', which is not intended to show degrees of importance but merely to show how often these issues were referred to.

However, this ranking does not distinguish between the types of skills. Clearly, some of the skills articulated are more qualities than skills: what is evident in the responses is the high level of abstraction.

2.2.1 Issues, trends and developments

Question 1: What are the most important trends and developments in the operational environment of the farm sector in the UK?

The issues which clearly were a primary concern for many of the respondents were those surrounding bureaucracy and legislation, closely followed by CAP reform. At the time of the interviews, the timing of the Single Farm Payment (SFP) was (and continues to be) a high priority for many farmers. Other significant issues highlighted by the respondents were concerns about the labour market, evidenced by reference to skills shortages and apparent lack of interest in developing a career in the sector by farmers' children.

Legislation and bureaucracy

Whilst not a trend, legislation and bureaucracy were regarded as a significant issue by the respondents. In terms of the legislative demands placed on the sector one upland farmer suggested that *"Defra[1] 'gold plate' all the rules which come out of Brussels' going beyond the letter of the law. A good example is the livestock burial plan."* For this upland farmer, the suggestion was that the Defra exceed the regulatory framework stipulated by EU legislation. Another farmer articulated how regulation has an effect on his daily life.

> *"Look at waste management! I can't move manure from one field – my own field – to the next. Everything has to be written down; field records, pesticides records, the disposal of chemical containers, all waste. Just about everything has to be licensed even if you have your own farm."*
>
> *"It means a lot of form filling… as a one man farmer, working all day outside, it is one thing to have to pay my bills afterwards… but then you've got to fill in all these things for the SFP schemes, all this formwork to fill in. Then you get the rest from the Defra… and with your scale of operation, the amount of work doesn't vary depending on the size of the farm. It's the same whether you have a large or small farm. You just don't want to do it."*

According to another respondent "the increase in bureaucracy and regulation potentially creates a significant danger of alienating the farm community". Such predictions were not uncommon from the respondents.

Bureaucracy and legislation appear to have a different focus for different farmers. Tenant farmers for example appear to have to satisfy the demand of a greater number of stakeholders than others. What was apparent were the high levels of frustration amongst the sample – not just the farmers.

[1] UK Government Department for Environment Food and Rural Affairs

Labour Issues

A common concern for all respondents was the perceived deficit of labour. This was expressed not only in terms of availability of labour, but also in terms of an ageing workforce, skills shortages and the attractiveness of the farming industry. For one farmer, *"young people are just not coming onto the farm"*. For this farmer, the implications were that the future of the industry is in doubt if not enough people are attracted into the sector. If the average age of the farmer is currently 55, then this may be a significant concern.

Farming is hard work, suggests one farmer, the implication being that this will not attract new entrants: *"…..and labour… it used to be a nightmare getting people. It is very hard grafting [work], and people aren't used to it today."*

Another farmer suggested that *"not enough country men coming through – it's near impossible to get skilled labour. I'd say there's a real skills shortage which in turn means that the future of land management is in the balance. The decision to get out or stay is a real one"*. This issue of the future of the industry and the career choices of individual farmers' is significant.

The Market

A further significant issue concerns the role of supermarkets and the ways in which both prices and consumer preferences are controlled. A number of respondents saw the perceived monopolistic power of supermarkets as a major threat to the farming industry in the UK. All respondents commented that the industry is highly competitive and that consumers are becoming both more discerning and highly stratified.

2.2.2 Skills

Question 2: What are the most important skills that a farmer needs in order to succeed in the farming industry?

The respondents identified a great number of skills. The most significant skill set identified was good administration and marketing. Clearly other business skills can be subsumed into the category of good administration these include: financial and accountancy skills and the commercial skills of buying and selling.

One skill highlighted by a politician was appreciating one's personal limitations.

> *"The most important skill to recognise is that where a farmer does not have a skill he should then buy that skill set in, e.g. accountant, crop consultant, etc. Those who make mistakes often do so because they do not recognise their limitations. A good dairy farmer does not need to know a lot about dairy farming."*

This was reinforced by a food producer;

> *"You've got to have the right man for the job – so being able to know the right person to help you break into the right market [is important]. You have to know your limits.*

Other skills identified were similarly intangible. For one food producer,

> *"A lot of skills would be his experience, being able to forecast the weather, look for market trends. Looking to the past to predict the future. Like knowing when to treat the crop if there's a disease. It's foresight."*

And from a policy adviser

> *"Creative thinking and the ability to exploit new opportunities for their businesses."*

However, other identified skills were much more business focussed. A policy adviser suggested;

> *"Communication skills – the industry has never been very good at selling itself. Getting the message across to the public that they are a good thing. Communication skills in terms of co-operative working, e.g. buying machinery together. Knowledge of new technology in terms of how it can help them become profit wise and environmentally. There's often overlap between them.*
>
> *"Treating the men right to get the best out of them – people management. There's no point in being a grumpy old bugger! Some are though! Being able to relate."*

A policy perspective takes a whole of business approach;

> *"If we equip farmers just with management, accountancy skills etc… we also think they need training in how to brand and sell their products."*
>
> *"Business planning and the ability to run an enterprise"*

A politician (and large farmer) suggested that

> *"Small and large farmers have different skills but they both need to develop commercial skills of, cooperation, and buying and selling of assets"*

To do this however, argued one respondent involved in a farm support organisation, farmers must;

> *"… work collaboratively with other farmers i.e. horizontal collaboration utilising a range of skills. Cooperation with other farmers and supply chain"*

This position was reinforced by a respondent from a farmers' support group

> *"The farmer needs to know exactly what the cost of his product is and how and where he will sell it. So he needs to know about marketing and cooperation with other farmers and the supply chain. It's necessary to have the ability to recognise the necessity for employing (managers) for collective benefit"*
>
> *"The farmer needs business discipline [meaning] strategy and business planning"*

A policy advisor suggested

> *"In terms of business skills – farmers will need to know exactly what their unit cost of production is – exactly how much it is costing. They need to have a strict control over costs. They'll need to be able to benchmark theirs against other farmers, local ones and ones in their market, in order to make comparisons and make changes. I think farmers are unaware of their costs – they just drift along and sell their produce"*

One farmer agreed

> *"I think we're going to have to be far more skilled in our marketing – whether you're on your own or in a co-operative. You can know more about what you can sell it for, even wheat. I hear a lot from farmers complaining that they've missed out on the £120 per ton, or grateful for missing out on the £40 per ton prices – its rubbish really, these extremes don't really exist. In the past, it [farming] has been supported by subsidies but the CAP will change. You will have to know exactly what your costs are. I don't think the farmers have these skills yet."*

The general picture emerging from the above suggests that business planning, collaborative working and marketing are key skills for farmers to succeed in business.

2.2.3 Level of skills

Question 3: Do farmers in the UK have these skills? If not: why not?

The responses to this question were variable. Indeed, the respondents had difficulties with the question. The dominant response was that some different farmers have different skills depending on a wide range of phenomena.

These phenomena ranged from social contexts: social back ground, education, to variables such as geography and location to more intangible phenomena such as personal drive, ambition and strategic awareness.

The Production Director of a packaging operation encapsulated this issue as follows;

> *"Farming is such a gamut of different abilities and social classes – you can't generalise too much. It's a very difficult question – we come across a lot of farmers who don't [have the skills required]. The problems are that we have an ageing community"*

One food producer suggested that

> *"Everyone reacts to situations in different ways. I think farms in the UK are extremely diverse. Some have small micro marketing systems; some farms have grown enormously on the back of specialisation. Farmers are losing out on the marketing – I don't think they have these skills. It is in the marketing where an enormous amount of value is added – I think farmers are missing out in this area. The market is not accessible to them."*

He went on to suggest that

> *"There's a tremendous skill pool in UK agriculture because of the diverse range of skills these farmers have needed – all the business skills, plus traditional agricultural skills; stockmanship, husbandry, forecasting, etc."*

The Chief Executive of a purchasing consortium however, saw it differently.

> *"No, I don't think they have. They don't have them because they've never needed them"*

A slightly different position was taken by another farmer;

> *"Farmers… they've got ever so many farming skills, but haven't got the knowledge of 'what's gone on' in the government and the industry, etc. You can have great farmers, but not [necessarily] the skills."*

Some pressure groups understood the problem differently to others;

> *"There are so many different types of farmers – new entrant farmers and 'academics' – they do have these skills already, they will be able to fill in forms and use the computers. But the danger is that they will be inclined to diversify – what will it mean for the landscape?"*

The Corporate Affairs Director of a large supermarket chain argued that;

> *"Unsupported sectors tend to be more entrepreneurial farmers and more likely to understand commercial reality."*

However for a politician;

> *"In many ways small farmers have advantage over large farmers because it is relatively easier for these farmers to access: financing, technology, markets. They are able to react quicker."*

There were some farmers who said that;

> *"Some farmers do not or will not learn new skills and do nothing else but claim income support."*

Meaning;

> *"There is reluctance on the part of farmers to learn new skills. There are some who do not want to change but others who recognise the inevitably of change."*

A farm support organisation recognised these tensions suggesting that;

> *"Farmers have the skills to be a farmer but not a business. Sons and daughters no longer continue the tradition, their capacity to get to market is weak and to sell assets is weak so their market awareness is poor."*
>
> *"The subsidy culture has really cushioned farmers from the reality of business."*

Summary

Clearly, to make sense of these responses a typology of skills needs to be proposed. These can be grouped as follows:

1. Business and Management Skills: Accountancy, Financial skills, Strategic planning, People Management
2. Cooperation and Networking skills
3. Information Technology Skills
4. Marketing and Selling Skills
5. Entrepreneurial Qualities and Values
6. Technical and Professional Skills i.e. Farming skills

These can be further sub-divided into two types of skills. Firstly those skills that are necessary for the successful management of any business and secondly those skills which can be considered entrepreneurial skills. Thus :

Type 1 Business and Management Skills

Accountancy, Financial skills, Strategic planning, People Management

Information Technology Skills

Marketing and Selling Skills

Technical and Professional Skills i.e. Farming skills

Type 2 Entrepreneurial Qualities and Values

Cooperation and Networking skills

2.3 Discussion and conclusions

2.3.1 Discussion

The characteristics of the farm and farmer in terms of entrepreneurship are not easily understood. Farms may have been owned or managed within the same family for generations. It may be suggested that historically the motivators for farmers have not been overtly financial: owning a farm and being solely responsible for the health of their own endeavour has been a major determinant of personal success. The relative safety of the farm enterprise has changed, as the primary motivator for many farmers now is one of business and personal survival.

To conceive of farmers as a homogeneous group is a mistake and hinders policy development. From our initial investigation it is not possible to determine whether farmers are indeed entrepreneurial but we can indicate that there is a skills gap in the sector and we show that the skills that farmers need to develop with support from other agencies include: generic business and management skills, particularly marketing, financial and business planning skills. Other skills that need to be developed are those of communication and collaboration. In one sense the quotes illustrated above reinforce the lives, worlds and interests of the stakeholders interviewed.

What is clear from the research is that all stakeholders interviewed recognise that farmers need to develop their skills and entrepreneurial capacity if they want to continue in business. There is a clear suggestion that for the industry to be successful farmers need to be supported in their business endeavours. There is no distinction to be made between large and small farmers' ability to react to changes in the environment. Some respondents suggest that large farmers are more business like because they have structural and functional capability. However, according to a landowner and politician small farmers "have advantage over large farmers because it is relatively easier for these farmers to access: financing, technology, markets. They are able to react quicker". These and other assertions will be tested in the next stage of the research.

2.3.2 Conclusions

This pilot study has shown how we can begin to understand the complexities of this sector. Preliminary research indicates that farming is not a homogeneous sector and it operates in a complex and multi-faceted environment. Perhaps one of the major questions that will be further posed is which should be the unit of analysis – the farmer or the farm? We suggest that this is important because farmers are not always able to determine the future of their farms. Clearly, the sector is so diverse in terms of geography, topography, location, etc that common solutions cannot be provided. A further area for investigation is the concept of 'constrained entrepreneurship'. By this we suggest that farmers operate in a tightly constrained and regulated environment, which acts as a significant barrier to entrepreneurial activity.

This pilot stage has suggested that a great number of skills are necessary to run the farm business, but has not indicated which are the entrepreneurial skills necessary for success in a competitive market environment. The next stage will focus on these skills. Furthermore, of the interviews described above only six were held with farmers and clearly the extent to which farmers are capable of being able to fully delineate their own skill capacity necessitates further work.

This research suggests that a major challenge for the agricultural sector is to enable farmers to develop their entrepreneurial skills. It may well point to the fact that if the sector is under as much strain as many would suggest, then farmers of all types will require economic support and greater emphasis on education and training may be necessary. Continued success will depend on engaging more closely with the food chain to gain added value and price security.

3 Important trends and required skills in Finland

Jarkko Pyysiäinen and Kari Vesala

3.1 Introduction

3.1.1 Materials and methods

The interviewees in Finland represent stakeholders in agricultural and rural issues, ranging from state officials and policy makers to representatives of various support and extension services and experts (see Table 8 below). Since responsibilities for agricultural and rural affairs and their development in Finland is distributed among various policy-making institutions and governmental bodies (e.g., the Ministry of Agriculture and Forestry, the Ministry of Trade and Industry, the Ministry of the Interior), our selection of interviewees was intended to capture these various perspectives on the subject. In addition, we interviewed two members of the Finnish Parliament who specialise in agricultural issues and included them in this classification as representatives of the policy makers. Hence, the proportion of interviewees representing different governmental and state officials and policy makers is fairly big in our sample (7 of 21 in total).

Table 8 Breakdown of the Finnish interviewees

Category	Number
Government, state officials, policy makers	7
Extension services	4
Media (agricultural and rural issues)	1
Scientists	4
Banking and financing	1
Farmers' representatives	2
Federation of small businesses	2
Total number of interviews	21

The interviews followed a procedure that was jointly agreed within the project. Three interview questions, printed on separate sheets of paper, were presented to the interviewees one by one. The interviewees were allowed to discuss each question as long as they felt was necessary. The interviews lasted from 45 minutes at the shortest to one and a half hours at the longest. During the interviews the interviewer made notes and the interviews were also tape-recorded. The interviews were conducted in Finnish. The analysis (i.e., qualitative categorisation of the comments) was done mainly on the basis of the interview notes, which has to be taken into consideration as a potential source of minor inaccuracies. After the analysis, selected quotations from the interviewees that are presented in this report were translated into English.

In Finland a discussion workshop on the results of the interviews (i.e., the same results as presented in this report) was organised in December 2005, and all 21 interviewees were invited to participate.

Unfortunately, only four of the ten interviewees who confirmed their participation managed to take part in the discussion. In the national discussion workshop, all four interviewees agreed with the general lines of analysis and with the results. The discussion did not bring out any major dimensions considered to be missing from the results presented.

3.1.2 Description of country-specific agricultural situation

Since EU membership in 1995, agricultural income in Finland has been steadily falling despite the growth in support payments. The commitment to the Common Agricultural Policy of the EU meant that it was no longer possible to regulate the market price level of agricultural products through national border protection and export subsidies; the minimum prices of agricultural products guaranteed by the EU are much lower than the producer prices paid in Finland prior to EU membership. The structure of Finnish agriculture has changed rapidly: in 1994 the total number of farms was 103,000 and in 2004 that number had fallen to 71,000 farms. In 2004, almost 45,000 farms of the total 71,100 were located in the areas of southern and central Finland, even though these areas only make up around 1/3 of the total surface area of the country. At the same time the cereal sector has grown, as well as the concentration of the food industry and trade. In 2004 there were record national production levels, e.g. in meat production. (Niemi and Ahlstedt 2005).

According to statistics from 2004, the total number of Finnish farms was 71,100. The distribution in terms of production sectors was: crop production 58% of the total number of farms (average size of crop farms in terms of arable land was 31.5 ha); dairy husbandry 24.5% (average size of dairy farms in terms of heads of cattle was 17.9); beef production 6.5%; pig husbandry 4.8% (average size 401 pigs); poultry production 1.3%; and other sectors 4.9%. The measures are based on the number of farms receiving agricultural support in 2004 (Niemi and Ahlstedt 2005; Lehtonen and Pyykkönen 2005).

In 2004, the average age of farmers was 49 years; the average age of farmers was higher in the north than in the south. The utilised agricultural area in Finland accounted for 6.7% (2,253,300 ha) of the total surface area, and the percentage of the national population working in agriculture was 3.9% (93,000 persons) of the employed population in Finland. In 2003 the share of agriculture within the total GDP (123,963 million euros) was 1.3% (1,595 million euros), and the share of the food industry 1.7% (2,144 million euros) (Niemi and Ahlstedt 2005).

The single most important product group in the export of agricultural products is cheese. Other important articles include butter, sugar products, pig meat, cereals and alcoholic drinks. In 2004 the total value of Finnish food exports was 940 million euros; in the same year the value of food imports was 2,330 million euros (ibid).

In 2003, about 1/3 of Finnish farms were engaged in on-farm business diversification, i.e., they had some other business activities besides primary production (ibid).

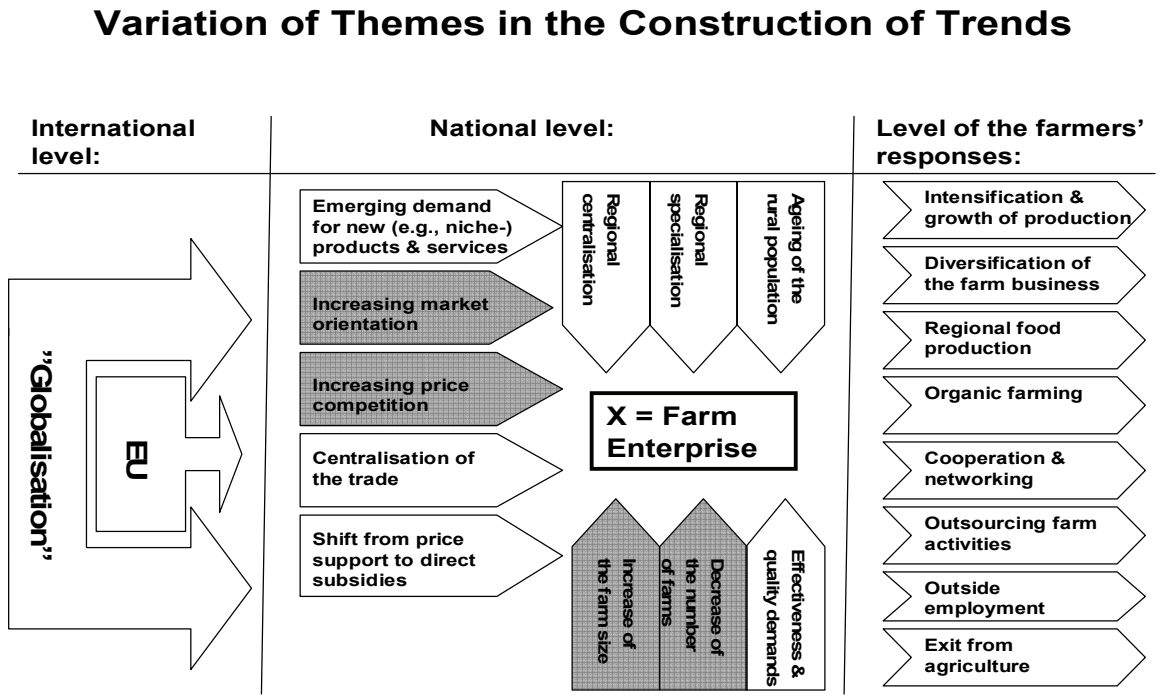
3.2 Results

3.2.1 Trends and developments

In their answers to question 1 concerning trends in the operational environment of the farms, the interviewees structured their answers by identifying certain developments taking place either at the international (globalisation, EU) or the national level (centralisation of trade, increase of farm size) and, in some cases, linking the causes at international level with the effects at national level (see Figure 1. Some of the interviewees identified the main influences on the development of the Finnish national operational environment as coming from the international arena (e.g. trade liberalisation, growing price competition, EU policy), whereas others did not clearly attribute the developments in the national environment to any international phenomena or processes, but focused merely on the nature of the developments taking place at the national level. One interpretation of this finding is that some of the interviewees saw the forces of "globalisation" as clearly shaping the operational environment of Finnish farms, whereas others did not want to place too much emphasis on the role of such global forces.

Secondly, the interviewees typically formulated their answers in such a way that they also described possible courses of action (or adaptation) available to farmers. For instance, they saw that farmers' responses to changes and developments in their environment are an essential part of the trends in the operational environment of farms (see the column "level of the farmers' responses" in Figure 1). Of course, this is understandable in the sense that other farmers and their choices (e.g., choices to intensify and expand production, to diversify, or to outsource some farm work, etc.) can be seen as important aspects in the operational environment of any particular or single farm enterprise.

Common to all interviewees in their answers to question 1 was – in one form or another – the view that increasing market orientation and price competition, the increase in the average size of farms and the decreasing number of farms overall are indicators of hardening competition in the immediate environment of Finnish farms (these themes are marked with grey in Figure 1). Many of the interviewees emphasised the concentration of trade and highlighted the importance of some aspects of regional development, such as regional centralisation, regional specialisation and the opportunities related to such developments (e.g., conventional agriculture tends to be concentrated in southwest Finland, while the production and sale of niche products and special services tends to be located near regional population centres). However, the views differed significantly when it came to naming suitable or viable responses to these developments from the farmers' perspective. Whereas some saw business diversification as a major trend for the future, others discounted the role of business diversification as an unprofitable waste of time and emphasised the importance of growth or of finding novel ideas and lines of production within conventional agriculture. In the same vein, there were differences of opinion among those who saw that developments at the international level contribute significantly to the operating conditions of Finnish farms; some felt that the policy of the EU is in line with and a part of the general trend of globalisation, whereas others thought that the EU may have an independent, perhaps compensatory or even counter-influence alongside global market forces (see column "international level" in Figure 1).



NB The themes marked with grey were present in all the responses.

Figure 1 Variation of the themes contained in responses to the question

3.2.2 Skills

In their answers to question 2 concerning the most important skills that are needed in successfully running a farm business, the interviewees mentioned a large variety of skills. These ranged from fairly concrete technical skills to more abstract configurations of higher-order skills and even attitudes and personality characteristics. In their answers each interviewee presented several skills-related notions – typically by listing or naming various types of skills. In order to capture the qualitative variation in the sample, all of these notions were compared to each other and roughly categorized on the basis of obvious similarities and differences. This categorisation consists of 12 categories, which all include notions of a similar kind. These 12 categories can be further grouped into five more general categories (see Figure 2, categories A-E). Sets A, B and C indicate the variety of tasks implied by categories of skills. Sets D and E cover those notions that do not literally count as descriptions of particular skills.

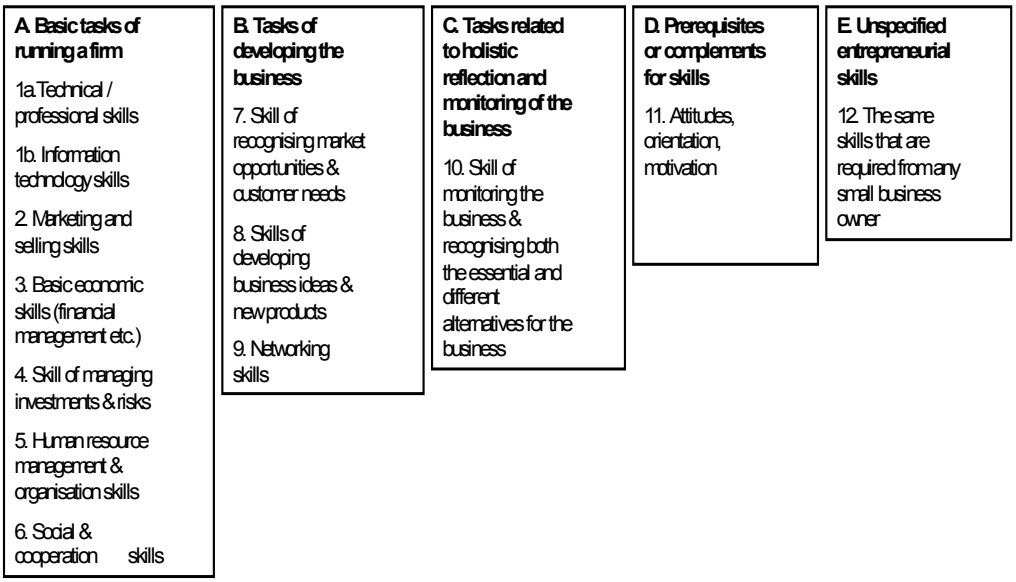


Figure 2 Categorisation of responses to the question about the most important skills

Basic tasks of running the firm

The first general task category (A: Basic tasks of running a firm) consists of skill categories containing the skills involved in managing the basic tasks or activities needed in running a firm – for example, production, marketing, accounting, financial management, human resource management, and so on. In the following we provide two illustrative quotations from each general category. The comments related to category A included views such as the following:

> *"A thorough, industry-specific professional skill is important." (A farmers' representative)*

> *"The skills of calculation and financial accounting are essential."* (A representative of the government, state officials and policy makers)

Tasks of developing the business

The second general task category (B: Tasks of developing the business) consists of skill categories related to the tasks involved in dynamically developing the business. The skills in this category refer to general patterns or aspects of managing the business in a profitable way; hence they are more abstract than the skills in the first category (A: Basic tasks of running a firm).

> *"Throughout the industry sectors, it is essential to understand the perspective of the consumer; however, this understanding is not yet sufficiently developed."* (A representative of the government, state officials and policy makers)

> *"The farms should develop an ability to seek support, services, partnerships and opportunities for cooperation even more extensively, both regarding substance and number of actors." (A representative of the extension services)*

Tasks related to holistic reflection and business monitoring

The third general category (C: Tasks related to holistic reflection and monitoring of the business) can be distinguished from the previous ones in that these skills refer to a way of perceiving the business, or a holistic mind-set, that is more abstract than any specific skill.

> *"The skill to recognise different alternatives and to steer a course between them is essential, as well as the skill to distinguish the central factors of profitability and fields of one's own business." (A representative of the extension services)*

> *"It is important to have the courage to outsource work and to organise one's own work, which means being able to perceive clearly the distinction between one's own work and the possible work to be outsourced."* (A representative of the scientists)

Prerequisites or complements for skills

The fourth general category (D: Prerequisites or complements for skills) refers to factors which are not actually skills but are nevertheless needed in order to develop them. Even though the comments in this category do not refer explicitly to skills, it is justified to include them in the overall categorisation. They were, after all, offered in response to the question about the most important skills. Further, many of the interviewees wanted to emphasise that in addition to skills, attitudes or motivations are also essential for a successful farm business.

> *"Initiative and active orientation is required from farm-entrepreneurs in the finding and exploitation of existing opportunities; the more entrepreneurial the mode of the farm business, the more this initiative is required." (A representative of the government, state officials and policy makers)*

> *"An extrovert and open-minded orientation is needed throughout the farming industry."* (A representative of the Federation of small businesses)

Unspecified entrepreneurial skills

Finally, the fifth general task category (E: Unspecified entrepreneurial skills) can be regarded as a general category on its own, since it consists of comments that do not specify the nature of the important skills in any other way than equating them with the skills required from any entrepreneur or owner of a small business. Hence these comments do not allow one to determine whether they refer to, e.g., skills of managing certain types of tasks or perhaps some prerequisites for skills, such as attitudes or motivation.

> *"Those skills that are generally important for success in any business activity are also important for a farm business, including business management skills."* (A representative of the scientists)

> *"The skills that are required in any business activity are important in a farm business as well. Nevertheless, good entrepreneurship may be a combination of many kinds of skills – there is no*

*exclusive, single recipe regarding the combination of skills." (*A representative of the government, state officials and policy makers)

This categorisation incorporates all the comments made by the interviewees. That is, every comment stated by the interviewees can be grouped into one of the above-mentioned categories.

3.3 Conclusions and discussion

3.3.1 Conclusions

On the basis of the analysis concerning trends and developments in the operational environment of Finnish farms (question 1), we can conclude that the answers consistently paint a picture of an operational environment that is undergoing comprehensive and thorough transformation. In one way or another, all the interviewees saw a greater market orientation, general price competition and increasing competition among farmers as important factors in the operational environment of Finnish farms.

The analysis of the most important skills needed to run a farm business successfully showed that the variety and range of skills judged as important is surprisingly large. It is not easy to identify any one or two skill categories that might clearly stand out as more important than the other categories. Instead, the popularity of the view that farmers nowadays need the same skills as any other small business owner is indicative of the nature of the results in general. Apart from their role as professionals in primary production activities, the farmers are viewed as small business owners comparable to any other small business owner. The results concerning what are perceived as important skills are in line with the views expressed concerning trends in the operational environment: the general call for a wide variety of business-related skills and increasing business competence is understandable, given that the operational environment is perceived as being in a period of profound change and farms are perceived as encountering steadily increasing demands for competitiveness and profitability.

3.3.2 Discussion

The topic of the present research project is the development of the entrepreneurial skills of farmers. The results reported here paint a picture of a broad variety of skills and characteristics that the Finnish experts and stakeholders viewed as decisive in the successful running of a farm business. However, the results do not tell us whether we should interpret all these skills-related notions as entrepreneurial skills. From the perspective of the topic of our research project, this is a fundamental question that cannot be addressed on the basis of mere data analysis alone.

In the research literature on entrepreneurship, not all activities related to the management of a small business are considered to be entrepreneurial activities. Some tasks and activities are viewed as deserving the attribute "entrepreneurial" while others are not. According to an established distinction, entrepreneurship is associated with a certain style or mode of orientation, characterised by qualities such as innovativeness, dynamism and growth-orientation (Carland and al.1984; see also Vesala and

Peura 2003.) From the perspective of such a distinction, it is not obvious that all the skills-related notions reported in the Finnish results should be regarded as entrepreneurial.

Indeed, when looking at the skills-related notions in our categorisation in more detail, we see that some of the categories refer to the basic tasks of running a small business, without including anything essentially entrepreneurial. For example, many of the skills mentioned are among the basic tasks of running a firm, such as technical and professional skills, marketing and selling, financial management and accounting, management of investments, and human resource management. Instead, the notions associated with the tasks of developing the business and holistic reflection and monitoring of the business seem to manifest qualities that are associated with some of the core elements in definitions of entrepreneurship.

The results of the analysis concerning the most important skills comprise both basic skills related to the management of certain basic tasks in the course of running a small business and skills that are recognised in the research literature on entrepreneurship as referring to 'proper' entrepreneurial tasks. In addition, the results include notions that, strictly speaking, are not skills at all, such as attitudes and motivations. However, the interviewees did not make any systematic distinctions between these skills-related notions in their answers: and nor should we expect them to do so. However, this means that in order to make the important conceptual distinctions, an additional interpretive effort has to be made on the basis of certain theoretical criteria.

In the national discussion workshop the significance of a broad variety of skills for the successful management of a farm business was confirmed; interestingly, the skills related to the holistic reflection of the business and to the development of the business were judged to be important throughout the farming industry.

The interviewee sample in Finland was selected in such a way that the interviewees represented various national level perspectives on agricultural and rural issues. That is to say that no representatives of special lines of agricultural businesses or industries were included in the sample. Hence, it is hardly surprising that the interviewees did not focus on specific agricultural industries or particular lines of business in their answers, instead evaluating the national situation at a more general level. Perhaps one characteristically national trend or development taken up by many interviewees is worth mentioning, namely, the notion that the development of the Finnish agricultural industry was judged to be is highly regionally specific and that the future development of on-farm business diversification was seen as depending partly on such regional development processes.

4 Important trends and required skills in Italy

Tanja Bastia, Diego Pinducciu, Antonella Ara, Mara Miele and Terry Marsden

4.1 Introduction

4.1.1 Materials and methods

Italy is highly diverse in terms of both its geography and levels of economic development. As a consequence agricultural practices vary substantially between regions in the south and the north of Italy. Research in Italy focused on the region of Tuscany in order to include some depth and coherence to the selection of interviewees (see below); focusing on one region also made it more likely that the producers and stakeholders interviewed would attend the national workshop.

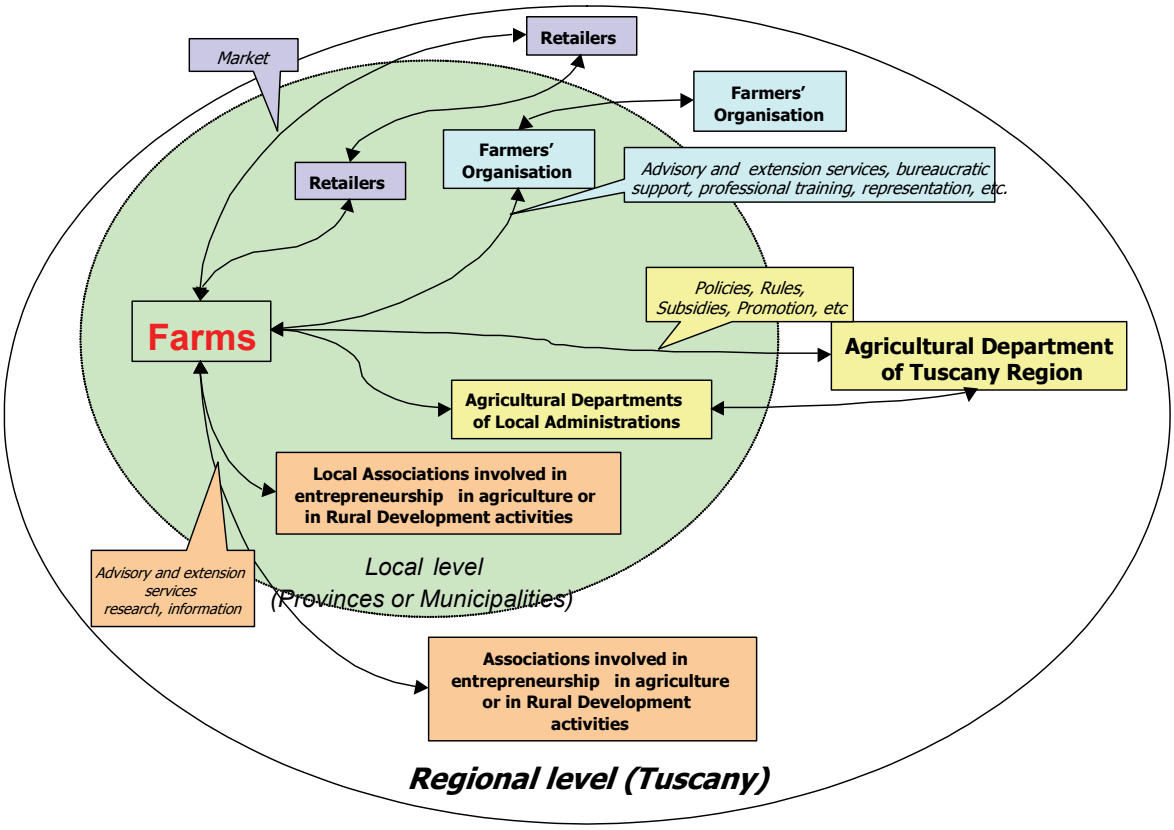


Figure 3 Main relationships linking farms with other major actors in the agricultural sector in Tuscany

We began by identifying a number of key production sectors in relation to their importance for the regional agricultural economy: viticulture, oil production, grain production, animal breeding and horticulture and fruit. In addition to these key agricultural sectors, the research aimed to cover other

categories which have emerged over the years as being significant for Tuscan agriculture, such as organic production, multi-functional farms and emerging female and young entrepreneurs. Interviewees covered all these sectors and therefore broadly represent Tuscan agriculture.

Figure 3 illustrates the main actors who operate within Tuscany's agricultural sector and the main interactions between these and agricultural agencies, be it at the local level (local councils and provinces) or the regional level. This framework was used to identify those actors to be interviewed who represented the most significant areas of the agricultural sector.

Interviewees were identified by following links through the production chain. For example, after identifying an innovative olive oil producer, we then aimed to interview a distributor or stakeholder relevant to that particular sector. This allowed for additional links to be established during the analysis of the interviews. The following table shows the number of interviews conducted for each category.

Table 9 Breakdown of interviewees in Italy

Category	Number
Regional government and policy makers	2
Product chain	3
Farmers' cooperatives and associations	4
Experts	1
Farmers	7
Other – environmental association	1
Total number of interviews	18

Interviews were conducted following the instructions provided by the work package coordinators. The interviews ranged between 45 minutes and one and a half hours. Interviews were then transcribed and analysed in Italian by coding them with the three main criteria: trends, skills and presence of these skills. The interview results were presented at a national workshop held in Pisa on 12th January 2006. It was attended by 11 people, seven of whom were interviewees (or their representatives) and four invited guests with expertise in rural development and farmers' entrepreneurship.

4.1.2 Description of country-specific agricultural situation

Italian agriculture has changed radically in recent decades. Its contribution to the national Gross Domestic Product (GDP) and to employment has been gradually decreasing, even though the importance of the agricultural sector for the national economy overall over the last few years has been similar to that of other central and southern European countries. There remains a strong territorial differentiation between agriculture in the central and northern regions of Italy, where it is less significant in terms of the value added and total units of labour employed compared to the southern regions[2].

[2] Agriculture in the Centre-North contributes 2.2% of value added on the basic price and 3.9% of total employed units of labour in comparison with 4.2% and 9.7% respectively for the South in 2003.

The agricultural sector employs 1,272,000 workers (units of labour, UL) and represents 5% of the Italian workforce. Men make up 69.3% of those employed in agriculture; 49% of the total agricultural labour force is employed in the Mezzogiorno, the southern regions in Italy, while the remainder is divided between approximately 37% in the north and 14% in the centre (Inea 2004 on Istat data).

The Italian production system – and the agricultural sector in particular – was characterised during the 1990s by a process of labour substitution in favour of capital inputs (investments in machinery, equipment, plants, etc.) and medium-sized inputs (everyday technical resources, services, etc.). This process improved labour organisation as well as managerial techniques and was therefore a critical element for disseminating innovation within the production system. Nevertheless, signs of a slowdown in the rate of growth in production started appearing towards the end of the 1990s, without being accompanied by improvements in efficiency (Inea-Istat 2004).

Tuscany is an important region within the national agricultural context. It is recognised as the region with very dynamic and innovative rural development policies, which have strengthened and enabled farmers' initiatives to flourish, especially through its focus on traditionally-inspired high quality products. Tuscany is located in central Italy and covers 22,992.5 km², of which 5,770 km² are mountains, 15,230 km² hillside and 1,930 km² plains. It has a population of just under 3.5 million (Istat, Census 2001). To the north and east Tuscany is bordered by the Apennines, while to the west the coastline meets the Tyrrhenian Sea. For administrative purposes Tuscany is divided into ten Provinces.

Table 10 Population in Tuscany, added value and labour units in the agro-food sector (2004)

	Tuscany	Italy	Percentage of Tuscany Economy	Tuscany/ Italy
Population				
Resident population (*Istat*, population census, 2001, numbers)	3,497,806	56,995,744		6.1%
Territory (km²)	22,992.50	301,333		7.6%
Inhabitants per km²	156.1	180		
Economy (2004) - (millions of euros)				
VAC Agriculture, hunting and silviculture	1,535	30,550	1.8 %	5.0 %
VAC Fishing and fish farming	69	1,345	0.1 %	5.1 %
VAC Food, drinks and tobaccos	1,330	27,190	1.6 %	4.9 %
VAC Total Agro Food sector	2,934	59,085	3.5 %	5.0 %
Total Economy added value (VAC)	84,330	1,263,433		6.7%
Labour (2004) (thousands of units)				
Agriculture, hunting and silviculture	55	1,229	3.3 %	4.4 %
Fishing and fish farming	3		0.2 %	5.4 %
Food, drinks and tobaccos	24	499	1.5 %	4.9 %
Total Agro-food sector	81	1776	4.9 %	4.6 %
Total Economy - Labour (unit)	1,659	24,430		6.8 %

Source: Elaboration on Istat and Irpet data (2001 and 2004)

According to the latest data[3] (see Table 11), there are approximately 89,728 farms operating in Tuscany. These range from the very small farms for hobby farmers and those pursuing farming as a leisure activity to the professional family farms and the large-sized farms employing permanent staff. This number represents a 16.2 percent decrease compared to the 2000 census data. These farms cover about 791,169 hectares of utilised agricultural area (UAA) (see Table 11), showing a 4.4% decrease since the 2000 census. Businesses bigger than 1 ha or with a production value of over 2500 euros (and excluding businesses dedicated solely to forestry activities) represent 84.6% of the total number of agricultural businesses in Tuscany but cover 99% of the UAA, illustrating the fact that these are economically the most important farms. The average area for agricultural businesses increased from 7.7 hectares in 2000 to 8.8 hectares in 2003, while the total number of businesses decreased. This indicates that the businesses that closed down were the smallest ones, while there has been an increase in businesses with a UAA of over 20 hectares. Similar trends are also evident at the national level. Table 11 reproduces the distribution of UAA according to the main purpose of land use.

Table 11 Characteristics of agricultural enterprises in Tuscany in 2003. Absolute values and variation since the 2000 census

	Absolute values	Var. % 2000/03
Farms[4] (n)	89,728	-16.20%
UAA (ha)	791,169	-4.40%
Average UAA (ha)	8.8	14.3%
Total utilised surface SUT (ha)	1,383,121	-2.00%
Total utilised surface SUT average (ha)	15.4	
UAA/SUT (%)	57.2	
Average European Size Units	12	23%
Farms with rented UAA	12,748	24.20%
Incidence of business with rented UAA over total number of businesses	14.2	
UAA businesses renting	194,202	
UAA businesses renting over total UAA (%)	24.5	31.70%
Average business UAA with UAA rented (ha)	62.2	-22.9%

Source: Settore statistica Regione Toscana – Elaboration on ISTAT data

These data highlight the transformation of agricultural enterprises, which began in the 1990s in the northern regions of Italy but has more recently expanded to the south, including the region of Tuscany. Enterprises are expanding in size, are increasingly specialised and are often run by young farmers. The economic dimension measured in ESU (European Size Units[5]) shows an average significant increase of 26.7%, from 9.4 to almost 12.0 ESU. This was achieved through the shift of Tuscan agricultural production towards quality products which require a significant level of professionalism on the part of farmers in order to remain in the market. Another trend worth noting is the increasing number of farmers who lease their land, up by 24.2% from 2000 and with a total

[3] Research "Indagine sulla struttura e produzioni delle aziende agricole (SPA 2003)" – [ISTAT in collaboration with Regions and Provinces]. The statistical office of the Tuscany Region coordinated data collection between October and December 2003. The data refer to the farm year 1st November 2002 to 30 October 2003. They are the first official updates on the results of the General Census of Italian Agriculture of 2000.

[4] EU area: only farms with UAA over 1 ha or with production value > 2500 euro.

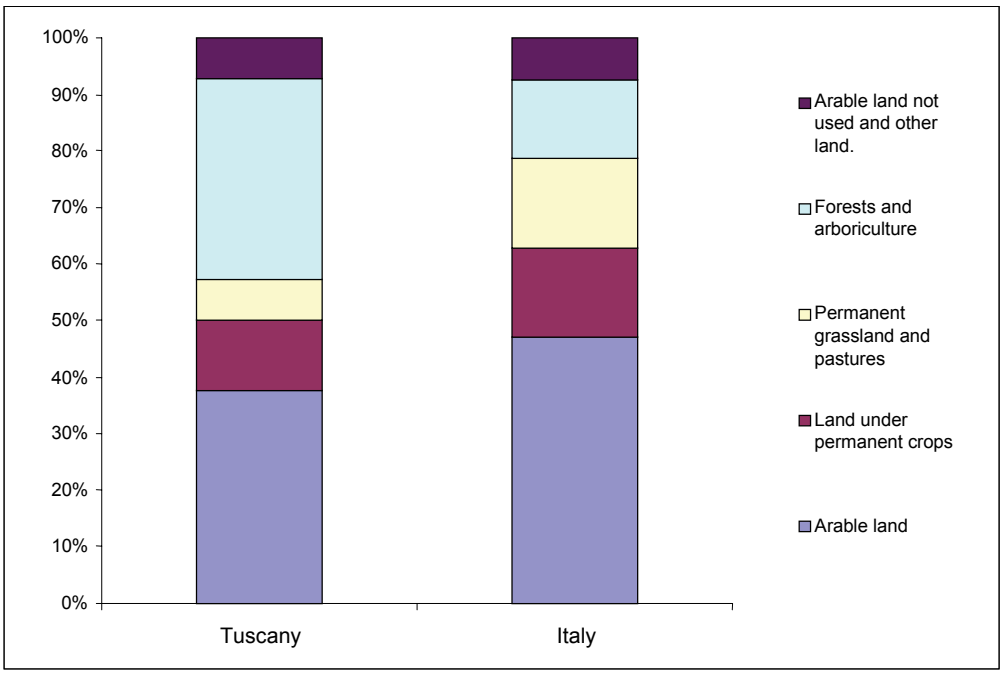
[5] One ESU corresponds to a standard gross margin of 1200 European Units of Account (ECU).

incidence on the UAA of 24.5% (see Table 10). Leasing land seems to be a practice that is becoming more and more established, especially among the new farmers (Regione Toscana).

Table 12 Area invested according to land use[6]. Tuscany and Italy, 2003 and variation 2003/2000 (area in hectares)

Territorial area	UTILISED AGRICULTURAL AREA (UAA)				Forests and arboriculture	Arable land not used and other land	Total area
	Arable land	Land under permanent crops	Permanent grassland and pastures	Total			
Absolute values							
Tuscany	519,483	173,329	98,354	791,168	492,513	99,439	1,383,120
Italy	7,260,765	2,438,852	2,470,981	12,170,599	2,149,193	1,142,710	15,462,504
Percent variation 2003/2000							
Tuscany	-2.4	0	-19.4	-4.4	0.9	4.3	-2
Italy	0.2	4.6	-0.6	0.9	-7.8	0.6	-0.4

Source: Settore statistica Regione Toscana – Elaboration on ISTAT data (2004)



Source: Settore statistica Regione Toscana – Elaboration on ISTAT data (2004)

Figure 4 Land use, Tuscany and Italy, 2003 (percentages)

Most of the area is utilised for arable crops (519,483 ha), despite the fact that this category has experienced a decrease of -2.4% since 2000. Land under permanent grassland and pastures has also decreased by 19.4%. For arable land the decrease is due to the reduced income support under the previous CAP regime, while the decrease in permanent grassland and pastures is linked to the strong contraction in cattle and sheep farms in the Tuscan region. The stability of permanent crops is due to the increase in area of vineyards and nurseries, which compensated for the reduction in horticulture.

[6] EU area, Public Bodies excluded.

The increase in forestry and arboriculture is due to the application of EU regulations which offer incentives for planting trees geared towards the production of high grade timber on what used to be arable land.

4.2 Results

4.2.1 Trends and developments

Market globalisation, the domination of a single production model and competition from non-European countries are general trends that have global socio-economic as well as environmental repercussions; as such, they are also able to influence many aspects of agricultural production at the national and local level. Among these, the effects on agriculture of EU policies and global trade agreements are particularly important. The change between the old and the new CAP will have important repercussions on the agricultural sector, concomitant with the general change in the pricing system and the costs of products. It is envisaged that there will be a decrease in the number of agricultural enterprises, as many agricultural producers see their guaranteed income from EU support slipping away, thereby making some areas of production uneconomic. In the face of global markets, farmers will need to find more entrepreneurial forms of production by increasing their competitiveness and finding new opportunities on the market. These should be based more on their own abilities and skills rather than on price or other requirements.

Modern agriculture in Italy needs to find new opportunities and an alternative agricultural model within agricultural global markets. Italy in general and Tuscany in particular have been looking for an alternative agricultural model for some time. What some analysts describe as the 'Tuscan model of agriculture' entails a strong focus on quality and it characterises products through certification and traceability that guarantee and safeguard quality, giving such products value on the global market.

Recent trends in agriculture have therefore reinforced the multifunctional concept in agriculture. The concept of multifunctional agriculture and its pursuit is one of the most important strategic elements that have emerged over the last few years. It is based on a new role that society requires from the agricultural sector, one that goes beyond what has been the primary objective of this sector, i.e. the production of foodstuffs.

Modern agriculture therefore provides new opportunities, especially within the framework of agricultural multifunctionality, environmental protection and associated policies. These can be materialised as territorial and landscape management, the management of environmental characteristics as well as the use of new forms of sustainable energy, such as bio-diesel and ethanol, and the creation of associated production chains.

Tuscany is a particularly important player in this trend, given its leading role in the development of the 'Tuscan agricultural model' over the last 10-15 years. This model includes:

- Dynamism of small and medium enterprises;
- Quality production with limited environmental impact compared to intensive production and a higher added value per hectare;

- Integration and relationship with the surrounding area;
- Enterprises active in international markets given the strong tourist influx;
- Generalised awareness of processes linked to the application of rural development policies and the concept of multifunctionality;
- Feminine element emerging strongly within Tuscan entrepreneurship; over the last few years women's role has been characterised by great flexibility and adaptability, for example, in relation to newly emerging economic factors.

The following section presents the entrepreneurial skills associated with innovative agricultural production, based on the interviews conducted with farmers and stakeholders in the Tuscan region (Brunori, 1998).

4.2.2 Skills

Entrepreneurial skills can be divided into two broad groups: (i) personal attitudes and characteristics, and (ii) skills related to basic farm management, business development and strategic farm planning and management. The interviews in Italy identified additional characteristics, which cannot be categorised as entrepreneurial skills as such but are nevertheless felt to be essential pre-requisites for the development of entrepreneurial capacity, e.g. being young. These are discussed at the end of this section.

Group 1 Personal characteristics and attitudes

Personal characteristics and attitudes greatly influence the development of particular entrepreneurial skills, especially in terms of the entrepreneur's general outlook towards identifying business opportunities and taking risks. Interviewees talked about a number of critical issues that have more to do with personal characteristics rather than particular entrepreneurial skills. A basic premise was that an entrepreneurial farmer needs to be able to embrace change, i.e. he or she needs to have an open mentality and be ready for change and innovation. This is essential if the entrepreneur is to initiate changes and farm conversion. Some interviewees stated that, at times, change might be easier for somebody who is new to the sector than for an agricultural producer who has been working in this sector for a long time. Another issue that transpired from the interviews is that a mentality open to change and innovation is more likely to be found among the young and those with education and training, since they need to be able to adapt to changing circumstances.

> *"Undoubtedly you need to have an open mind, be keen on change; there are so many things that need changing… it is really the farmer's conversion [to organic farming] more than the farm. You need to change the way of farming, so it is easier for somebody who never farmed before than for somebody who farmed conventionally for all his/her life. ….] Younger farmers as well as the ones with higher education are in a better position to adapt to changing situations. "*New stakeholder, New Chain party (Organic farmers' association)

Interviewees felt that entrepreneurs need to modernise and look for new directions. This is related to the specificity of the cereal growing sector and the recent changes introduced as a result of new EU policies. The observation was that the entrepreneur should 'modernise', 'change', 'find new paths,' 'be open towards the future'. As an example, one entrepreneur chose to open up an agri-tourism business and remarked that hospitality is fundamental. He felt that he can have a special relationship with his guests given that the agri-tourism business is conducted at the family level. Using the Internet was also deemed important by many farmers who have recently set up agri-tourist facilities.

> *"When a problem arises, as happened to us in cereals production, the entrepreneur should modernise, change, find new paths [of development], be open to the future. In the light of this consideration, we bet on agri-tourism; in this activity [the quality of] hospitality is crucial and we can establish a special relationship with our customers because it is a family-run enterprise; we need to publicize ourselves with the [limited] means available to us, and that is why we used the Internet."* Farmer

Motivation is critical, as is the ability to keep going. Some felt that these capabilities form the foundation for everything else. This is perceived to be an innate personal characteristic, given that it cannot be acquired through training or education. Enthusiasm and commitment to the farming profession was also identified as being important. This related to the fact that some businesses that have been operating for a long time become stagnant and therefore lack enthusiasm. Therefore, one advantage of those who have experience in other non-agricultural sectors is that they can bring new outlooks and ideas to agriculture.

Good inter-personal relationships have also been identified as being important, especially for those involved in agri-tourism or direct farm retail. Interviewees felt that entrepreneurs need to look for contacts with market actors and maintain personal relationships. Given the long-standing tourist flow in Tuscany, some feel that this has led to producers being able to interact with foreigners; this in turn leads to their ability to react to these customers' changes in tastes and attitudes.

> *"The presence of a very high number of tourists in Tuscany had an influence on the local farmers because they got used to dealing with 'foreigners' (or outsiders), and this does not happen in other regions in Europe or even in the world. Over time this [flux of tourists] has increased Tuscan farmers' abilities to adapt better than others to changes in consumers' tastes and habits."* (Expert, scientist)

Women in Tuscany were identified by some interviewees as the main impulse behind recent innovations, such as the drive towards agri-tourism. This arises from the general perception that women have a better sense of hospitality and are also more skilled in food processing (making jam, marmalade, preserves etc.) and social activities.

> *"In Tuscany women are leading the way to innovation and have been instrumental in the development of agri-tourism due to their great sense of hospitality and their capacity to process foods (making jam, preserves, and so forth…) and also their social activities."* Traditional stakeholder, policy maker

Hospitality is the key for those direct buyers who come to visit the enterprises. In agri-tourism it is important to be able to establish good relationships with one's guests. Many interviewees related this to building business relationships with clients on a discourse of familiarity. At this level, smaller enterprises have an advantage.

> *"In agri-tourism you need to be able to establish a good relationship with your guests; you need to establish a close and 'family-like' relationship with the clients, and this is easier for small farms […] Foreigners are favourably impressed by this family-like, friendly atmosphere, probably because they are not used to it."* (Farmer)

A final consideration is the farmers' relationship with the environment. Some interviewees argued that nowadays entrepreneurs need to consider environmental issues when planning their activities. Those producers who show greater environmental awareness have an advantage vis-à-vis those who continue to use chemical products.

> *"…..What is needed is an entrepreneur with an awareness of the environmental implications of what he/she is doing, who is able to make environmental plans, to adopt measures for reducing CO_2 emissions, and it would be valuable to be able to reward this behaviour within emissions trading schemes".* New stakeholder, representative of New Chain party (environmental association)

This finding was confirmed at the national workshop by the stakeholders who identified environmental awareness as the basis of a sustainable agriculture and as providing a better opportunity for producing niche products for environmentally conscious consumers.

Group 2 Skills

<u>Basic tasks of running a firm</u>

Interviewees identified a number of important skills that entrepreneurs need to have in order to run a farm successfully. These range from having accounting, management and other technical skills relevant to the sector within which they operate, to other skills related to specialisation and diversification. For example, one interviewee (wine producer) stated that in relation to research on wine production, the whole process was important, from the choice of the vine to the end of the processing process...

> *"The first step in obtaining a high quality product is to carry out research in the vineyard, to choose the right varieties […]through to processing and it also includes [control over the] technology in the canteen and respect of health and sanitary conditions."* (Farmer; farm manager)

Other technical and practical skills deemed important are knowledge of economics and accounting (necessary for making correct estimates) and being able to recover investments. It is also felt that enterprises need to become IT literate, which represents one of the challenges for the future.

> *"The farm entrepreneur should be trained in economics and accounting, because in the past there has been a tendency to underestimate these factors, but nowadays it is more important. Of-*

> *ten farm investments are difficult and unproductive; so more skills in this field are needed at all levels."* (Traditional stakeholder, representative of farmer's organization)

Attitude was identified as important, especially for those who manage and supervise other staff. One interviewee felt that managers with faith in their own staff are crucial for the stability and development of the farm business.

Control is also important for entrepreneurship. Some interviewees pointed out that the producer or supplier has to have control over the product, from production to the point of delivery to the large retailers, with product number and traceability code. On the basis of such control, the producer can develop additional marketing strategies, such as using high quality production methods in order to produce a high quality product. For many people, this involves working towards the quality of the product, respecting seasonality, typicality, autochthonous origin and age of animal.

> *"In establishing a relationship with large retailers the supplier must have control of the product from the farm to delivery, with full traceability and codes of production and all the necessary guarantees".* (Traditional stakeholder, representative of national supermarkets chain)

Specialisation was mentioned by many respondents; e.g. specialising in a type of production typical in the areas that have that vocation.

> *"Many entrepreneurs have converted their own production to specialise in horticultural products such as melons, spinach and tomatoes, especially in the Val di Cornia."* Traditional stakeholder, policy maker

Specialisation may be useful for some producers, whereas it might be necessary for others to widen their range of products in order to maintain competitiveness and remain in the market. The entrepreneur has to aim towards building a unique character and also diversifying production by adding new agricultural activities to the existing farm (e.g. agri-tourism) or by diversifying existing products. Many traditional direct producers tied to the land and to cultural techniques of production have now started to aim towards new objectives.

A strategic ability to relate to the specificities of the territory along with the ability to communicate the product's image are other important skills:

> *"Political ability to relate to the territory; this has been shown to be important for those who have shown innovation. An entrepreneur needs to be able to establish external relations and needs to have some minimal ability to relate to others.*"(Expert, Representative of Extension/advisory service for Farmer members of CIA)

> *Relational capacity and communicating the image of the product; this is especially important for those with quality products, as they will add value through good communication and interaction with consumers in order to attract the right customers.* (Expert, scientist)

Marketing is also important, and a number of interviewees mentioned that the family can also be used to market one's own product, opening avenues for seeking new customers.

Tasks for business development

The ability to establish unions, organisations or associations is one of the main abilities identified by interviewees as being critical for business development. Some interviewees felt that farmers should be encouraged to form unions. This is especially important for small entrepreneurs, in order to avoid having to create big enterprises and to maintain flexibility and independence. Consolidation around strategic choices is needed, as not all enterprises can continue working around the axis of 'territory/agri-tourism/direct sales'. Associations can also be useful for increasing market impact and presenting one's products as quality products on the market.

In the wine sector in Tuscany the lack of associations is felt particularly keenly, as there is a strong history of wine and oil production here, but some interviewees identified producers' weakness as their inability to form associations. One interviewee stated that:

> *"There is a need to 'make a system' because producers often have an autarchic and individualistic mentality. There is a need for organisation, the capacity to form associations and groups, to be stronger together."* (New stakeholder, New Chain party; organic farmers association)

There was general agreement that agricultural producers need to establish links with market actors and maintain good personal relationships with them. The importance of forming relationships with others extends to (i) expanding one's regional presence, for example, by establishing different forms of cooperation, such as twinning between producers, such as between stronger and weaker producers, Italian and foreign producers; and (ii) learning from others.

For example, an olive oil producer stated that entrepreneurs need to be aware of positive examples in other countries and regions. For oil production, for example, the entrepreneur might benefit from going to see how olives are cultivated in Spain. This is one way the entrepreneur can compare and contrast their way of working with others. The same was suggested in relation to technicians who work on farms, who might benefit from visiting other enterprises to see how things are done in other places.

Having an open mind and being prepared to learn from others' experience is also related to being able to understand market opportunities and use the relationships created with others to respond to market stimuli. The trends related to innovation in the wine sector entailed knowledge and cultural exchange with other innovative sectors. Farmers in this sector have transformed themselves from agriculturalists to entrepreneur-managers of their own enterprise.

Business development is also related to understanding consumer demands and identifying the most lucrative niches within agricultural production. Interviewees expressed a concern over the current European agricultural context, in particular the accession of new EU countries which will compete on the basis of cheaper labour input and therefore cheaper products. As a result of these recent developments, many farmers feel an even stronger need to focus on niche products, relating them to value-added, high quality products such as organic products, PDO (Protected Designations of Origin) and PGI (Protected Geographical Indication) products.

For example, one interviewee stated that in olive production the entrepreneur needs to aim towards niche production; this person stressed that the entrepreneur needs to 'have a purpose' on the market. In horticulture and cereals, it is not possible to offer one's product as differentiated unless it is

produced according to the quality standards required by the market. One common remark was that it is important to be able to understand product identity as the key to continued success and to maintaining typicality.

Various interviewees identified the importance of developing innovation within tradition, highlighting a discourse related to tradition, better understanding and paying attention to brands and denominations of origin; some felt that these are undervalued and therefore also underused.

> *"Farm entrepreneurs should innovate within the tradition and should avoid making changes simply by following new fashions."* (Farmer; farm manager)

> *"The farm entrepreneur should have a better knowledge of the brands and PDO/PGI designations. These instruments are now well known and often the opportunity to valorise agricultural products through them and gain a premium price is not utilised."* (Traditional stakeholder, representative of farmers' organisation)

The impulse towards innovation and keeping up to speed with technology was identified as being particularly important for young people.

> *"There is a need for [a higher number of] young people who are capable of taking into account our traditions and incorporating them into modern management strategies by using new technologies". (*Expert, scientist)

Marketing, understood here as marketing strategy, is critical for product placement. Interviewees argued that the ability to produce a high quality product was the basis for developing a successful firm, but that this went hand in hand with establishing a good marketing strategy; without one, a product could not be placed on the market. Therefore entrepreneurs need to have marketing skills and knowledge and to market their own products appropriately. Entrepreneurs need to know the market and research new marketing avenues.

Knowledge of the market, attention to the food production chain and to one's relationship with the region were all identified as being important skills in this category

> *"A good entrepreneur must know the market and must look for suitable distribution channels for his/her products."* (Farmers' cooperative manager)

> *"The farm manager must have the strategic ability to position himself/herself in relation to the territory."* (Expert, representative of extension/advisory service for farmer members of CIA)

Awareness of the environment was an interesting point brought up by one individual with regard to these skill categories:

> *"There is a need for farm entrepreneurs to take a cultural step, to acquire some knowledge about agro-ecology and to embrace new ways of thinking."* (New stakeholder, representative of New Chain part, environmental association)

For one interviewee this extended to taking advantage of recovered disused land (part of the Local Rural Development Plans), and looking after the area in order to encourage an aesthetically pleasing experience for tourists.

Knowledge of EU norms and legislation was also identified as being important, especially in terms of taking advantage of the available financial incentives.

Monitoring, reflection and strategic planning skills

Interviewees considered that looking for a quality market that satisfies one's business needs was critical, and they took the view that in order to do this entrepreneurs need to have good coordination skills, especially for specialised events. Managerial capacity in the enterprise is the key; there is a need for a structure that is able to understand various aspects and problems of business management and provide adequate answers.

Specialist knowledge is often the basis on which to develop a good quality product:

> *"Entrepreneurs need to know who to choose as technical consultants, they need to know the criteria on which to choose technical consultants, they need to know their role within the enterprise and what needs to be done to implement the advice of the specialist's intervention."* (Farmers' cooperative manager)

Shortening the food chain was also mentioned as being one of the areas that needed attention:

> *"Entrepreneurs need to try to have a small slaughterhouse within the animal husbandry enterprise or to establish relations with other entities such as restaurants; both of these can be important for a successful enterprise."* (Traditional stakeholder, representative of farmers' organisation)

One interviewee thought that the first element required if a farm was to reach the large retailers was to build a compatible business structure:

> *There is a need to offer guarantees that a critical mass of products sufficient for daily deliveries can be produced and that they will be of consistent quality. Moreover, the business's director needs to show entrepreneurial spirit.* (Traditional stakeholder, representative of large supermarket chain)

A wider general understanding of the tendencies and processes within which one operates was also important, particularly in relation to the need to understand that agricultural producers no longer need to produce in order to feed and that they need to satisfy a greater demand for quality and safe food – this is regarded as the first step towards success. Young people entering agricultural production are particularly sensitive to these new trends and experience a 'new enthusiasm'.

Choosing the right product is possibly the most important strategic decision. Entrepreneurs need to be able to modify production to match market demand in the area in which they operate. This is especially important in terms of avoiding production surpluses due to fashion or production habits, given that these can cause market imbalances. They then need to make their own programme fit with market demands. This might be related to lengthening the productive cycle and, as a result, the need for indoor or covered growing methods.

> *"Skill, according to our experience, means having an understanding of the enterprise's potential, including its limitations; at times diversification can be very costly, and often it can be advanta-*

> *geous and also cheaper to let the enterprise follow its natural inclination in terms of vocation in relation to the territory."* (Farmer)
>
> *"The entrepreneur should focus on a few products and/or services but should concentrate on these 'in-depth' rather than start many different projects and leave them half-done".* (Farmer)

Other critical business development skills include knowing how to prepare a business plan, a (project) programme and a production strategy. This is considered a fundamental skill for business management. An additional skill is to diversify one's clients in order to avoid collapses in case of crisis in the main retail distribution channel.

Agricultural services need to adjust to the wider context of the rural world and the rural family given that Tuscany's economy is based on small enterprises that either find other sources of income or specialise in quality products if they want to survive.

Group 3 Other skills-related remarks

Education and training were identified as being important but not essential for a good entrepreneur. Education can provide a person with the right knowledge and skills who already displays entrepreneurial spirit and enthusiasm, but it was generally recognised that many of the skills mentioned in the previous section are difficult to teach in traditional educational or training establishments. Many interviewees concluded that entrepreneurial skills are as much to do with particular and specific skills as with the personal characteristics of the entrepreneur; in addition to the need for a favourable economic and policy context to allow these skills to flourish.

One interviewee described an innovative learning project in which an older farmer with time-tested technical production skills is paired with a young agricultural entrepreneur who has a good grasp of the market, policy and institutional environment.

> *"Through an exchange of knowledge, skills and experiences, this project enabled the formation of very innovative and dynamic farms with a good and solid production base that can also react to external market and regulatory stimuli. (Traditional stakeholder, representative of farmers' organisation)*

The interviewees and workshop participants alike engaged in a pertinent discussion related to the necessity for entrepreneurs to be young. One interviewee stated that

> *"Agricultural entrepreneurs need to be young because agriculture is a complex sector in which one needs to be competent in chemistry, economics and engineering – so there isn't a specific skill that entrepreneurs need; it is a combination of all these skills."* (Traditional stakeholder, representative of farmers' organisation)

The age of entrepreneurs was identified as a significant factor because of the increasing average age of farmers in Italy in general; this is due to a combination of (i) low farmers' pensions which do not cover farmers' basic needs, making it necessary for them to continue working past the retirement age, and (ii) high land prices that pose obstacles to young would-be farmers setting up their own enterprises.

4.3 Discussion and conclusions

4.3.1 Conclusions

Analysis based on the elaboration of the last general agricultural census data offers every indication that the production system is experiencing a profound transformation in relation to the typologies of agricultural enterprises. The 'typical' aging male farmer is now giving way to younger and female agricultural entrepreneurial figures who have been identified by some interviewees as leading agricultural change in Tuscany. For example, enterprises being led by managers under the age of 40 are distinguished by their greater size in terms of UAA and by the increasing presence of women managers (Istat-Inea 2004).

Multifunctional agriculture, the drive towards quality and the increasing diversification of farm activities were all identified by the interviewees as trends affecting the way they do business. Farm activities are now not only related to agricultural production but have expanded to include additional services offered to consumers, such as refreshments and hospitality (Istat-Inea 2004).

This research has shown that agricultural entrepreneurs need to have a complex combination of skills in order to face the challenges of the changes taking place within the agricultural sector in Tuscany. The expansion of the European Union, decreasing agricultural subsidies, increasing competition from new EU and non-EU countries all represent challenges and obstacles for most farmers, who see their future as uncertain. However, the analysis of interview data suggests that where one can distinguish between a farmer and an entrepreneur is precisely in their attitude towards the future. Thus, while for some farmers this uncertainty and the changing regulatory context represent obstacles and barriers to the development of their business, agricultural entrepreneurs see these as exciting opportunities, albeit not easy ones to tackle.

4.3.2 Discussion

The national workshop held in Pisa gave us the opportunity to discover the stakeholders' reaction to the initial data analysis. The research team presented the results to question two, related to skills, and participants were then asked to (i) choose three of the most important skills and (ii) classify these skills into the following categories: Knowledge, Personal Characteristic or Skill. The results are presented in Table 13.

Table 13 Skills identified by participants at the workshop in order of importance

Most important skills		Number of preferences
a)	Openness, act with a view to the future, open-mindedness, open attitude towards novelty, reacting to change	5
b)	Recognise the fundamental basis on which to take action as well as the alternatives	5
c)	Being aware of oneself	4
d)	Strategic business management and planning	4
e)	Aim towards quality in products and services	3
f)	Ability to create a social network, communication skills	3
g)	Cooperate, form associations and networking	2
h)	Marketing, retail and management of relationships with stakeholders	2
i)	Recognise market opportunities, foresee the needs of market stakeholders	1
j)	Management of the production phase and technical/practical skills	1
k)	Environmental sensibility	1
Other		0

The final discussion at the national workshop was aimed towards applying the segmentation framework to the skills identified by workshop participants as important. Each participant was given the opportunity to rate the different skill criteria, which were also put into three different categories: Personal characteristics, Characteristics related to the business production sector, Activities and business development. The results of this exercise are summarised in Table 14.

Table 14 Classification of skills according to type of skill and order of importance (results from national workshop)

Criteria	Credits assigned
Personal characteristics	
Time dedicated to agricultural activity (short – long)	5
Age (old – young)	10
Typology (male – female)	3
Level of education (low – high)	11
Status/ownership (owner – manager – renting)	7
Characteristics related to the business production sector	
Business size (small – big)	2
Productive elements (horticulture, cereals, livestock etc.)	0
Geographic positioning of the business/ soil/ region	4
Financial performance (low – average – high)	0
Activities and business development	
Market development (regional – national – international)	0
Technology and innovation (none – advanced)	1
Forms of collaboration (informal – in groups)	21
Business strategy	13

In addition to the enumeration of particular skills to manage a farm successfully, some of which are quite obvious (i.e. the entrepreneur needs to have adequate technical skills to produce a good product), the interview analysis indicated a marked difference between those farmers who rely on EU subsidies for their survival and those whose business is orientated towards the market. While the former showed passivity and to a large extent also pessimism towards their business and its future development (to the extent that some mentioned considering selling their business and seeking a job elsewhere), the latter demonstrated a more pro-active attitude, a better understanding of the market and customer requirements, greater flexibility and a more positive and more passionate vision of their business's and consequently of their personal future.

Elements of the 'Tuscan agricultural model' were present in the interviewees' description of the way their business operates. There is a generalised drive towards quality production, a targeting of international markets, and some farms put environmental protection at the heart of their business plans. Where the 'model' seems to be failing is in the interviewees' assessment of existing forms of collaboration, since most believed that these were weak or inadequate. Social capital is often identified as one of the fundamental factors for supporting and developing entrepreneurship (see e.g. Long, 2001). It is therefore interesting that the interviewees who participated in this research themselves identified as having particular entrepreneurial skills and often mentioned that one of the common obstacles they found to developing their business is a lack of collaboration with others. This is a significant finding that would warrant further investigation in the next stage of the project.

These conclusions need to be put into context, however. Research was carried out in only one region and the conclusions therefore pertain to the particular historical development of the agricultural, political and cultural regional context. As was mentioned in the introduction to this chapter, Italy is a very heterogeneous country and its agricultural sector is no exception to this. Agricultural practices are very different in northern regions and equally so in the southern regions. Therefore, further and more extensive research is needed in order to produce data that can be generalised for the whole country.

5 Important trends and required skills in the Netherlands

Noen Jukema and Bartold van der Waal, Applied Plant Research, the Netherlands

5.1 Materials and methods

The people interviewed for this research were drawn from a diverse group of interests, sectors and regions. Twenty-three farmers, experts and stakeholders with various backgrounds were interviewed. The farmers chosen are representatives of their production sector, because most of them hold an administrative function in a farmers' union. All the important sectors of Dutch agriculture are represented, each from a region in which that sector is most concentrated (see paragraph 5.1.2).

Stakeholders were chosen out of the socio-technical network of agriculture. The decision makers (government and policy makers) and representatives of tourism, water and nature conservation organisations who were interviewed represent the stakeholders from the perspective of society. The tourism, water and nature conservation organisations also represent the new market for diversifying farmers. The experts interviewed (scientists, bankers and accountancy officers) were selected on the basis of either their knowledge of farmers, sectors and regions or their expertise in entrepreneurship. From the supply chain, buyers were chosen from traditional branches of Dutch agriculture, such as a seed potato trading house, cooperative auctioneers of floricultural and horticultural products, and a supplier and a buyer of agricultural products.

Table 15 Breakdown of interviewees in the Netherlands

Category	Number
Government and policy makers	2
Product chain	4
Tourism, water and nature conservation	4
Scientists	3
Banking and accountancy	2
Farmers' representatives	8
Total number of interviews	23

Thirteen of the twenty-three interviewees were present at the discussion workshop. In the discussion workshop a handout was provided listing all the trends and skills, including their frequency. The participants were asked to comment on this list, using the questions a. do people recognize the results, or do they think some trends/skills are missing? b. do the results surprise them? c. do we have to change the order of importance? After this, some important skills were separated out and people were asked how they would recognise an entrepreneur with such a specific skill and whether it is possible to develop that skill.

5.2 Description of Dutch agricultural situation

The Dutch agricultural sector is quite unique in Europe because of its intensity and specialisation. This chapter provides a short description of the agricultural situation in the Netherlands, based on information from LEI and CBS (2005). The total surface area of the Netherlands is about 41.528 km2. The proportion of this in agricultural use is 23.360 km2, which is 56% of the total area. This agricultural land is dominated by five main production branches: arable production, horticulture, fruit and ornamental trees, grazing livestock farms and intensive livestock farms. Table 16 describes the number of farms per sector, the total number in the Netherlands and Table 17 gives an overview of the farm size per main sector.

Table 16 The number of farms per sector and the total number in 2004

Branches	2004
Arable farms	12,627
Horticulture	10,745
Fruit and ornamental trees	4,572
Grazing livestock farms	42,266
Intensive livestock	5,900
Other	7,745
Total number of farms in NL	83,855

Table 17 Number of farms per farm size category (ha) per main sector in 2004

Main type	< 1	1 - < 5	5 - < 30	30 - < 100	> 100	total
Arable	0	1,024	6,074	4,736	793	12,627
Horticulture	2988	5,027	2,219	466	45	10,745
Fruit and ornamental trees	738	1,852	1,810	160	12	4,572
Grazing livestock farms	1495	7,192	18,033	15,003	543	42,266
Intensive livestock	1303	2,159	2,303	135	0	5,900

The main agricultural products appear in the table below. The products with the highest volumes are milk, potatoes (for consumption) and sugar beet.

Table 18 Production of main agricultural products (x 1000 ton) in 2004

Product	2004
Arable production	
Wheat	1,224
Potatoes for consumption	5,217
Starch potatoes	2,270
Sugar beets	6,292
Seed unions	1,225
Milk production	10,532
Vegetables and fruit	
Champignons	260
Cucumbers	435
Peppers	318
Carrots (winter)	342

Product	2004
Tomatoes	645
Apples	436
Pears	208
Meat production	
Beef	188
Veal	200
Pork	1,299

Table 19 shows the age of farmers in the Netherlands. It is worth noting that only 12.9% of farmers are younger than 40 years of age, 66.7% are aged between 40 and 64 years and 20.4% are older than 64 years.

Table 19 The number and percentage of self-employed farmers per age category (years) in 2004 in the Netherlands

Age category	< 25	25 - 29	30 – 39	40 - 49	50 - 64	> 64	Total
Number of farmers	70	484	9,738	21,183	32,139	16,275	79,889
Percentage	0.09%	0.61%	12.2%	26.5%	40.2%	20.4%	100%

Only 3.5% of the working population works in agriculture, forestry and fishing (Table 20).

Table 20 The proportion of the Dutch national population working in agriculture in 2004

Sectors	Labour year x 1000	Percentage (%)
Agriculture	218	3.4
Forestry	5	0.08
Fishing	4	0.06
Total	227	3.5
Other non-agricultural	6,237	96.5
Total	6,464	100

Despite of the small proportion of the population working in agriculture and the decreasing number of farmers, agriculture still contributes 1.9 percent (2004) to the gross domestic product. The Netherlands is an important exporting country of agricultural products. Table 21 shows the import and export of the main agricultural products by value (in millions of euros). The table shows that the most important export products are ornamental products (flower bulbs, flowers), meat and dairy products.

The specialised character of Dutch agriculture has resulted in a regional concentration of sectors, mainly related to the various soil types. Logistic hubs and processing industries are strongly related to regional concentrations of sectors. Hence, not only does the socio-economic importance of the agricultural complex differ by region, but so too do the shares of its sub-complexes.

Table 21 The total Dutch export and import value of agricultural products in millions of euros (2004)

Product	Import	Export
Wheat	1,643	836
Oilseed	1,375	344
Cattle fodder	1,668	2,588
Starch	1,378	2,514
Sugar	470	801
Horticultural seeds	195	617
Ornamental products	1,080	7,221
Vegetables	928	3,163
Fruit and nuts	2,258	2,136
Processed products of potatoes, vegetables and fruits	1,458	2,618
Cattle	520	1,084
Meat	2,415	5,315
Eggs	152	577
Dairy products	2,421	4,289
Fish	1,229	2,093

5.3 Results

The results are based predominantly on the interviews and have been added to or commented on using results from the national discussion workshop.

5.3.1 Trends and developments

In the interviews, participants appeared to find it difficult to identify 'real' trends. Instead they identified developments in agriculture caused by these trends. For example, increases in farm size were mentioned frequently, even though it is caused by other general trends (increasing costs for land, labour and energy, open markets). For this reason the trends and developments in the environment of farm businesses are categorized in trends that appear in the environment of agricultural business (Table 22) and specific agricultural trends (Table 23).

Only the trends mentioned most are reflected in the tables. The character # shows the number of interviewees who mentioned a specific trend. Each trend is accompanied by a quotation in order to explain the results.

Table 22 Trends in the environment of agricultural businesses named by Dutch interviewees

Trend	Explanatory quotes from interviewees
1. Globalisation of the market (#12)	Quote from a policy maker: *"…the globalisation of the market has a great impact on agriculture in the Netherlands. Dutch farmers have higher costs for land and labour, so price competition with other countries is very difficult. Dutch farmers should try to add value to their products and find other income sources."*
1. Demand for Food Safety and Animal Welfare (#11)	Quote from a policy maker: *"…The demand for food safety results in high certification demands. Certification becomes part of the license to deliver."*
3. Access of countries to the EU (#10)	Quote from a scientist: *"…farming without subsidies obliges farmers to engage in market-orientated entrepreneurship. The difference from other (non-agricultural) sectors will disappear."*
4. Pressure on the rural area (#10)	Quote from a fruit grower: *"…Land use planning leads to a decrease in agricultural land use, in favour of urbanisation, business and industries, nature."*
5. Growing power of buyers (#7)	Quote from a vegetable grower: *"…Farmers do not cooperate in large sales organisations, and are therefore less powerful than big retailers. In a bulk production market with a surplus, buyers are able to switch to other producers, so cooperation among bulk producers is necessary."*
6. Changing food patterns (#7)	Quote from a scientist: *"…During the weekends, consumers have time to prepare their food and demand food of high quality and good flavour. During the week they want food that can be prepared easily and quickly."*
7. Growing demand for other functions and services (#5)	Quote from a water conservation organisation: *…" The demand for other functions and services is increasing: nature and water conservation, preservation of the rural area, sustainability, recreation and tourism. Farmers are having to create combinations of these new functions and services."*

Other trends and developments in the environment of agricultural businesses that are mentioned are: price-sensitive critical consumers (#6), socially responsible entrepreneurship (#4), health (#4), individualisation (#3), bio-based economy and bio-fuels (#2), increasing welfare levels (#1) and insufficient capacities of buyers to innovate (#1).

Table 23 Trends in agriculture named by Dutch interviewees

Trend	Explanatory quotes from interviewees
1. Scale increase (#11)	Quote from a dairy farmer: *"…Cost price reduction is crucial in response to globalisation and the increase of costs e.g. labour, machinery, land. Cost price reduction means that farm size must increase."* Quote from a horticulture farmer: *"…Farms are becoming bigger, so they are becoming a business partner for supermarkets. Supermarkets demand a certain farm size to be a partner in business."*
2. Growing significance of product quality and added value (#9)	Quote from the CEO of a seed potato trading house: *"…Due to high costs and the high quality of the soil, labour, machinery, infrastructure and knowledge in comparison with other countries, added-value and product quality are becoming more important for Dutch farmers. Bulk production is moving to other (new) EU countries."*
3. High demands posed by legislation (#5)	Quote from a vegetable grower: *"…The Netherlands are always quicker to introduce stricter legislation (e.g. emissions of pesticides and nutrients). No level playing field in Europe and the world. This is negative for competition on the international market."*
4. Agriculture is declining (#5)	Quote from a bank employee: *"…The number of farms is decreasing (3% per year) because of increasing costs and low product prices. Size is becoming more important to survive (economies of scale)."* Quote from a fruit grower *"…Support for agriculture is declining, as we have seen in the debate about subsidies for agriculture. Consumers ask why agriculture is treated differently from other small enterprises."*

Other trends and developments in the agricultural business mentioned are: specialisation (#2), professionalising (#1), automation (#1), innovations (#1) and increasing costs of land (#1).

Many of the trends mentioned by the interviewees can be classified as developments in the market and supply chain. Almost all interviewees noted the importance of globalisation and Europeanisation for the agricultural market: an increasing share of agricultural production is traded internationally. This indicates a further degree of integration of countries in international agricultural trade. Most interviewees agree that added-value and product quality are becoming more important for Dutch farmers, due to high costs and the high quality of soil, labour, machinery, infrastructure and knowledge in comparison with other countries. Bulk production will move to other (new) EU countries, which can produce these products at a lower cost price. The access of new EU countries is not always seen as a threat by interviewees: new countries are potential export markets, because they have a large population and their purchasing power is increasing. Through further internationalisation, products that function as substitutes for traditional Dutch agricultural products are appearing on the national market (soya for milk, etc.).

The reform of the EU Common Agricultural Policy means that subsidies are decreasing and that there will be less market regulation. This is exerting pressure on the income of farmers and prompting a switch to free market products. Horticultural and intensive livestock farmers are used to running a farm business without subsidies, so they are more market-oriented; however, this is a new phenomenon for arable and dairy farmers. The number of farms in the Netherlands will decrease further, because of increasing costs and declining price levels. Farmers have to produce more and more and to increase cost efficiencies through increases in scale and specialisation. Some interviewees think

that a surplus of free market products will be created through the EU policy reforms, leading to low prices and incomes for all farmers. Because the bulk production market is operating with a surplus, buyers are unreliable in their agreements with producers.

It is increasingly important that farmers become aware of their external environment and the policy of national and local government in respect of available subsidies (for specific areas or products). There will also be a growing demand for non-agricultural functions and services, such as nature and water conservation, preservation of rural areas, recreation and tourism. In addition, products with a regional branding are becoming more popular with consumers. Farmers should be pro-active in diversifying agriculture and explore what they can offer to (new) stakeholders. However, the supply of other functions and services can be contradictory to existing agricultural functions of the farm (e.g. a campsite near a pig stable).

The discussion workshop generated some useful comments. For example, increasing energy costs were not an important trend in the Dutch situation (energy is a small part of total costs, and bio-energy production is not attractive given the high costs of land and labour). It was also surprising for some participants that the professionalisation of Dutch agriculture was mentioned only once. The number of growers with a higher education level is increasing, which is leading to the further professionalisation of the sector (producing products with higher quality, food quality and safety, growers are more active in the market, etc.). Innovation will become increasingly important, according to the participants, because in this way farmers can reduce production costs and increase yields and added value.

5.3.2 Skills

The open question about which skills are needed to continue to run a farm business resulted in a wide interpretation of the meaning of 'skills', including personal characteristics, attitudes and skills-related remarks, which may be as important as 'real' skills. An entrepreneur pays close attention to the external environment in order to explore and realise opportunities and to adapt the business (to the maximum extent possible) to the demands of the market and society. 'Seeing opportunities', 'to assess whether developments have consequences for the company and the entrepreneur as a person' and 'realizing capacity' are therefore important steps to take in entrepreneurship (Verstegen and Lans, 2006). For this reason the skills that interviewees mentioned are categorised in three groups:

- Skills related to the knowledge of the farm and the farmer (Table 24)
- Skills related to the environment (market, society, policy) of the farm (Table 25)
- Skills related to the realisation of plans and strategies (Table 26)

Only the skills most frequently mentioned are reflected in the tables. The sign # shows the number of interviewees who mentioned a specific skill. The skills are accompanied by a quotation in order to explain the results.

Table 24 Skills related to the knowledge of the farm and the farmer

Trend	Most important observations
Strategic management (#11)	Quote from an accountant: *"…A farmer should analyse each aspect of the business so that previously concealed problems can be revealed as well as potential profit areas. It is important to anticipate early on the trends and developments in your farm business. A strategy identifies strengths and weaknesses: it shows how the farmer can plan to cope within the firm's environment."*
Self-knowledge (#9)	Quote from a bank employee: *"…The farmer should identify his own strengths and weaknesses so that key success and failure factors can be formulated."*
Attitude to feedback (#8)	Quote from an ornamental tree grower: *"…Farmers should have an open attitude towards receiving feedback from others (employees, bank, accountant, colleagues, etc.)."*

Other skills related to the knowledge of the farm and the farmer that are mentioned are: dealing with risks (#7), SWOT analysis of yourself and your company (#6), trade mentality (#6), broad development (technical and entrepreneurial) (#5), making analysis (#3), inquisitive (#2), financial knowledge (#2), helicopter view (#1), working hard (#1), benchmarking (#1) and education (#1).

Table 25 Skills related to the environment (market, society, policy) of the farm

Skill	Most important observations
External orientation in the environment of the farm business (#17)	Quote from a manager of a health care institution: *"…Farmers should not isolate themselves but actively be in touch with the outside world."*
Open, pro-active attitude (#11)	Quote from the CEO of a vegetable and fruit auctioneers: *"…With a pro-active attitude you can adapt appropriately and promptly to changes you identify in your environment."* Quote from a scientist: *"…Don't look in a defensive way at changes in the environment."*
Flexibility, dealing with changing circumstances (#8)	Quote from a pig farmer: *"…Because of increasing liberalisation, entrepreneurs realise less profit. Agricultural entrepreneurs have to deal with high fluctuations in prices, incomes, etc. and have to be flexible in all these changes they are facing."* Quote from an accountant: *"…Entrepreneurs have to find solutions for the changes in the environment and operate a strategy of adaptive entrepreneurship."*

Other skills related to the environment (market, society, policy) of the farm that are mentioned are: knowledge of your customer (#6), positive attitude towards changes (#5), recognising opportunities (#5), insight into the chain (#5), imagining what the customer wants and needs (#2), innovative (#2), accounts management (#1), searching for information (#1) and knowledge of legislation (#1).

Table 26 Skills related to the realisation of plans and strategies

Skill	Most important observations
Co-operation (# 10)	Quote from a policy maker: *"…In cooperating with others you have to communicate in the right way with each other and discuss important decisions with each other. You have to trust your partners, because in cooperation you can not do everything by yourself."*
Management and leadership (#8)	Quote from the CEO of a seed potato trading house: *"…Knowing your own qualities and the qualities of your employees or external people is important in creating a team of specialists, where you can complement each other."*
Social skills and networking (#8)	Quote from an ornamental tree grower: *"…Farmers should not isolate themselves but actively be in touch with the outside world. In taking part in a governing board you can influence policy measures."* Quote from a vegetable grower: *"…Take a look at other farms in your own country, but also in foreign countries, and start a dialogue with them. Why are you doing it in this way, etc? You can learn much from others."* Quote from a bank employee: *"…Use your contacts in a smart way to realise finance, etc. for your business and to gain relevant information."*

Other skills related to the realisation of plans and strategies that are mentioned are: creativity (#7), taking responsibility (#7), audacity (#1) and energetic (#1).

The interviewees agreed that virtually all Dutch farmers have good basic technical farm skills. In a bigger farm with a lot of employees, as in Dutch horticulture, farmers do not have to master the basic skills of production all by themselves. These farmers have the ability to stand back from daily, operational activities and develop more entrepreneurial skills by spending time on tactical and strategic issues. Many interviewees said that specific personal factors are also required for successful farm entrepreneurship, e.g. a certain type of attitude or motivation, being positive or proud to be an entrepreneur.

Entrepreneurial skills are said to be more highly developed in sectors where the farmer operates close to the market and society, as in the horticultural sector, flower and plant cultivation sector and intensive livestock sector. In these sectors the 'selection' of farmers with a high and low level of entrepreneurial skills is already ongoing, so that only the 'real' entrepreneurs survive. Arable and dairy farmers never really had to develop entrepreneurial skills, because they operated with market protection and their products were sold by large cooperative firms. According to the interviewees, in these sectors you'll find proportionally the lowest level of entrepreneurial skills among farmers. Some interviewees mentioned some regional differences in entrepreneurship, due to the regional concentration of some sectors. Some interviewees stated that entrepreneurial farmers are simply more successful. This statement was also confirmed in the national discussion group, when participants mentioned long term financial results as an indicator for the entrepreneurial qualities of farmers.

An entrepreneurial farmer has to be able to determine his/her own personal strengths and weaknesses and the strengths and weaknesses of the company. An open and pro-active attitude is necessary to stay in contact with external trends and developments and to improve knowledge and skills. By analysing each aspect of the business and external environment (market, society and policy), entrepreneurial

farmers explore opportunities and threats and formulate plans about how to anticipate trends and developments. A farmer has to be able to deal with the changing conditions of the market and with price and income fluctuations.

The abilities mentioned in the interviews are, to a large extent, related to personal characteristics and attitudes, such as flexibility, the ability to act and take decisions under uncertain conditions and the ability to look for alternatives. A slight contradiction is shown between, on the one hand, the attitude of adjustment and following the trends, and, on the other hand, a pro-active attitude that does not take the current situation for granted. This could be related to the creativity required to generate new ideas, but not everybody has this characteristic or can develop it. When the entrepreneur considers interesting developments or opportunities in the market, he should have the drive to proceed effectively to action. Through networking, co-operating, an open attitude to receiving feedback and active dialogue with the outside world and other sectors, farmers can improve and adapt the farm business and determine which strategy is appropriate for their person and company.

The participants at the discussion workshop commented that the importance of decision making is underestimated in the interview results, as it is very important for the 'implementation capacity' of entrepreneurs. Dealing with risks also seems to be a crucial skill for good entrepreneurship: a successful entrepreneur not only recognises risks, but also uses risks to make the right choices.

5.4 Conclusions and discussion

5.4.1 Conclusions

The conclusions of the Dutch research are based on the opinion of twenty-three persons, so it is possible that the conclusions do not entirely reflect all possible views. The two interview questions are first answered (in order of those most frequently mentioned) in catchwords and later on linked together in order to draw conclusions:

1. *Which important trends/developments do you see in the operational environment of farm businesses (market, society) in your country?*

Globalisation of the market - demand for food safety and animal welfare - scale increase - accession of countries to the EU - pressure on rural areas - growing significance of product quality and added value - growing power of buyers - changing food patterns - growing demand for other functions and services – high-level requirements of legislation - agriculture is declining.

2. *What are the most important skills that a farmer needs in order to succeed in the farming business?*

External orientation in the environment of the farm business - strategic management - open, pro-active attitude - cooperation - self-knowledge - attitude to feedback - flexibility, dealing with changing circumstances - management and leadership - social skills and networking.

The trend quoted most frequently by interviewees is that of changing market circumstances brought about by the de-regulating policies of the (EU) government and increasing globalisation. Dutch greenhouse and intensive livestock farmers are less dependent on subsidies than arable and dairy farmers. The impact of the reform of the EU Agricultural Policy is therefore the greatest in the arable

and dairy farming sectors, because these farmers have to switch to producing free market products. Farming without subsidies requires new skills of farmers and ensures that the differences between the sectors are progressively disappearing. In days gone by, professional skills were very important for farmers to continue in the farming business. Nowadays, entrepreneurship skills are becoming more important, such as recognising market opportunities, predicting customer needs and understanding new rules and legislation. A farmer needs the skill of knowledge acquisition and exploitation in order to understand new market requirements and to hold onto his license to produce and to deliver.

The globalisation of markets brings about a reduction in product prices and therefore has a great impact on the income of Dutch farmers. In the Netherlands the cost level of soil, labour, machinery, infrastructure and knowledge is high compared with other (EU) countries, so cost reductions, scale and production increases are necessary in order to bring down the cost price. According to the interviewees, Dutch agriculture should react to the changing circumstances with an added-value strategy involving quality improvement and product diversification. Farmers should further excel in producing cost and knowledge-intensive crops and leave bulk production to other (new) EU countries, because they can produce these products at a lower cost price. An external orientation is needed in order to discover the needs of the customer and to choose the right added-value strategy. Through an active dialogue with subcontractors and customers in the product chain, consultants, traders, bankers, accountants and agricultural magazines, farmers can obtain relevant information about trends, opportunities and threats in the market. Farmers should not isolate themselves but actively be in touch with the world outside the farm gate. Another strategy to generate additional sources of income is providing new functions and services, because the demand for nature and water conservation, the preservation of rural areas, recreation and tourism is growing.

The reform of EU Agricultural Policy is accelerating the selection of good entrepreneurs. Dutch agriculture is also becoming more professionalised because the number of growers with a higher education is increasing. Farmers with a higher level of education are more familiar with entrepreneurial skills. Entrepreneurial skills are also more developed among farmers who run a big company with a lot of employees or who are co-operating with others. Management, leadership and good communication is necessary in these situations. Because the entrepreneur does not have to carry out the basic production process all by himself anymore, he/she has the ability to spend more time on tactical and strategic issues of the farm business. The trend of scale increase can therefore stimulate entrepreneurship.

Every entrepreneur should formulate a strategy for his enterprise for the next decade. The farm strategy recognises the strengths and weaknesses of the farm and the farmer and shows which steps the farmer has to take to realise the objectives. Farmers therefore have to be aware of their own qualities and the qualities of their employees. An open attitude towards receiving feedback and allowing an outsider (employees, banks, accountants and colleagues) to 'hold up a mirror' helps farmers to look critically at their personal competences and at the company and to take the right tactical and strategic decisions.

5.4.2 Discussion

To explore the significance of entrepreneurship in Dutch agriculture, the Dutch results were compared with a study about successful agrarian entrepreneurship (van Uffelen et al., 2005). A Dutch farmers' journal asked the Agricultural Economics Research Institute (LEI) to do a study on the success of agrarian entrepreneurship by making a profile of entrepreneurs who are nominated for the 'Agricultural Entrepreneur of the Year' award.

The stories of the nominees reveal that their motivation for choosing a particular strategy was often based on a personal vision ('things need to be done differently'). For example, there may have been problems such as poor price-making, animal diseases and the effect of their operations on the environment. There were also nominees who saw opportunities in market or social trends on the basis of developments within their enterprises. Lastly, the personal motivations of entrepreneurs also played a role, such as no longer wishing to be dependent on cooperation, not wishing to work so hard for an impoverished existence, or wanting to realise a dream. They are driven by enthusiasm and vision, and apply their creativity and tenacity to seek alternative solutions in response to the demand. On the basis of a modicum of self-confidence, they make use of their strengths and compensate for weaknesses through collaboration. By means of well-chosen combinations, through integrated thinking and action, they reach solutions that are often difficult to imitate.

The study of successful agrarian entrepreneurship reveals many similarities with the opinions of interviewees and workshop participants about the skills and personality farmers need to continue in the farming business. For this reason, the picture of the interviewees corresponds with the existing literature. To be able to deal with important trends and developments in the operational environment (market, society) of the farm business and to survive in the current market, farmers have to be 'real entrepreneurs'. The description of a 'real, successful' entrepreneur by the interviewees and participants of the discussion shows many comparisons with the definition formulated in the study: a 'real' entrepreneur is someone who 'knows what he wants,' and has a clear vision of the market, product and production processes. He achieves the objectives he has set for himself by persevering and taking the right decision at the right time. Furthermore, he takes the initiative, is innovative, communicates easily and believes in his own ability. By making investments for the future based on his vision, and by taking a few risks, he manages to create a good return on his investment. He is also someone who knows what the client wants and ensures that he can produce this in a socially acceptable manner. He is also able to deal with legislation and regulations well. Lastly, he takes pleasure in his work within an enterprise that suits him.

Although a picture may emerge that the success of an entrepreneur is the result of the qualities with which he is born, it is clear from the study of successful agrarian entrepreneurship that this picture needs to be modified; any farmer can develop at his own level and thus grow within his entrepreneurship. Courses, training, practical learning methods, practical networks and the sector academies (communities of practice) can assist in this. Some of the interviewees do not agree with this statement. They believe that you cannot become a 'real' entrepreneur through learning, because it has to do with a certain personality that you either have or do not have.

The results of the twenty-three interviews are rather consistent. It is striking that many interviewees identified strategic management (having a clear vision for the company) and an external orientation towards the environment of the farm business through an open, pro-active attitude as being important skills for farmers to survive and succeed in current and future farm business. Of course interviewees did not share always the same opinion. Differing opinions were forthcoming in the following areas:

Some interviewees believed that there is no fair competition on the international market for Dutch farmers, because the Dutch government is always very quick to introduce stricter legislation (e.g. emissions of pesticides and nutrients). Other interviewees believed that farmers should not complain to the government. Farmers have to run their business in a certain environment and should consider that as a fact. Real entrepreneurs, according to them, should have an internal locus of control.

The high demands of the government regarding food safety are exaggerated, according to some interviewees. They state that tracking and tracing products generates a higher cost price, because it is time consuming for the farmer. Other interviewees see certification as an opportunity for farmers to create added value on the products. It therefore needs a pro-active rather than a defensive attitude.

Some interviewees experienced the decreasing support of the government (subsidies) as a negative development, because the number of farmers will decrease. Other interviewees wonder why agriculture should be treated differently from other small businesses. Moreover, they believe that the quality of Dutch agriculture will increase because less competent entrepreneurs will disappear.

It is plausible that the general level of entrepreneurship differs by sector. The level of entrepreneurship would differ by region if this were the case, because specific sectors are more concentrated in certain regions in the Netherlands. For example, most greenhouse horticulture is found in the province of South Holland, near to important logistics hubs. According to some interviewees entrepreneurial skills are best developed in this sector, because entrepreneurs are used to operating close to the market and society. Arable farming is concentrated in regions with fertile land, such as Zeeland, the IJsselmeer polders and Groningen. Some interviewees believe that entrepreneurial skills are generally less developed in this sector, because these entrepreneurs are used to operating with market protection. If it is true that the level of entrepreneurship differs by sector, the strategy to develop entrepreneurial skills has to be tailored to the specific sectors. The de-regulating policy of the (EU) government means that the circumstances of entrepreneurs in the various sectors are becoming more and more similar. This could mean that the general picture that interviewees have outlined of a 'real entrepreneur' is valid for all agrarian entrepreneurs in the Netherlands. However, it is plausible that certain entrepreneurial skills are more important in specific sectors than in others. For example, for a farmer with a tourist camping business it is more important to have social skills than for an arable farmer without staff. This conclusion cannot be stated with certainty, because the research has not focused on comparing entrepreneurship between different sectors.

The Dutch results cannot simply be translated to other countries. The interviewee population is a reflection of the Dutch agricultural sector, which has specific characteristics, such as high costs for land and labour and specific main production sectors (arable and dairy farming). Moreover, the Netherlands is a unique country because of the high population density, a strong dependence on exports, good infrastructure and high knowledge levels. The results of the interviews and discussion

workshop are therefore applicable in particular to the Dutch situation. On the other hand, farmers all over the world have to deal with trends and developments that require specific (entrepreneurial) skills. Therefore, many of the skills recommended by the Dutch interviewees also apply internationally.

6 Important trends and required skills in Poland

Krzysztof Zmarlicki and Lilianna Jabłońska

6.1 Introduction

6.1.1 Materials and methods

The composition of the sample interviewed in Poland is described in Table 27 below. Farmers were selected from central, northern and eastern parts of Poland. They were selected to reflect a spectrum of production types (including both vegetable and animal production) and farm size (varying from 7 to 2,600 hectares). The scientists interviewed comprised two specialists carrying out research and working in the extension service, as well as a professor from Warsaw Agriculture University. The group of government and policy makers consisted of employees from State Agencies operating under the patronage of the Ministry of Agriculture. Interviews about agro-tourism were completed with the President and vice President of the Polish Federation of Country Tourism. Both of them provide an agro-tourism service.

Table 27 Categorisation of Polish interviewees

Category	Number
Agriculture Consulting Agency	1
Agro – Tourism	2
Farmers' representatives	9
Foundation of Assistance Programmes for Agriculture	1
Government and Policy makers	4
Scientists	3
Total number of interviews	20

6.1.2 Description of country-specific agricultural situation

After the Second World War, Poland was the only country within the former Soviet block with private farms. No more than 25% of the agricultural land belonged to the Soviet style of cooperatives and state farms. This situation had a tremendous influence on the Polish standard of living in the late Forties and Fifties because, compared to other countries, there were few hungry people in Poland. However, since the collapse of socialism, Poland has faced the biggest problems with regard to farm structure, compared with other European countries. This is because the privatisation of thousands of large state farms in other former socialist countries was very easy compared with the task of changing the structure of almost three million farms with low market output in Poland. This is especially so at a time when Poland has the highest unemployment rate in the EU and also has financial difficulties.

About sixty percent of all Polish land is used for agriculture (Table 28). The most important production sectors in Polish agriculture are basic cereals and animal production. The main agricultural

products (animals, crops) are pigs, cows' milk, poultry, hens' eggs, cattle (excluding calves), wheat, vegetables, fruit, potatoes and sugar beet.

Table 28 The percentage of land used by agriculture within the total area of Poland.

Specification	Area in ha (x 1,000)	Percentage of total
Total area	31,269	100.00
Agricultural land	19,148	61.24
Arable land, orchards, permanent meadows and pastures	18,418	58.90

Source: GUS 2005

According to the last agricultural census, which was held in 2002, there were 2,933,228 farms in Poland. Of these, as many as 904,961 (30.9% of all Polish farms) are smaller than 1 hectare. The second largest group, consisting of 474,547 farms with an area of 1 to 2 hectares, accounted for 16.2% of the total, and the third largest group, 356,435 farms with an agricultural area of between 3 and 5 hectares, accounted for 12.2% of the total. In contrast to this, in the same year there were 528 farms over 1000 hectares in size and 183 farms over 2,500 hectares, with the average size being 6,853 hectares. There are no precise statistics for the number of farms in different sectors. Some experts suggested in the interviews that there were 130,000 farms producing tree fruit, apples and pears in Poland. Others say there are "just" 85,000. These numbers are not comparable with statistics from other European countries. For instance, in the UK there are only about 400 apple and pear farms (Media briefing 2003). In Holland, the number is about 1,800 (Groot, 2004). Within the almost 1.9 million Polish holdings, with an area of agricultural land over 1 hectare, those which might be considered as livestock farms account for about 1.2 million (GUS 2005). Information about average farm size is not available.

The percentage of the national population working in agriculture is 4.3% overall. 5.1% of men and 3.5% of women work in agriculture. 0.5% of the urban population and 10.4% of the rural population works in the sector (GUS 2005).

The age and gender of private farm owners is shown in Table 29.

Table 29 Polish population in households with private farm user in agriculture by gender and age

Age	Total number (x 1,000)	Total percentage	Males	Females
Grand total	10,474.5	100.00	100.00	100.00
0-14	2,099.8	20.0	20.3	19.7
15-24	1,826.7	17.5	18.3	16.6
25-34	1,317.8	12.6	13.2	12.0
35-44	1,486.0	14.2	14.8	13.6
45-54	1,569.1	15.0	15.4	14.5
55-64	903.1	8.6	8.4	8.9
65 and more	1,271.7	12.1	9.6	14.7
Unknown	0.3	0.0	0.0	0.0

Source: GUS 2005

According to the Main Statistics Office (GUS) the contribution of agriculture to the Gross Domestic Product has varied from 4.4% to 5.1 % over the past four years. However, the share attributable to farming is smaller because the official statistics group together agriculture, hunting and forestry. The main agricultural export products and the total import and export value are shown in Table 30.

Table 30 The total export and import value of agricultural products in 2004

Sections	Exports in millions of euros	Constant prices 2003=100	Imports in millions of euros	Constant prices 2003=100
1.Total live animals, animal products	1768	126,0	-	-
a. meat and edible offal	625	107,0	239	215,3
b. dairy products, birds' eggs, natural honey	575	148,6	72*	128,4
c. live animals	221	146,0	66	156,0
2. Total vegetable products	1196	123,4	-	-
a. Edible fruits and nuts	434	131,0	889**	114,9
b. Vegetables	427	114,8		
3. Prepared foodstuffs	2238	126,3		
a. cereals and preparations of cereals	309	137,3	352	137,5
Total food and live animals	-	-	3419	119,5
Feedstuffs for animals	-	-	487	108,6

*Without honey
**Fruit and vegs.
Source: GUS 2005

6.2 Results

6.2.1 Trends and developments

Country - specific information

Poland's accession to the EU has had a perceptible influence on changes in the market and on the way farmers think about the market. Economically, Poland is divided into two regions. The Western part of the country is where the intensive development of agriculture started before Poland's accession to the EU (some interviewees said that the whole development of country started long before accession, in 1990) and the standards of production are rather high. The Eastern part of the country is the poorer territory, where the process of modernisation is less common. There are several villages where the average age of inhabitants is around 60 and where few young people live who could help modernise agriculture. That is one major reason why there are no significant development prospects in some regions.

The majority of young people migrate to nearby towns, first to attend high school and later to continue their education in bigger cities. The young generation prefers an active urban lifestyle to the hard physical work of agriculture. Most young people don't intend to return to their parents' farms. However, there is a willingness to develop oneself, and young ambitious farmers in particular are keen

to increase and diversify their agricultural production. They tend to look for new sources of income and devise projects to do with managing the area to make the best use of it. Some of these farmers are quite unusual:

> *"One farmer devised a project to breed moles and to sell them to farmers who use them to loosen the soil. A consortium prepared a business plan to do it "* (Employee of the consulting agency).

Since the end of socialism in 1989, there has been a large variety of products on the Polish market, with the quality steadily getting better. Presently the most important trends are strictly connected with the consumers. Their requirements are still changing and the market has to follow their needs.

Situation of agro-tourist farms

People are looking for new sources of income. Those who can manage to earn enough money by running agro-tourist farms often switch to this kind of work and wind up the agricultural business if it is no longer profitable.

> *"Many superfluous agro-tourist farms have been set up because of the ambitions of authorities for enormous amounts of money. They went bankrupt because of a lack of tourists, who were not interested in the unattractive regions where the farms were located."* (Comment from an agro-tourist farm owner)

The guests who go to agro-tourist farms are also more demanding than in the past. They pay more attention to the ecological qualities of their food. Guests do not accept rooms without a bathroom and TV, and their general expectations of standards are higher. There are more tourists from abroad and there is consequently a problem with communication. People living in the country do not always master foreign languages. Before the country's accession to the EU this was not necessary because tourists were largely from Poland itself. There is a tendency to switch farms to agro-tourism if there are good prospects of making a profit. Farms situated in interesting areas have a great opportunity to develop in agritourism, especially in cases where the owners have enough money to ensure the highest standards.

Changes in consumers' requirements

Consumers have started to pay more attention to the quality and (food) safety of products. They are more and more interested in buying products of high quality. However, the low price of the product is also important, which unfortunately does not always correspond with the quality of the product.

Those living in cities or close to them have started to do their shopping in supermarkets and hypermarkets, instead of market places (which are now more "civilised" than a few years ago). In these supermarkets and hypermarkets the products are carefully selected and there is great variety.

> *"The influence of consumers' requirements on the market is more evolutionary than revolutionary."* (Comment from a researcher)

There is a large diversity of products of different qualities. The current emphasis on having a healthy lifestyle also has a big influence on what kind of products the customers buy. There has been a noticeable increase in the purchase of fresh fruit and vegetables, stimulating competition among fruit suppliers. There is a greater demand for regional products, and this creates opportunities for some farmers whose production consists mainly of local specialties.

Producers have begun to change their habits

Due to increasing exports of agricultural products, the main market for Polish farmers is other EU countries. They have changed the process of production to be able to satisfy their customers and buyers. For example, egg producers have to provide hypermarkets with free egg deliveries for three months in order to sign a contract. This is generally accepted by farm owners, given the limited options for egg marketing. The hypermarkets prefer smaller eggs because they are more likely to sell well. In addition, farmers have started to advertise their products to reach as many customers as possible. Eye-catching packaging and nice visual effects help to attract customers. Producers have realised the importance of marketing: the better the product and the more satisfied the customer, the larger their profit.

There is a trend to look for new options, new sources of profit, and to diversify production. Farms are being developed and special services provided, e.g. blending of fertilizers according to the requirements of a particular crop on a particular soil type. There is a need for new sources of energy, and plants for energy production are gradually being introduced on some farms.

However, farmers need more time to get used to new conditions on the market and, as producers, they are having to change their methods of production. The farmers need time to change their ways of thinking and their habits connected with the economic situation in the past. They have to replace it with an ability to understand the new context; dominated as it is by the demands of the market. The majority of farmers are still waiting for the government to solve their problems, as they were accustomed to doing before 1989.

The farmers who grow crops are in the most difficult situation; even when they put a lot of effort and money in their work it does not mean that it will result in profits. In France and other EU countries the majority of farmers know the prices of most of the crops before harvesting. In Poland, farmers do not know the prices. Many farmers do not even make back the money they invested in harvesting (not mentioning about covering the costs of the production or the earnings).

"The costs of production are almost as high as in other EU countries." (Farmer)

Not every farmer feels confident in the new economic situation and some think that there is no need to get used to the new conditions, because it would be too difficult. Some producers have worked out their own methods of production and do not want to change them. The increasing costs of production (particularly labour) also seems to discourage them. There are many small farms and it is hard to introduce all the necessary – often expensive – adjustments required on these small farms. There is no social welfare and the traditional farms have almost disappeared because they are completely unprofitable. By contrast, the financial situation of active and ambitious farmers has been improved by

investment funds from the EU. There is a good price for high quality products. Farmers are able to invest in their farms and make them more modern.

However, many conditions have to be met before farmers can obtain subsidies from the EU. There are many new forms that have to be filled out properly, and because many farmers are afraid of these additional matters, they simply opt out of this form of assistance.

Many new ideas have appeared that are connected with new trends and with developing and improving production processes. The great variety and quality of products has encouraged ambitious producers to continue their hard work and to improve their skills and develop their farms and production processes. The farmers are aware that Polish products are good enough to compete with products from other EU countries. The dairy products as well as meat and other products have been successful on the common EU market, and it makes farmers feel proud and eager to work harder (interviewee 3).

> *"During socialism farmers had good living conditions and they thought that they were working in a proper way, but the political situation has changed and it has turned out that the conditions of the market were strictly connected with the political system."* (Comment from a farmer)

Needs and difficulties

There is a need to develop producers' organisations, and farmers are aware of this. However, they have doubts about cooperating with others, especially those farmers from the older generation who developed their way of doing things in a different economic environment. After many years, it is hard to change their way of thinking in the short term. There is still an aversion to cooperating with others. Farmers can be divided into two groups: those who are able to adapt their farms and production to EU standards, and those who are not able to adapt their farms or simply think that it is unnecessary.

Unfortunately, the average area of a farm in Poland is very small; and it is very hard to survive because production is unprofitable on a small scale. Many farms will go bankrupt due to a lack of money, low standards of production and a lack of adaptation to the new law and economic situation. Poland is an important producer of fruit and vegetables, but in many cases producers do not have high enough standards to be able to compete on the EU market.

> *"The first class of fruit does not have anything common with first class products from other countries. The standards are completely different."* (Comment from a policy maker)

Still a great effort has to be made to make farmers feel comfortable in the new economic conditions, especially when there is less economic security and production becomes more risky. The common market makes the poor organisation of the country more noticeable for the majority of the farmers, because the rules governing the market are not as effective as those in countries with a long history of a free market economy.

6.2.2 Skills

Education

The first and most important answer to the question ”what are the most important qualities of farmers that help them to manage a successful farm?” is to be educated (17 interviewees). In most cases, this means having a higher formal education connected with agriculture; or at least a secondary school certificate with a biological specialism. Being educated also means having some general knowledge and experience in working on the farm. However, there is a need for farmers to have not just agricultural knowledge but also some other technical skills (such as being able to fix machinery) so that they are more independent (which is especially important for those farmers who live far away from towns or cities). Some interviewees felt that most farmers are not adequately educated.

> *“Education is the cheapest form of investment, so one should learn as much as possible (…) I finished my studies in 1980, but I haven’t finished my education.”* (Comment from a farmer)

A farmer who knows about agricultural regulations has fewer problems with them and knows how to make the best use of them. Because the law is not as clear as it should be, some of the smarter farmers are able to make great use of the opportunities presented by the regulations. The majority of farmers interviewed also mentioned intelligence and intuition as crucial to making the right decision, although this is a characteristic that cannot be learned. These characteristics could be useful in starting and managing an agro-tourist farm, because the farmer has to identify the needs of the guests.

Experience and approach to work

It is also useful to be able to work on different farms in other countries in order to get more experience and to learn from other farmers about how to manage a profitable farm. It is useful to cooperate with other farmers in every way possible, such as developing joint projects in order to increase production and develop technologies. Having entrepreneurial skills is important in managing a company. According to the respondents, a farm is comparable with a company, so managerial characteristics are useful to farmers The size of the farm is not very important because the relevant skills needed are the same. What is different is the extent to which the skills are used (interviewee 5).

> *“In the past, 95 percent of the work was to produce fruit and store it in cold storage and the other 5 percent was that someone came and bought the apples for a high price in the spring. Now the situation has changed completely: 5 percent is the storing of the product and 95 percent is the problem with selling.”*(Comment from a policy maker)

Forming producers’ organisations seems to be the best idea to share the process of producing, storing, marketing and selling. This was the opinion of 16 of the 20 interviewees. However, there is a tendency to cooperate with other farms when the market situation for their product is bad. When the prices are good, members of a Producers’ Organisation start quarrelling about the distribution of the profits and the influence of individuals in the P.O.

Business skills and flexibility

It is hard for farmers to keep up with new trends unless they are 'flexible'. This helps them to adjust to the changing market conditions. It also means developing the ability to make quick decisions even if they entail big changes – and even if it means altering the production profile. It is essential for farmers to improve their skills and to learn all the time. In order to do this, they should read books and press articles connected with agriculture, especially about their production profiles and economics. Gaining formal qualifications could be helpful in their future work. The majority of farmers interviewed also mentioned participating in conferences and meetings as well as doing economic research, which is essential to planning production processes and predicting costs and potential profits. Farmers should also take part in new courses which set trends in farm production. Monitoring the business closely helps farmers to obtain better results. Doing more research or sophisticated calculations also increases their ability to predict the potential for developing the production process and to predict levels of costs and profits. As far as the majority of farmers are concerned, the spirit of enterprise should be always present in a farmer's life.

It is important to be able to predict any problems so that preventive measures can be implemented. Investments in the development of the farm infrastructure are always beneficial. Being preventive means undertaking some economic research before introducing new technologies and ideas. It also means having courage to do new things, to introduce innovations and to take risks, because the market and consumers' tastes are becoming more and more open to new solutions. The innovations help to diversify the market.

Being young is also an important characteristic, because young people are more open to innovations. They are not as attached to their land as the older farmers (the latter who inherited it from their parents, followed their traditions and did not experiment). It makes younger people more eager to risk and many of them believe in the motto "no risk, no benefit". They take on long-term finance and broaden production. They tend to use additional information from the internet and it is an easy, everyday matter for them to introduce computer-aided technologies. They are less experienced than the older farmers but are better educated.

Many farmers also said they looked for new sources of money from sponsors and investors, as well as taking advantage of investment funds from the EU.

Approximately one third of the interviewees paid attention to farmer's ambitions. Such issues are often viewed as a low priority, whereas they are in fact essential. Farmers' ability and motivation to keep up with new trends and improve their skills is the key to managing a successful farm (in fact, any farm). It is important to have some aims and to work hard to be able to achieve them.

Additional skills

Managing a farm entails not only the production, marketing and selling of a product. It mainly involves cooperating with people, and that is why most of the interviewees said that to manage a successful farm one has to be skilled in managing a group of people. In the case of agro-tourist farms, getting on well with other people is the key to having happy guests. It is important to be able to live

with strangers in one's house. Being patient and understanding is very important to accept the different habits of guests; just as frankness and good communication skills and some "technical" knowledge are necessary – such as how to lay the table and prepare proper food for guests. In the initial phase of managing an agro-tourist farm, one has to be able to resign oneself to giving tourists all the best things one has: the best rooms, the best furniture, bedclothes, etc. To make communication with tourists from other countries easier, mastering foreign languages is also very useful.

> *"The bigger problem is that we don't speak foreign languages. In our farm only my daughter speaks English, and when she is not present on the farm we have difficulties with communication with guests who come from other countries."* (Comment from an agritourist farm owner)

The best solution to keeping costs down when managing an agritourist farm is to employ members of one's own family. It is possible to oversee five rooms (which is the limit for such farms) without hiring someone else. Making the price attractive and working hard is the key to establishing a good reputation and is a reliable way to success.

When cooperating with other people it is necessary to know them well and to trust them. This simply means that being cautious in one's contacts with other people could also be useful to managing a farm.

Working on the farm and cooperating with a group of people may generate some stress for farmers. That is why farmers should have be able to cope with stress and, in the case of problems, be able to tolerate them and ultimately overcome difficulties.

Managing a farm is not only hard work but also a kind of lifestyle, which is structured around agriculture, harvesting time and the climate. Production should be adapted to the conditions in the region where the farmer works; where this is the case, it can be profitable.

Adapting the farm to prevailing conditions

The farm owner should be like a chameleon – able to adapt to different kinds of production and types of farm, as well as to climatic, geographical and market conditions. Farmers working in different regions require plenty of information in order to be able to optimise production in a certain region. It is hard to be a good farmer without putting in a great deal of effort and hard work. That is why farmers should be interested in their job, because success can be achieved simply by loving the work. Charisma and commitment also help to overcome problems and difficulties.

The farmers who worked in PGR[7] have very different skills than those who did not. The first group is accustomed to the socialist system. They are not eager to work on their own because in the past they had only simple tasks and received money for undertaking them. They became accustomed to receiving social assistance, being given a place to work and a place to live. People were not educated and were effectively unskilled workers. Now it is a problem, because they want to get everything for free, as was the case under the socialist system. These farmers should be socialized to be able to manage their own farm.

[7] Soviet type of cooperative (socialism state ownership)

In comparison with western European countries, it is much harder to manage a farm successfully in Poland, due to the economic, political and psychological factors. A Polish farmer has to have much better skills in many domains not connected with agriculture compared with farmers in other countries, because the conditions are much harder and it takes some time to equalize the standards between all EU countries and to adapt the law to the new conditions.

6.2.3 National discussion group meeting

The national discussion workshop was organised on November 22nd, 2005 in Skierniewice, The meeting was attended by 9 interviewees: 2 researchers, 4 growers and 3 government policy makers. In the course of discussing the most important trends in developing and running farms, the following emerged as the key points:

Changing requirements of consumers as a result of switching to the market economy and the associated appearance of supermarket chains in Poland.

These trends indicate the need to adapt to new conditions, meaning an increase in the safety of products and the emergence of low prices. Also, market chain requirements for the quality and quantity of agricultural products and the logistics required for shipping them have become paramount, all of which are quite new for Polish farmers.

The structure and number of farms.

There are too many small farms and not enough larger ones. Small farms encounter more serious difficulties producing for the market in terms of the various economic and organisational aspects involved, compared with larger farms.

The discussion about the most important characteristics of farmers was dominated by political and economic issues. These were connected with joining the European Union. Farmers argued with policy makers about the conditions for farming in the EU, which, in their opinion, are unfair to new member states. They were told, before voting on EU accession, that "as EU members you will have much better opportunities, a much bigger market and, eventually, better incomes". In the farmers' opinion, the truth is quite different. They said that Polish legislation was not well prepared, that government assistance was much lower than promised before accession, and finally that farmers in the "Old EU" have much better conditions for farming than those in the new member states. Unfortunately, it was impossible to halt this discussion and return to the skills and characteristics. This was because, for the growers, all the external conditions associated with farming were more important than any skills and characteristics.

6.3 Conclusions and discussion

6.3.1 Conclusions

- Education levels, together with the farm management experience, are considered as the most important skills

- Switching from a central planned economy to a market oriented economy has had the biggest influence on the thinking, planning and working of the majority of Polish farmers since the end of the socialist system in 1990; this is why adaptation to new market requirements is necessary
- Many Polish farmers, except those with the smallest area of farmland, are adapting to the new conditions very well, because they know the rules of the market and are able to find their place within it.
- The big problem is how to change farmers' worldview. During the half century period of undersupply of almost all agricultural commodities, any agricultural product could easily find a buyer. Some farmers still think that the government alone is responsible for finding them customers or has the obligation to buy their (sometimes low quality and low quantity) products;
- Most of the educated farmers view knowledge of foreign languages as a relevant factor contributing to their success on the EU market (also viewed as valuable for agro-tourism). A few years ago, such opinions about the importance of communication with people of other nationalities were practically unknown among farmers;
- The idea of 'flexibility' has quite different meanings among farmers. During the socialist period most farmers grew the same products their fathers did before them. Now that many barriers simply no longer exist, profitability is becoming the main factor affecting farmers' decisions.

6.3.2 Discussion

For foreigners, especially from countries that have not experienced socialism in their history, it is extremely difficult to understand the rules of Polish agriculture and the food market. It is also difficult to understand what the 'entrepreneurial spirit' might have meant in relation to Polish farms at that time. This is due to the conditions that prevailed during the period of socialism from 1945-1989, with extremely limited changes in terms of the relevant factors stimulating the running of farms and the general development of agriculture. During that period of undersupply, there was no competition from other countries because of the exchange rate of the Polish currency. The average monthly salary, depending on the year, varied from 15 to 60 USD. In these circumstances, profitable transactions for importers were impossible due to the almost non-existent buying power of consumers.

At that time the question "What are the most important characteristics of farmers which help them to manage a successful farm?" would have been met with answers such as the following:

Knowledge about "how to arrange" materials, such as fertilizers, coal, fuel, spare parts for machinery, etc. It was not possible to buy such resources in the way we do now because the prices attached to them were not market prices; for this reason, shortages existed in almost all commodities. When one sold a pig, for instance, one received a coupon and could use it, together with one's own money, to buy 500 kg of coal to cook the feed for pigs or to heat one's house.

Some more 'sophisticated' skills were required to arrange the coupon to buy a tractor, harvester or a truck / car. Usually the owner had to be able to service their own machinery, replacing the "arranged spare parts" etc.

To buy coal for the production of hot-house flowers it was necessary to sell vegetables during autumn, winter or early spring time (production of flowers was more profitable than growing vegetables).

However, production was very profitable, and without competition from foreign farm products, growers didn't need to invest much. After the collapse of socialism, changes in exchange rates caused financial difficulties for thousands of Polish farmers, because cheaper imported farm products appeared on the market.

From this time onwards Polish farmers have had problems adapting to the market and being as successful as their colleagues in other European countries. However, Poles lost many prosperous years – particularly the Seventies and Eighties – when others were investing a lot in agricultural infrastructure during the up-turn in agriculture.

Today, of all the European countries, Poland is facing the most serious difficulties in agriculture, because it has the largest number of small and unproductive farms. The majority of them cannot produce for the market. In other countries from the former Soviet bloc, the number of small farms is very limited.

Of course the majority of small farms in Poland should soon disappear. However, the speed at which this process occurs is connected with the overall economic situation of the country. With the current high rate of unemployment – 18 % in January 2006 – it would be extremely difficult to find new jobs for those who might leave their farms.

It is to be hoped that in the longer term the size, structure and productivity of Polish farms will be similar to those in other EU countries.

Presently, owners of farms of above-average size tend to have very good skills for successful farming. This is because of their hard experience during the time of socialism and their adaptation to the market economy.

7 Important trends and required skills in Switzerland

Conradin Bolliger, Christine Rudmann and Darren Halpin

7.1 Introduction

7.1.1 Methods and materials

Interviewees were selected in accordance with the project's stated methodology. Six people were interviewed from among the traditional stakeholder groups, which include government bodies and agricultural associations as well as wholesale distributors, retailers and processors. Four people were interviewed from among the new stakeholder groups, which include tourism associations, environmental organisations, the media and think tanks. Our interviewees also included five experts from prominent research institutions concerned with agriculture and entrepreneurship. Finally, six farmers (five mixed and one livestock farm) were interviewed, most of whom have another occupation in addition to farming (e.g. president of an agro-tourist organisation, administrative board, restaurateur, consultant, public administration). Table 31 provides an overview of the different categories of interviewee and the number of interviews conducted.

Table 31 Overview of Swiss interviewees

Category	Number
Traditional stakeholders:	
Government departments and agricultural associations	4
Retailers, processors, wholesale distributors	2
New stakeholders:	
Tourism, environmental organisations	2
Media, think tanks	2
Researchers / experts	5
Farmers' representatives	6
Total number of interviews	**21**

After completion of the interviews, a national workshop was held in order to discuss the results of the analysis with the interviewees and to hear their comments. Nine of the original 21 interviewees participated in this workshop.

7.1.2 Brief account of the situation in Swiss agriculture

In order to faciliatate a better understanding of the Swiss interview results, this chapter presents a brief overview of Swiss agricultural policy, its recent historical development and instruments. There is also a presentation of Swiss agriculture in terms of facts and figures.

Developments and objectives of Swiss agricultural policy

Agricultural policy in Switzerland has had an eventful history. As a result of food insecurity during the two world wars, Swiss agriculture aimed to achieve maximum self-sufficiency by the 1970s. In recent decades, agriculture has lost its relative importance in the Swiss economy – though not in society or politics – and preservation in its current form has been due largely to governmental intervention and support. At the end of the 1980s, agricultural policy, which at that time guaranteed farmers a price and market support for their products, had reached its limits. The cost of such a policy for the national budget was constantly rising. In addition, efforts at liberalising world trade were creating greater pressure to abolish protectionist measures in agriculture. These changes that occurred inside and outside Switzerland over the last few decades – awareness of increasing shortcomings of the old policies and the results of the Uruguay Round negotiations in agriculture – had a decisive influence on Swiss agricultural policy, factors which finally led to today's reform process.

These national and international developments resulted in a new article in the constitution (Art. 104 of the federal Constitution) which was adopted in a national vote in 1996 by a majority of more than three-quarters. This new article specified that Swiss agriculture had to fulfil – through sustainable and market oriented production – a multifunctional role: providing a safe supply of food, conserving natural resources, taking care of the landscape and supporting decentralised settlement in Switzerland.[8]

The introduction of article 104 represented a major change for Swiss agricultural policy, as it led to a switch from a high-price support policy to a policy concept that was designed to guarantee a multifunctional agriculture. The new concept aims at progressively decoupling the income of Swiss farmers from market support and introducing cross compliance measures.

Agricultural policy measures

Switzerland uses various instruments for implementing its agricultural policy, which can be divided into the following three categories: 1) production and market support, 2) direct payments and 3) basic improvements (see table below). The direct payment scheme was introduced in 1993 and represents today's most important policy measure, aimed at compensating farmers for the provision of public goods.

- Production and market support: The measures in this category include export subsidies, deficiency payments for milk processed into cheese, labelling of traditional products from specific areas, import duty on foreign products based on tariffs and tariff quotas, and self-help measures to promote sales. The role played by the state in relation to the market has changed over the past few years. Price support still exists but is declining significantly. In 1992 the Swiss state paid 1120 million euros to Swiss

[8] Art. 104 of the Federal Constitution:

- 1 The Confederation shall ensure that agriculture will, through sustainable and market oriented production, contribute meaningfully to:
- a. ensuring the supply of food to the population;
- b. the preservation of the natural habitat and the countryside;
- c. the decentralised settlement of the territory.

farmers in the form of production and market support measures. This figure has now dropped to 490 million euros and continues to decline. Three quarters of the 490 million euros flow into the milk sector (see table 32).

- Direct payments: The objectives anchored in the constitution make it clear that Swiss agriculture has to provide multifunctional services, which exceed merely traditional food production. Landscape maintenance, conservation of nature and natural resources and decentralised settlement are benefits of public interests which the market compensates only to some extent with financial rewards. Therefore, the key elements of Swiss agricultural policy instruments today include direct payments as a compensation for the provision of public goods. Direct payments are divided into two distinct types. The basic economic benefits of agriculture, as set out in the constitution, are compensated through "general direct payments", whereas particular ecological services are rewarded through "ecological direct payments". Direct payments have replaced price support as the most important measure of agricultural policy. At a cost of about 1.6 billion euros, they are more than three time more expensive for the taxpayer than market support. In 2004 direct payments represented 64% of the total expenditure of the Federal Office for Agriculture (FOAG) (Table 32).

Table 32 Development of the government's expenditure on agriculture (millions of euros)

Expenditure	**1990/92**		**2002**		**2004**	
	absolute	*share of total*	*absolute*	*share of total*	*absolute*	*share of total*
Total agriculture	2032	100%	2711	100%	2601	100%
Production and market support	1123	55%	652	24%	487	19%
Direct payments	515	25%	1619	60%	1665	64%
Basic improvements	124	6%	127	5%	135	5%
Other expenditure	270	13%	313	11%	314	12%
Total agriculture	**2032**	**9.64%**	**2711**	**8.02%**	**2601**	**7.76%**
Total government	**21,077**		**33,815**		**33,523**	

Source: FOAG, 2004

- *"General direct payments"* aim at ensuring area-wide use and maintenance of productive agricultural land. These payments represent compensations for the basic services of providing food supplies, maintaining the landscape and helping to preserve social structures in rural areas. "General direct payments" are tied in part to the arable area of a farm, and in part to the number of ruminants on the farm. In upland and mountain areas, support is provided for holding livestock under difficult production conditions. 80 to 90 % of direct payments are paid as "general direct payments". "General direct payments" are granted only to farmers who comply with certain minimum environmental standards, the so-called *Ökologischer Leistungsnachweis* (cross compliance) associated with the requirements of environmental farm management practice. The key elements used to demonstrate ecological performance are an appropriate proportion of a so-called 'ecological compensatory area' (seven percent of the farm's land), an even nutrient balance, restrictions on crop rotation, economic and specific use of plant treatment products, and animal welfare measures.
  Particular ecological services which exceed cross compliance are compensated separately through

ecological direct payments. The requirements for these measures go beyond what is required by law and participation in this programme is optional. The programme aims to improve ecological standards, ecological quality, water protection, animal welfare and farming the Alpine pastures in an environmentally friendly way. Farmers participating in this programme stress that they provide valuable habitats for animals and plants, support animal-friendly stabling and regular outdoor exercise for animals. A separate measure aims specifically to support organic farming.

- Basic improvements: Besides market support and direct payments, a third pillar of Swiss agricultural policy consists in basic improvements. The measures used in this pillar include investment subsidies, mostly for farm buildings, but also for infrastructural investments in the countryside. Another important role is also played by publicly funded agricultural research institutes and extension services.

Barriers to agricultural trade

As far as agricultural trade is concerned, Switzerland ranks among the most highly protected countries in the industrial world. Switzerland leads the so-called "Group of Ten" net food importers, which lobbies hard in the WTO in order to retain high import duties on sensitive agricultural and food products, in particular meat, milk products, fruit, vegetables, potatoes and bread grain. Swiss barriers to agricultural trade are implemented mostly through tariff and tariff-quota barriers. These measures are supplemented by domestic subsidies and barriers such as safeguards, standards and technical regulations (including sanitary and phyto-sanitary measures). The simple average tariff in Switzerland on imports of agricultural products is 34.3 percent, while the average for manufactured products is 2.3 percent.[9]

The OECD's Producer Support Estimate (PSE) 2003 figure for Switzerland is 74. This means that Swiss farmers derive 74% of their income from the combined effects of border protection and direct support by consumers and taxpayers. In comparison, the PSE figures for New Zealand are just 2%, for the USA 18% and for the EC 37%[10]. The high protection of Swiss agriculture is also shown by a comparison of producers' prices in Switzerland and the world. Between 2001 and 2003, Swiss producers' prices were almost 200% higher than world prices[11].

[9] See the section on Switzerland in the USTR publication, 2005 National Trade Estimate Report on Foreign Trade Barriers.
[10] OECD Agricultural Policies in OECD Countries: At a glance, Paris, 2004
[11] OECD Agricultural Policies in OECD Countries: At a glance, Paris, 2004

Table 33 Swiss agricultural policy measures

	General measures	Specific measures		
Production and market support	▪ Support for self-help measures ▪ Register of protected designations of origin and geographical indications ▪ Support for sales promotion ▪ Compulsory declaration of production methods forbidden in Switzerland ▪ Import duty and tariff-rate quotas according to WTO regulations	**Dairy farming** ▪ Milk quotas (to be abolished in 2009) ▪ Additional payment for cheese-making ▪ Additional payment for not silaging ▪ Domestic and export grants for dairy products	**Cattle farming** ▪ Grants for reducing the meat supply ▪ Export grants for breeding animals and other livestock ▪ Subsidies for reducing the egg supply ▪ Subsidies for constructing animal-friendly hen-houses	**Arable and fruit farming** ▪ Subsidies for areas devoted to oil-seed ▪ Subsidies for processing and marketing sugar-beet, oil-seed, potatoes, fruit and wine ▪ Vineyard register
Direct payments	**Proof of ecological performance** ▪ Balanced use of fertilisers ▪ Appropriate proportion of ecological compensation areas (7%) ▪ Crop rotation ▪ Suitable soil protection measures ▪ Selection and specific application of plant treatment products ▪ Animal-friendly conditions **Further conditions** ▪ Must meet requirement for minimum number of workhours ▪ Age limit ▪ Limits for income, assets and for payments per labour unit	**General direct payments** ▪ Payments based on acreage: - Basic amount for total area of farmland and additional amount for open arable land - For sloping terrain in upland and mountain areas - For sloping terrain and terraces in vineyards ▪ Payments for animals: - Grazing animals - Kept under difficult production conditions in upland and mountain areas	**Ecological direct payments** ▪ Payments for organic farming ▪ Payments for extensive production of cereals and rapeseed ▪ Payments for particularly animal-friendly conditions ▪ Payments for transhumance of grazing animals ▪ Payments for ecological compensation areas (e.g. hedges, flowery meadows, standard fruit tree) ▪ Payments for improving water quality in problem areas	
Basic improvements	▪ Spatial planning ▪ Land and tenancy rights for farmers ▪ Protection of nature and the landscape ▪ Research and training	**Structural improvements** ▪ Grants to communal projects (e.g. providing access by road, construction work in upland and mountain areas) ▪ Investment loans for individual farmers (e.g. renovation and construction, diversification into activities linked with agriculture	**Research and development** ▪ Funding and operation of research institutes ▪ Support for basic and further training as well as extension services	**Food safety** ▪ Regulations concerning foodstuffs: registration, ingredients, labelling, declaration and hygiene ▪ Compulsory labelling for genetically modified organisms ▪ Eradicating livestock epidemics

Source: FOAG, 2003

7.1.3 Facts and figures

Switzerland comprises different cultures and different languages. The landscape is likewise very diverse. High mountains, deep valleys, steep mountain meadows and rolling hills make up two-thirds of the surface area. Arable land, meadows, forests and settlements characterise the central lowlands, which are densely populated. For agriculture, this means difficult working conditions in upland and mountain areas. There is always less agricultural land available in the most desirable locations. In addition, lack of space makes it difficult to farm the land economically.

The number of farm businesses in Switzerland has been falling for a number of years now, while those that remain have become larger. 19% of Swiss farms were abandoned between 1996 and 2004. The remaining 64,466 farms (1996: 79,479) operate on an average of 16.5 hectares whereas more than half the farms have only 5 to 20 hectares of land. In 2004 the total area of productive land amounted to 1,064,574 hectares, which is equivalent to about one quarter (25.8%) of Swiss territory (4,128,476 ha). Roughly one in three farm businesses are run on a part-time basis, their existence depending on the income earned from another occupation. In 2004 approximately 190,000 individuals were employed in the Swiss agricultural sector (1996: 225,000).

At the start of the twentieth century some 30% of those in gainful employment worked in the agricultural sector, whereas today that figure has fallen to just about 5%. The gross value added (GDP) of the Swiss economy increased from 249bn SF to 297bn euros between 1996 and 2004. The proportion of gross added value (GDP) from the agricultural sector, however, fell from 1.42% in 1996 to 0.99% in 2004 (absolute values for 1996 and 2004: 3.53 and 2.93bn euros).

Farm businesses according to business activity

Farming is divided up into three areas: crops, livestock and mixed agriculture. Mixed farming emerges from a combination of activities in crop and livestock farming. A further important distinction relates to production zones: farming practices can be roughly subdivided into three levels: valley, hill and mountain regions.

Three quarters of productive land in Switzerland consists of grassland. As a result, the largest part of Swiss agriculture is given over to livestock farming. Of 64,466 farms counted in 2004, 53.5% were geared towards livestock farming, 31.5% were mixed farms and 15% were pure crop farms.

Table 34 Farm businesses according to their business activity 2004

	Total	**Crop**		**Livestock**			**Mixed farms**
		Arable	*Horticulture*	*cattle farms*	*intensive livestock (poultry, pigs)*	*other livestock*	
Total number of farms	64,466	3,813	5,887	26,374	2,009	6,073	20,310
Subtotal of sectors	64,466	9,700			34,456		20,310
Area per sector (ha)	1,064,574	87,010	46,584	46,0581	15,236	43,164	411,999
Ø area per farm (ha)	16.5	13.8			15.1		20.3
Number of farms per farm size category							
< 1 ha	3,015	12	1,613	56	803	254	277
1 – 3 ha	3,804	80	1,208	427	146	1,324	619

	Total	Crop		Livestock			Mixed farms
		Arable	*Horticulture*	*cattle farms*	*intensive livestock (poultry, pigs)*	*other livestock*	
3 – 10 ha	15,529	545	1,562	6,721	388	3,287	3,026
10 – 20 ha	22,521	1,450	895	10,839	477	905	7,955
20 – 30 ha	11,744	834	342	5,270	140	197	4,961
30 – 50 ha	6,331	677	185	2,551	50	77	2,791
> 50 ha	1,522	215	82	510	5	29	681
Number of farms per production zone							
Valley area	29,005	3,657	4,507	4,530	1,020	1,721	13,570
Hill area	17,448	156	591	9,161	750	1,638	5,152
Mountain area	18,013	0	789	12,683	239	2,714	1,588
Number of organic farms	6,373	13	295	4,056	58	912	1,039

Source: BFS, 2004

Main agricultural products

Swiss agriculture produced food to a value of at least 6.5 billion euros in 2004. Milk and meat are the main agricultural products. In 2004 Swiss farmers produced about 4 million tonnes of milk. Four fifths of the milk is processed into cheese, butter, cream, yoghurt and milk powder. Table 35 illustrates the value of goods produced in the Swiss agricultural sector.

Table 35 Value of goods produced in the agricultural sector 2004

Products	Million EURO	% of total
Milk	1,604	24.5%
Livestock	1,520	23.2%
Cereals	953	14.6%
Fodder crops	666	10.2%
Vegetables	361	5.5%
Poultry	309	4.7%
Arable crops	256	3.9%
Potatoes and sugar beet	226	3.5%
Fruit and wine	92	1.4%
Other crops	556	8.5%
Total	**6,543**	**100.0%**

Source: BFS, 2004

Farmers according to age group in 2003

The average age of farmers is 47.7 years. The table below shows the different age groups and their distribution.

Table 36 Number of farmers per age group in 2003

	Farmers who gave details	Age group							
		< 24	*25-29*	*30-34*	*35-39*	*40-49*	*50-59*	*60-64*	*65 +*
Number	61922	449	1654	4806	8140	19152	17910	6447	3364
Percentage	100.0%	0.7%	2.7%	7.8%	13.1%	30.9%	28.9%	10.4%	5.4%

Source: BFS, 2003

Land use and livestock in Switzerland

In 2004, productive agricultural land in Switzerland covered 1,064,574 hectares, equivalent to about a quarter (25.8%) of the country's territory (4,128,476 ha). Swiss farmers also farm land in other countries. Between 1996 and 2003, these areas of land increased by 3.2% to 6,885 hectares. The largest proportion of agricultural land consists of permanent grassland, at about 60% of the total. Cereal (feed and bread) cropland and grass ley are also well represented (Table 37).

Table 37 Productive land according to types of use, 2004

Land use	Area (ha)	% of total
Permanent grassland	624,337	58.6%
Cereal crops	161,753	15.2%
Grass ley	124,474	11.7%
Silage maize and forage maize	42,433	4.0%
Potatoes and sugar beet	33,609	3.2%
Rapeseed and sunflowers	20,696	1.9%
Other arable	14,224	1.3%
Other productive land	14,160	1.3%
Vines	12,967	1.2%
Vegetables	8,588	0.8%
Fruit	7,334	0.7%
Total	**1,064,574**	**100.0%**

Source: BFS, 2004

Table 38 Farm animal stocks, excluding goats and horses, 1996 and 2004

	Animal stock 1996 (in 1,000)	Animal stock 2004 (in 1,000)	Deviation (%)
Breeding cattle	1,747	1,545	- 11.6%
Dairy cows	764	690	- 9.7%
Fattening cattle	179	143	- 20.1%
Sheep	419	441	+ 5.3%
Pigs	1,379	1,536	+ 11.4%
Fowl	6,251	8,051	+ 28.8%
Laying hens	2,211	1,973	- 10.8%
Broilers	3,293	4,971	+ 51.0%

Source: BFS, 2004

Export and import

Some two thirds of foodstuffs consumed in Switzerland come from domestic production and around one third is imported. Wine, vegetables, fruit and meat products make up the largest proportion of imported goods. In 2004 about 2.67bn euros worth of agricultural products were exported and 5.93bn euros worth imported. Switzerland's most important trading partners are France, Italy, Germany and the Netherlands. About 75% (4.47bn euros) of imported goods come from the EU. About 67% (1.8bn euros) of exported goods go to EU countries. The country's most important export goods are dairy products and processed products such as chocolate and jam.

Summary of Swiss agriculture

To conclude this chapter, a summary overview of the most important data about Switzerland and Swiss agriculture is provided in Table 39.

Table 39 Overview of Swiss agriculture

Year	Area				Number of farms		Labour		
	Total area (ha)	Productive land (ha)	Percentage of UAA on total area	Usable agricultural area per farm (ha)	Number of farms	Number of organic farms	Total Switzerland in 1,000	Employees in agricultural sector in 1,000	Percentage of agricultural labour force of total
1996	4,128,476	1,082,876	26.23%	13.6	79,479	3300	3466	225	6.49%
2003	4,128,476	1,067,055	25.85%	16.2	65,866	6124	3627	193	5.32%
2004	4,128,476	1,064,574	25.79%	16.5	64,466	6373	3632	190	5.23%

	GDP			Export			Import		
	Total in bn euros	*GDP agriculture in bn euros*	*Percentage of agriculture on total GDP*	*Total in bn euros*	*Agriculture in bn euros*	*Percentage on total Swiss exports*	*Total in bn euros*	*Agriculture in bn euros*	*Percentage of total Swiss imports*
1996	249.33	3.53	1.42%						
2003	289.71	2.68	0.93%	90.27	2.42	2.68%	86.47	5.90	6.82%
2004	297.29	2.93	0.99%	98.25	2.67	2.72%	92.52	5.93	6.41%

Source: BFS, 2004

7.2 Results

In the first part of this section, we briefly describe the most significant results relating to trends and developments and offer some comments on them; in the second part, we do the same for the results relating to entrepreneurial skills. To do this, we draw on data from both our analysis of the individual interviews and additional comments made during the national workshop.

We begin this chapter, however, with a quotation from one of the interviews that attempts to describe what is meant by "entrepreneurship in agriculture":

"The farmer possesses a number of resources – land, animals, a lot of space, a lot of commercial buildings, machines and possibly pleasant surroundings, a pleasant landscape, or a special setting (close to a town / tourism). These are the resources the farmer has to work with; and there's a lot he can do with them. The farmer should use these resources in a flexible way and steer clear of any kind of tradition based on some outmoded notion of production. At the end of this development lies ENTREPRENEURSHIP."(A scientific expert)

7.2.1 Trends and developments

The results relating to trends and developments will be subdivided below into sections on society, policy and the market. In reality, the distinctions between these different themes are hard to sustain, given the points of overlap and mutual influence between them. The polarisation of society, for example, is reflected in the market and in policy alike. We shall take account of this fact in our discussion below by highlighting certain interactions.

Society

This section begins with an overview of societal trends and developments, presented in the table below.

Table 40 Societal trends and developments mentioned by Swiss interviewees

Trends and developments	Explanations
Individualisation	▪ growing tendency towards small and one-person households
Openness and mobility	▪ cultural and religious mobility and global consciousness
Fast-moving lifestyle and leisure	▪ lack of obligations, new leisure activities
Migration	▪ multiculturalism: 20 percent ethnic minorities
Polarisation	▪ widening income gap (→ poor – rich) ▪ urbanisation: large urban areas contrast with a rural population that is progressively shrinking due to migration elsewhere ▪ declining solidarity with the farming community on the part of society ▪ marginalisation of agriculture → lacking sense of connection ▪ declining willingness to pay for the multi-functional roles of farming
Historical components	▪ special status of agriculture called into question ▪ strongly rooted myth of agriculture (food self-sufficiency)
Farming as the object of society's projections	▪ idyllic world vs. frustration (farming traditions appreciated on the one hand, frustration about conservatism among farmers on the other)
Changed consumer behaviour	▪ hybrid buying behaviour (both expensive and cheap) ▪ cognitive dissonance (discrepancy between what people want and what they are prepared to pay for it) ▪ segmentation into: ▪ orientation towards price: "the cheaper the better" and cross-border shopping ▪ concern for quality ▪ concern about safety: guaranteeing food supply and safety ▪ awareness of health issues

With regard to society, interviewees made frequent mention of issues to do with polarisation and changed consumer behaviour in particular. More than half expressed their views on these topics from various perspectives. It became clear that the different aspects are closely linked to one another. The following statement reflects this point well:

> *"The problems of modern society get played out in the towns and conurbations (jobs, housing shortage, childcare issues, traffic problems) and in these areas the towns often feel left in the lurch by farmers and the rural community. The countryside and the farmers especially are always demanding solidarity from the consumer and the tax payer. Now townspeople want some of that solidarity in return. The farming community is completely uninterested in the problems experienced by the townies, and yet they demand understanding for their own problems."* (A journalist)

Declining solidarity with the farming community on the part of society correlates to urbanisation and migration. The contrast between a steadily growing urban population and a shrinking rural population is leading to a marginalisation of rural areas and of farming in particular. In addition, today's society is shaped to a considerable extent by the presence of foreigners from very different ethnic and cultural backgrounds, who constitute about a fifth of the total population. This segment of the population constitutes a significant group of consumers, but it has little affinity with the Swiss farming community. Because of these factors, there is an increasing lack of mutual awareness and understanding for the problems and needs associated with urban and rural lifestyles respectively. Nowadays, urban dwellers themselves increasingly feel misunderstood and left in the lurch by the rural and farming population. This is one major reason why the urban population is less and less willing to bear the high costs associated with agricultural production and to buy expensive farm products.

Marked changes in consumer behaviour can be explained by reference to fundamental societal change associated with increased polarisation (income disparities, urban lifestyles), individualisation, fast-moving lifestyles and increased mobility.

> *"Compared to before, consumers now spend a smaller proportion of their income on food (8-11%). An economic gap is opening up. There are more and more rich people and more poor people in Switzerland at the same time, and this gets reflected in consumer behaviour."*(A tourism expert)

Whereas in the past there was a certain predictability about consumers and their buying behaviour, today's consumers are hybrid creatures as far as their demand for products is concerned. They act impulsively, buying discounted products as well as quality products in the high price range; they will pay attention to price on one occasion and yet buy expensive convenience products or particular brands on another. Due to high rates of mobility and lifestyles characterised by short-lived preferences and highly individual attitudes, today's consumers have a different understanding and awareness of price, product and shopping behaviour.

> *"Price sensitivity exists only in certain situations. If you look at all the instances in which something is bought in the course of a day or a week, a consumer will respond to price on the fewest occasions. The smaller the item of shopping, the less price sensitive consumers are."* (An expert on supply chains)

The most astonishing result comes under the heading of "historical components". This approach attempts to explain the special position of agriculture and today's agricultural policies based on looking back in history to the Second World War. The goal at that time to achieve self-sufficiency in food provision in Switzerland – one that was not reached one hundred percent even then – has attained the status of a myth and is brought to bear even today, particularly by older influential figures, in debates about society's obligations towards agriculture; they see it as a justification for governmental budget for agriculture and the nature of current agricultural policy.

> *"If you want to understand Swiss farming, you have to go back to the 1940s – 'digging for victory' and all that. The myth of food self-sufficiency and security of supply is something that was and still is very much alive. (...) Switzerland never achieved and never will achieve one hundred per-cent self-sufficiency. But influential figures in parliament, the farming associations and the administrations have done a good job so far of keeping this myth alive today – it is even a part of our constitution. The myth is still alive and kicking, but it is nonetheless in the process of being shattered. This fact is surely crucial for the further development of agricultural policy. Agricultural policy will only change once this myth has been shattered."* (A journalist)

Policy

Table 41 offers an overview of policy trends and developments.

Table 41 Policy trends and developments mentioned by Swiss interviewees

Trends and developments	Explanations
Financial dimension	▪ Struggle about distribution of financial resources → Governmental budget cuts ▪ Pressure to cut back due to overspent national budget
Liberalisation of markets and trade	▪ International pressure o multilaterally, in the WTO context o bilaterally, with the EU and poss. the USA (free trade agreements) ▪ National pressure o Processing industry o Consumers
New agricultural policy	▪ Multifunctionality principle ▪ Decoupling of production and income ▪ Boosting competitiveness by means of liberalisation and deregulation
Agriculture must subordinate itself to national interests	▪ Special status of agriculture up for debate
Polarisation of the political landscape	▪ New political alliances (farmers' union and environmental associations) ▪ Polarisation within the farming community (organic vs. intensive)
Issues of regional planning	▪ Land as an increasingly scarce resource → conflicts over use ▪ Abandonment of land hard to farm

In relation to policy, the aspects "financial dimension" and "liberalisation of markets and trade" were seen as central.

The debate on finance needs to be understood, on the one hand, in the context of a state budget that is deep in deficit; it is also based, on the other hand, on the struggle between conurbations and rural areas over distribution of scarce state resources. There is a constant need to reassess priorities for the allocation of funding, a process in which social welfare insurance, education and transport problems are accorded greater importance than the military and agriculture. This transformation has its roots in the societal developments outlined above.

> *"How much money will go to the periphery, into rural areas? How much money do the conurbations need from our country in order to fulfil their role as the engine of society? The struggle over distribution between the conurbations and the rural areas will become increasingly fierce."* (A journalist)

In order to get the budget back under control financial sacrifices have to be made at all levels. Agriculture has its part to play in this, too. Given a changed societal situation it is no longer possible to justify to the (urban) tax payer the huge budget for the agricultural sector (2.6bn euros a year which represents 7.8% of the total governmental budget of 33.5bn euros).

The liberalisation of markets and trade are global phenomena that exert a powerful pressure on Swiss economic policy in general and on domestic agricultural policy in particular. At the same time, Swiss agriculture faces a number of external and internal constraints.

The Swiss agricultural market is widely considered one of the most heavily protected markets in the world. Because of this, trade agreements (whether they be bilateral with the EU or the USA, or multilateral agreements entered into through the WTO) have a huge impact on the economic situation of Swiss agriculture. Conflicts of interest between the different sectors of the Swiss economy are ever more common in this context. The small, domestically-oriented agricultural sector is increasingly having to subordinate its own interests to national interests and thus to the economically important export-oriented industrial and service sectors.

Domestic pressure is exerted above all by the processors and consumers. The processors feel that the Swiss market, being so small and heavily protected, constitutes a competitive disadvantage. While having to pay high prices to the producers, any attempt to specialise is almost doomed to failure (no economies of scale). This means that a company such as Emmi, which processes milk, has to offer a complete range of dairy products for the domestic market, even while having to compete globally with specialised dairy processors. Consumers complain especially about the price of the products, which are several times higher than those of Switzerland's immediate neighbours across the border. Nonetheless, some farmers do see more opportunities than threats in an open and liberal market order, both in terms of positioning their own products more favourably on the global market and being able to purchase certain inputs at lower prices.

> *"There is increasing pressure from within the country to open up competition. Companies that process foodstuffs – but farmers as well – can sense that they are reaching the limits with the current market isolation and that this is why they are not competitive enough on the European market. This fact is leading increasingly to conflict within agricultural circles between those sec-*

tors that fancy their chances on the European market, such as the finishing and dairy sectors, and those that see no opportunities at all, like the cereal growers." (An expert on supply chains)

One astonishing phenomenon that deserves special mention is the polarisation taking place in the party political arena with regard to agriculture. As far as its history, traditions and ways of thinking are concerned, Swiss agriculture is strongly rooted in the bourgeois-conservative, business-friendly political faction. However, this faction is working hard in favour of market liberalisation, which runs completely contrary to the point of view of most Swiss farmers, who would welcome protectionist measures for the agricultural market and for their market-sensitive goods (milk, meat, fruit and vegetables). Such views are causing the agricultural sector to drift ever farther away from the business federations and the rest of the right-wing camp. With the increasing shift in agriculture to organic methods and multi-functional tasks (protection of the countryside) that have no direct economic value, new political alliances with environmental organisations and left-wing political groups are beginning to emerge.

Market

The most significant issue affecting markets (see the table below) is the change in the food market.

Table 42 Market trends and developments mentioned by Swiss interviewees

Trends and developments	Explanations
Changes in the food market	▪ Increased competitive pressure in the retail trade → price war, "Aldi-isation"[12] ▪ Segmentation of the food market: o growing low price segment o growing high price and premium segment o declining mid-range price segment (products with weak market profile)
Direct marketing	▪ A new possibility for farmers to sell their own products and thereby generate a higher income
Agro-tourism	▪ Alliances between tourism and agriculture have considerable market potential, not yet fully exploited
Domestic vs. foreign production	▪ Swiss country of origin (regionalism) vs. foreign products

This change is manifested in two facts: the entry of international companies onto the Swiss retail market and consumer needs that are changing due to current social developments.

With the advent of new foreign competitors and the growing strength of retailer Denner[13], the quasi-monopoly of the traditional market leaders (Migros, Coop)[14] is being called into question. This new competitive situation has also meant that both Migros and Coop have been forced to launch a range of

[12] "Aldi" is a German hard discounter, beginning to break into Swiss market

[13] "Denner" is the most important Swiss hard discounter (market share in 2003: 4.1%; according to IHA-GfK market research institute)

[14] "Migros" and "Coop" are the most important Swiss retailers (market share Migros in 2003: 36.0%; market share Coop in 2003: 33.3%, according to IHA-GfK market research institute)

low price goods. Thus, competition is much more an issue of price today than it was even five years ago.

"Whereas it used to be the case that discounters like Denner and Aldi were the preferred shopping choice for many in the lower income bracket, now even those with higher incomes shop there because the concept and the quality are right. The boundaries between the (organic) specialist retail trade, discounters and large retailers are gradually breaking down."

(A policy maker)

The polarisation of society, with its widening economic gap and urban lifestyles, is reflected in the segmentation of the food market. The structure of demand for food products used to be like a pyramid, while today it is bone-shaped. Products with a weak market profile are being squeezed out by products with clear selling points (low price or high quality), and this in turn is causing the middle segment to thin out, creating ever larger demand for products at either end.

7.2.2 Entrepreneurial skills

For purposes of simplicity the results from the entrepreneurial skills are divided up below into six different categories. The farmer is at the centre of this structure, equipped with a certain personality along with technical/professional, managerial, marketing and sales-related, analytic-strategic skills as well as networking skills. Figure 5 illustrates this. illustrates this.

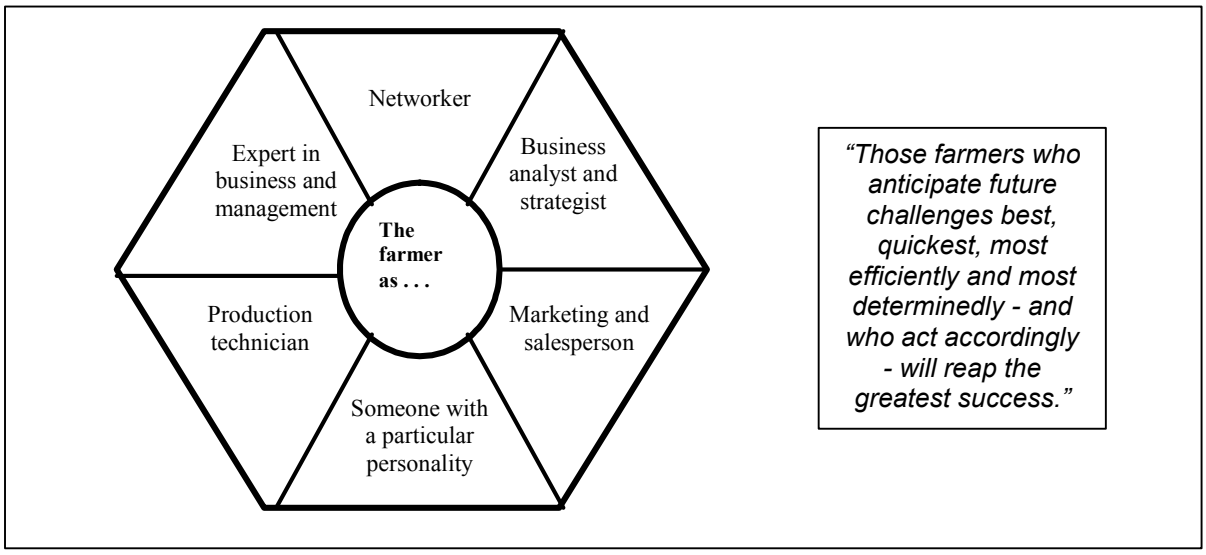


Figure 5 The farmer and his/her skills

The farmer as production technician

Table 43 shows a summary of the most important results from the issue of technical expertise, followed by a discussion of the major substantive points.

Table 43 Skills related to the profession of a farmer

Skills	Explanations
Manual skills and specialist knowledge	▪ Basic requirement and foundation
Professionalism	▪ Keeping up to date
Understanding of processes	▪ Understanding the entire business with all its procedures as a process where there is constant need for adjusting, optimising and learning new things. Such an approach enables ongoing renewal and development.

In this area the interviewees all agreed that being a good production technician is a fundamental prerequisite for running a successful farm as an entrepreneur. Without this prerequisite, all the other skills are more or less useless.

> *"Technical skills in relation to production processes are part of the basic requirements in farming - without them, the farmer cannot succeed. However, many farmers are still wedded to the notion that these skills are the only important ones."* (A scientific expert)

Professionalism was named as the most important aspect of the production technician. This means constantly seeking to achieve and surpass benchmarks and to acquire new knowledge. In order to be among the best in the business, farmers must at all times be familiar with the latest state of technological advances (e.g. variety selection, the latest planting, spraying and feeding technologies). Striving for professionalism should be closely linked with striving to achieve the highest standards of quality. This basic work approach should not be reduced to the issue of production techniques, however, but should rather be an integral element of all the skilled activities carried out daily.

The farmer as business and management expert

Table 44 shows a summary of the most important results from the issue of business and management, followed by a discussion of the major substantive points.

Table 44 Business management skills

Skills	Explanations
Optimisation and improvements in efficiency	▪ Awareness of costs ▪ Work processes
Organisation	▪ Work organisation ▪ Setting priorities
Financial planning	▪ Profitability ▪ Investments
Monitoring success	▪ In future, farmers will need a system of cost control
People and team management	▪ More and more farms have employees, so that training in people management is becoming increasingly important

In this regard, the interviewees emphasised first and foremost the skills associated with cost effectiveness, optimising procedures and calculating profitability. Producer prices are subject to enormous pressure, which is why farmers need to develop a heightened awareness of costs if they wish to survive in the marketplace. In addition, they must be able to calculate which aspects of the business really are profitable and which are not, and this requires a robust system of cost control.

The efficiency and economic performance of a business can be increased by optimising working procedures. This is the only way to create the space and time necessary for managing the highly complex demands of a modern farm business. In the past the optimisation of working procedures was not a priority, since farmers had to deal almost exclusively with technical issues associated with production; today, however, such considerations are extremely important for being able to work efficiently and to get the most from the business.

During the workshop, participants added "people management" as an important skill with regard to the entrepreneurial personality. In today's agriculture, even family-run farm businesses are taking on employees to help with the work, as the traditional structures of such businesses are breaking down (fewer children, second job). Managing these employees correctly poses new challenges for the farm manager that have to be learned and practised.

Business and management skills among farmers are, in the respondents' view, poorly developed as yet.

The farmer as marketing and salesperson

Table 45 shows a summary of the most important results from the issue of marketing and sales, followed by a discussion of the major substantive points.

Table 45 Marketing and sales skills

Skills	Explanations
Market awareness	▪ Thinks about issues relating to markets, market development and consumption o Looks for and generates information o Knows the structure of the sector ▪ Recognises market opportunities and appraises them correctly
Awareness of market and customers	▪ Thinks from the point of view of the customers and their needs ▪ Is present with customers, going to where they are
Communication skills	▪ Production becoming less important, communication more important
Skill in sales and negotiating	▪ Inviting the consumer to the farm ▪ Going to the consumers in the towns, being physically present at the point of sale

Farmers nowadays are faced to a much greater extent with responsibilities for marketing than they were in the past. To survive in today's marketplace, farmers need to be aware of market needs. They have to build a connection between themselves, as rural producers, and the urban consumer and be much more visible for the consumer. This means that farmers have to take a proactive approach to matters of the market, seeking information, generating knowledge of the market and asking in order to

gain familiarity with consumer wishes. All this information enables farmers to identify potential opportunities and to appraise the prospects of success. Today's farmers are expected to be able to segment the market themselves and to position themselves and their products within it.

> *"Farmers today have to be willing to ask about consumer needs and be able to respond to these needs at all times by developing innovative products. But far too often farmers still think in terms of the local village and forget what is important to consumers in the town and how they can be reached."* (A policy maker)

Farmers used to be able to concentrate solely on production, as marketing organisations existed to look after the sales side; these were administered centrally and funded by the state. Today, farmers increasingly have to see to their own product marketing, something which requires good communication skills. To put it simply, one might say that farmers have to let go of the notion of being purely a producer and instead get used to thinking of themselves as a communicator.

The farmer as business analyst and strategist

Table 46 shows a summary of the most important results from the issue of analysis and strategy, followed by a discussion of the major substantive points.

Table 46 Business and strategy skills of entrepreneurs

Skills	Explanations
Self-knowledge	▪ Knowing one's own strengths and weaknesses, likes and dislikes ▪ Familiarity with the farm and its resources (land, animals, location)
Analysis of own situation and competitive environment	▪ Actual status: opportunities and threats ▪ Question of uniqueness: Unique Selling Proposition (USP)
Vision and goal orientation	▪ Which direction do I want to take?
Strategic thinking and strategy development	▪ How - by what means - can goals be achieved? ▪ → Cost-effectiveness of production, niche, second job?

A farm's success increasingly depends upon whether the farm manager succeeds in finding the right strategy for him or herself and for the farm. In order to develop a strategy, farmers have to be capable of analysing themselves and the competitive environment in which they are operating, to assess the opportunities and threats accurately and then to define some realistic goals for themselves and for their business.

The farmer as networker

Table 47 shows a summary of the most important results from the issue of networking, followed by a discussion of the major substantive points.

Table 47 Networking skills

Skills	Explanations
Ability to network	▪ Communication and networking across sectoral lines → Emerging from isolation
Cooperation	▪ …with businesses that have a similar strategy ▪ …with partners in the food chain or in tourism

Having access to robust networks and possessing good networking capabilities are a crucial competitive advantage nowadays. Farmers still tend to think in individualistic terms, as lone figures with no allies. In order to operate successfully in the marketplace, the ability to cooperate with others and to build networks is extremely important. This refers not only to cooperative relationships within the farming sector but also beyond the bounds of farming, making new allies in order to gain access to resources or to sell products or services. Farmers need to learn to think and act within the supply chain, in order to understand what the needs are of the person before or after them in the chain.

The entrepreneurial person

The most important results related to the farmer as a person are summarised in Table 48, followed by a discussion of the major substantive points.

Table 48 Skills related to the personality of the entrepreneur

Skills	Explanations
Mentality, attitude and values	▪ Openness ▪ Sense of personal responsibility ▪ Positive outlook, optimism
Ability to dialogue and to take criticism	▪ Prepared to enter into social dialogue ▪ Prepared to listen and respond to criticism ▪ Self-reflexive
Capacity to anticipate trends, proactive approach, ability to act on own initiative and react quickly	▪ Quick to recognise changes in external conditions, in the market situation ▪ Trend setter ▪ Quick to put new ideas into practice
Innovation and creativity	▪ Different from the rest ▪ Willing to look for new solutions and to implement them
Willingness to work hard and ability to be motivated	▪ Has the will to endure ▪ Willing to work and to do more
Willingness to take risks	▪ Can distinguish predictable from unpredictable risk
Happy to make decisions and ability to persuade	▪ Distinguishes what is important from what is not important ▪ Willing to make mistakes
Flexibility and living with uncertainties and contradictions	▪ Societal needs are often contradictory. The farmer has to face and deal with these contradictions.
Further training and education	▪ Constant professional development ▪ Second job

In the interviews as well as later in the national workshop people emphasised the importance of personality related factors, such as mentality, attitudes and values but also capabilities and abilities, which are influenced by these attitudes.

The reason why we dedicate a whole section to these abilities and capabilities, even if they are not literally skills, is because on the one hand they seem to be a prerequisite to the general capability of being an entrepreneurial farmer. On the other hand, one result of the workshop discussions was that these abilities related to the personality of the farmer are capable of being learnt to a certain extent. Even if this seems to be a contradiction, it expresses exactly the comments of the interviewees and workshop participants. In the following paragraphs we summarise the comments concerning these issues.

One of the greatest challenges related to the personality of farmers that came out in the interviews was that of the farmer's mentality, attitude and values. An ability to be open and to act on one's own initiative were seen as central entrepreneurial characteristics. Openness towards society, social influences and new lifestyles, as well as to society's criticism should be seen as a positive opportunity and should not, as in the past, be dismissed as unwanted interference. Farmers need to take notice of what is going on outside farming, to take note of social needs and to optimise their own role based on this information. In this way farmers can free themselves from their classic role and redefine themselves as a service provider for society.

> *"To some extent a person can learn new skills. The changes required depend largely on attitudes and on letting go of traditional value systems. Such changes take time, because it involves giving up something that is quite deeply rooted. It takes a new openness, which is not always easy to convey"* (A scientific expert)

At the national workshop the different abilities and capabilities related to the personality of farmers were divided into aspects of character, knowledge/learning and experience. Results from the small group discussions indicated that most of these abilities are related to a specific attitude or value and therefore are aspects of personality, influenced by a person's individual character and as such very difficult to change (e.g. the ability (and willingness) to learn from mistakes). Other capacities, by contrast, are certainly capable of being learnt through specific measures (e.g.: learning to "let go", not wanting to do everything oneself, learning to delegate) and others again can be put down to experience (e.g.: a more open attitude towards customers, because experience showed that this attitude is advantageous).

Most of the aspects mentioned, however, have – so the comments of the workshop participants – a part in all three aspects. "Dedication to risk" was one example:

- A certain risk-awareness has to be existent in the farmer's character. But
- it can be improved via training on how to handle risk in uncertain situations and
- it can be strengthened by experience.

To summarise, it can be said that an individual's character traits determine the starting point for the entrepreneurial personality, on which basis certain capacities – such as self-confidence, the

development of creative ideas, self-analysis, ability to make social contacts and delegating skills – can be learnt, improved upon and developed further.

7.3 Conclusions and discussion

7.3.1 Conclusions

This study indicates that the five results summarised in Table 49 are the most significant trends and developments. The figures in brackets refer to the significance of the issue according to the interviewees.

Table 49 Overview of trends and developments

Domain	Trends and developments
Policy	Liberalisation of markets and trade (15) ▪ foreign pressure due to international trade agreements ▪ domestic pressure due to minimal growth opportunities
Society	Polarisation (13) ▪ urbanisation ▪ marginalisation of farming
Society	Changed consumer behaviour (10) ▪ segmentation into awareness of price, quality, safety and health ▪ hybrid buying behaviour
Policy	Financial dimension (9) ▪ pressure to cut back on spending due to state debt and budget deficit ▪ distribution of financial resources
Market	Changes in the food market (9) ▪ new political alliances (farmers' union and environmental associations) ▪ polarisation within the farming community (organic vs. intensive)

According to the interviewees, the most important trends affecting Swiss agriculture are the liberalisation of markets and trade, followed by the polarisation of society. Changed consumer behaviour, changes in the food market and the financial dimension are the other most significant trends. The results thrown up by this study are not very surprising. The developments that have emerged as such here can be interpreted as an expression of much wider trends that are not only having an impact on agriculture and the domains directly linked with it, but are more generally among the most significant factors affecting social, political and economic life in Switzerland today.

Focusing solely on the domains directly linked with agriculture in our evaluation of the five most significant trends, we see that these influencing factors have given rise to far-reaching changes and adjustments in the design of current agricultural policy and the shaping of the agricultural market, and this in turn has a direct impact on the individual farmer. Much in accord with today's *zeitgeist* – characterised by open borders, individuality and independence – farmers too are expected to think and act like entrepreneurs, developing their own ideas and initiatives. They are expected to develop and implement new strategies, new alliances and new ways of selling. Vision, market orientation and communication skills are the new buzzwords in today's agricultural sector.

But what exactly does acting like an entrepreneur entail and what skills are required in order to be entrepreneurial?

According to the interviewees, the skills required by a farmer-entrepreneur are not substantially different from those required of any other entrepreneur. In the current context, however, the question arises as to how well developed (or otherwise) the different entrepreneurial skills are among farmers. It is only since the launch of the new agricultural policy in 1992 that farmers have been called upon by policy makers to think and act in an entrepreneurial manner. Prior to this, farmers were able to concentrate almost exclusively on high quality food products, their income secure thanks to a system of state purchase guarantees and subsidies.

It is clear, on the basis of the results in relation to farmers' entrepreneurial skills, that with the exception of the technical and professional skills (considered by the interviewees to be well developed) the other skills mentioned need to be improved. This general observation does not apply to all Swiss farmers, as many of them have already made impressive advances in terms of innovative products, high levels of market awareness and clearly recognisable strategies. But if Swiss agriculture is to become thoroughly entrepreneurial, it will be necessary to make greater efforts in developing and promoting the skills related to marketing, business planning, strategy development, networking and interpersonal communication that are not as well developed to date.

7.3.2 Discussion

In order to identify current trends and developments, it appears reasonable to take into account the media and the way they report the relevant issues. The choice of headlines is usually an accurate reflection of the current *zeitgeist*. The current topics addressed by the daily press are more or less the same as the results gained from the analysis of the interviews about trends and developments. Processes of market liberalisation, agricultural policy issues, discussions about overhauling the state budget and the changes in the retail market all feature very prominently in the media (Alföldi et al, 2006).

While little is written explicitly about entrepreneurial skills, awards for successful entrepreneurs and start-up ventures as well as venture capital events are experiencing a boom. The entrepreneur is being accorded much greater status as a factor in driving economic prosperity. This indicates that issues of entrepreneurship are in tune with the times and that discussions about the entrepreneurial skills of farmers are highly topical[15].

Any attempt to make generalisations about the extent to which farmers in particular regions or sectors of the farming business possess entrepreneurial skills would be misplaced. The interviewees felt that it was certainly possible that entrepreneurial skills are differently distributed among farmers depending on location and age. However, these purely subjective views on the part of the interviewees would need to be put to the test by more rigorous research methods and should under no circumstances be generalised.

[15] According to a survey in 2000 of the Institute for Media Analysis "Media Tenor". Summary in "Wirtschaftswoche", No. 25, 15. 6. 2000.

The question whether the Swiss results can be applied to its neighbours Austria, Germany or France cannot be answered with any degree of certainty. Due to the difference in their links to the European Economic Area – Germany, France and Austria belong to the EU while Switzerland does not – we must assume that the results are not transferable to neighbouring states. However, it does seem possible that the results might be transferable to the Alpine regions due to the similar entrepreneurial conditions that prevail there – tightly defined regional boundaries and few agricultural alternatives in comparison to lowland farm businesses. At this point, however, no robust comments can be made about this either.

8 Important trends and required skills: an international synthesis

Pieter de Wolf and Herman Schoorlemmer and Christine Rudmann

The main objective of this chapter is to synthesise the national results of the six participating countries into one overview, to be able to compare between countries and to draw conclusions on a European level.

NB While reading the results and the conclusions, the reader should be aware that the results reflect the perceptions and opinions of stakeholders and experts, although they are sometimes stated as facts.

8.1 Synthesis of national results

The interview questions focused on trends and developments in the environment of the farm business and on skills that farmers need to continue their business. The trends will be used to draw conclusions about the significance of entrepreneurial skills in agriculture. The results of interview question 3 (level of skills) are not described in the synthesis, because the answers indicated that respondents had difficulty interpreting the question correctly.

8.1.1 Trends and developments

The analysis of answers given to the question on trends shows that they can be divided into two types. The first category includes responses that identify trends and developments in the environment of agriculture, while the second category contains responses referring to all types of developments in agriculture (Table 50). These trends and developments are explained in the following paragraphs.

Table 50 Trends mentioned in the interviews in six European countries

Trends in the environment of agriculture	Trends in agriculture
Globalisation of the market	Cost price reduction
Changing EU and national policy	▪ cost reduction, efficiency increase
▪ Access of Eastern and Central European countries	▪ scale increase
▪ CAP reform 2003 / Swiss AP 2007 and 2011	▪ production increase
▪ Legislation	Adding value
Changing consumer demands	▪ increasing product quality
▪ demand for food safety	▪ product diversification
▪ changing food patterns	▪ packaging
▪ low prices	▪ processing
▪ continuous availability of products	Diversification
Changing supply chain	▪ other functions and services
▪ growing power of retail and supermarkets	▪ new income sources
▪ quality, tracking and tracing	Ending farm activities, retiring
Changing environment	
▪ pressure on rural areas	
Growing demand for functions and services	
Climate change	
Increasing energy prices	

Trends in the environment of agriculture

The globalisation of the market is mentioned in all countries as a major trend that has a big impact on agricultural businesses. This trend is partly seen as a threat, as it gives rise to price competition with producers all over the world. High costs of production in Western European countries hinder this competition with countries that have lower costs for production factors, such as labour and land. This will cause bulk production to shift from Western European countries to other countries with lower cost levels, e.g. Central and Eastern Europe (wheat, arable crops, fruit) or African countries (flowers, vegetables). Equally, however, a globalised market opens up great opportunities for selling European products. The high quality of European products is a unique selling point on an international market, according to many interviewees. An important player on the international market is the World Trade Organisation, which has forced both the EU and Switzerland to open up their markets. One direct effect of WTO discussions is the change in the regulation of the sugar market, which has had an impact on the income of sugar beet growers in Europe.

In all countries, changing EU policy has had a big impact on agriculture, although in Switzerland this impact is only indirect. The *access of Eastern and Central European countries* to the EU will bring about more intensive price competition on the market for bulk products. However, some interviewees in Western European countries also see opportunities to export their products to the new EU countries. Low levels of production, low standards of quality, large populations and rising living standards are currently contributing to a net import of agricultural products in these countries. In Switzerland, the market is still highly protected, but since the early 1990s barriers to market access and agricultural trade have been lowered and are to be removed completely in the future. In this discussion, the same phenomenon appears as in the EU: part of the agricultural sector feels threatened by the expected competition with other countries, while another part sees the opportunities offered by a global market. Polish farmer interviewees appeared to be very disappointed about the accession of

Poland to the EU. Policy makers had predicted an increase in income for farmers, but since accession, incomes have fallen dramatically.

Another direct consequence of European Union enlargement is the *CAP reform 2003*, whose aim is to make European farmers more competitive. The main instruments of the CAP reform are lower subsidies and fewer market regulation measures for agricultural products. Some sectors were largely dependent on EU subsidies and market regulation measures, e.g. dairy and arable farmers. These sectors are currently facing lower product prices and lower production subsidies, which lead to lower levels of income. This is mentioned in all countries except Poland. In Poland, the opposite is seen to be the case: making the most of European subsidies is considered to be a major skill for entrepreneurs in agriculture, providing a second income source.

A third aspect of changing EU policy is the *increasingly strict legislation* for agricultural production, related mainly to the protection of the environment. This legislation is restricting the use of some important production factors in agriculture, such as pesticides, nutrients and energy. From the perspective of farmers, this legislation causes problems in realizing high levels of production and quality. However, similar legislation is in effect for all EU countries, creating a level playing field on the EU market. The Dutch interviewees pleaded for such a level playing field, because they perceive the legislation of the Dutch government to be stricter than the legislation in other EU countries. However, some interviewees in the Netherlands see opportunities to use the high legislation standards as a quality aspect of their products ('environmentally friendly produced').

Interviewees in all countries identify changing consumer demands, with *an increasing demand for food safety*, driven partly by a growing fear about health risks. In some EU countries, food safety scandals and animal diseases are mentioned as the main reasons for growing demands for food safety. In countries with a higher living standard, the *increasing demand for diversification of the products on offer* is mentioned, caused by changing food patterns. Dutch and Swiss interviewees observed increasing demand for 'easy' or 'fast food', e.g. ready-made meals and processed products, while a growing group of consumers is demanding high quality 'slow food' products. A large number of consumers in some countries want to pay the lowest price possible for their food. The ongoing price competition between supermarkets in the Netherlands and Switzerland stimulates this consumer behaviour but also means that producers receive a very low price for their products. Some interviewees also mentioned a growing demand for the continuous availability of agricultural products. This means that seasonal products have to be either stored for a long time or imported from other countries.

A key observation of many interviewees is the changing supply chain. Due to the price competition between retailers and supermarkets, an increase in scale is being stimulated in both these branches. This brings about a further increase in *the power of retailers and supermarkets*. They demand high quality for the lowest possible prices from their producers, and are able to switch easily to other producers if these offer their products at a lower price. The need for organisation and cooperation among producers is identified as the only way of wresting some power from the supermarkets and retailers. The need for a continuous supply of large quantities of a product is another factor that requires either cooperation among producers or else a huge increase in scale on individual farms, as mentioned in Italy. Due to consumer demands for food safety, *quality control, quality assurance, transparency and traceability* are major issues in the supply chain. Actors in the supply chain pass on

these demands to producers in the form of certification schemes (Eurep-GAP, ISO, etc.), which contain strict requirements with regard to the production process.

Another trend in some EU countries is the growing pressure on rural areas, mainly in peri-urban areas. Expanding cities and industrial areas are hindering the development of agricultural businesses in their surroundings and are even forcing them to move to other more remote regions. Land owners are offered high prices for their land, enabling them to buy large farms in cheaper areas. However, this leads to higher land prices in other regions and therefore to higher costs for farmers. This runs counter to the farmers' need for a reduction in costs in order to become more competitive on the international market. In almost all EU countries the number of farms is still decreasing, and in some countries the total area under agricultural production is even decreasing as well (Switzerland, Italy and the Netherlands).

The growing demand for non-agricultural functions and services is seen as a major trend in many EU countries and in Switzerland. Tourists (mainly from urban areas) enjoy exploring rural – mainly agricultural – areas. These tourists expect certain services from farmers, such as the preservation of the landscape and nature as well as commercial services (accommodation, catering). Due to the CAP reform (cross compliance and the new Swiss agricultural policy), the production of public goods – such as water conservation, sustainable production and the creation of natural elements on the farm – is a condition for receiving farm subsidies. National and regional governments also pay for the provision of these services (the Netherlands, Switzerland).

Some trends are mentioned only in one or two countries: In the UK climate change is mentioned as a trend that affects agricultural production. In the Netherlands and Finland, increasing energy prices are mentioned, partly as an opportunity for the production of bio fuels (trees for biomass in Finland), and partly as a cause of increasing costs (greenhouse horticulture). A Dutch interviewee comments on the production of bio fuels by farmers:

'Production factors in the Netherlands are too expensive to produce such bulk products at a competitive price. However, production of bio fuels could be a great opportunity for Eastern Europe, due to the lower costs of land and labour there.'

Trends and developments in agriculture

An overview of the trends and developments in agriculture mentioned by the interviewees in various countries reveals three main strategies on the part of farmers: 1. Cost price reduction; 2. Added-value strategies, and 3. Diversification.

The cost price reduction strategy was mentioned in all countries where interviews took place. Farms are still growing in size, mechanisation and automation are continuing and production levels are still increasing. Price competition on a market characterised by surpluses requires cost reduction strategies from farmers if they are to remain competitive with other producers. Increasing the scale of production is the strategy adopted by most farmers, although this strategy is also pursued in order to meet the demands of supermarkets and retailers for a continuous and large supply. However, increasing the scale of production is not possible in all regions, e.g. in urban areas where there is

pressure from expanding cities and industrial estates, and in rural areas where it is limited by measures aimed at protecting the landscape.

The cost price reduction strategy is sometimes combined with the added-value strategy, when farmers also increase the quality of their products or add some other aspect of value to them. Farmers in countries or regions with high land and labour costs are less competitive on a bulk products market and therefore look for niche markets for special products, e.g. with regard to processing, packaging, growing varieties with a special taste or production under an exclusive certification scheme (organic). In Italy, the origin of products and the traditional production process are also mentioned as important elements of added value.

A totally different strategy is diversification, where farmers combine other agricultural or non-agricultural activities with their farm business. The growing demand for non-agricultural functions and services and the production of public goods (e.g. nature conservation) is the main drive behind this development. Tourism is mentioned in Poland, Switzerland, Italy and the Netherlands as an opportunity for farmers to diversify their business. One Swiss interviewee sees a vast potential in linking agriculture with tourism. Landscape conservation and the management of environmental features could also be diversification strategies for farmers, according to Dutch and Italian interviewees. One Dutch interviewee states that society has to pay for these services. This is already the case in Switzerland, where landscape conservation is a major objective of Swiss agricultural policy.

A major trend in the participating countries is the declining number of farm(er)s, as seen in the descriptions of the national situation in the various countries. The need for cost efficiency and increases in scale of agricultural production, the high prices commanded by land located near cities and industries, declining incomes and the growing age of farmers are the main factors behind this development. While this phenomenon is not mentioned by interviewees in some countries, e.g. Poland and Italy, the number of farm(s) in these countries is also decreasing. In the Netherlands and Switzerland, the declining number of farmers is also seen as part of the process of marginalisation of agriculture in society: agriculture is moving towards the margins of society and citizens are no longer familiar with agricultural activities.

8.1.2 Skills

The results from the second interview question contain a large amount of information. Interviewees in all countries mentioned all kind of skills and skills-related remarks. As is evident from the preceding chapters, the researchers in the various countries categorised their results in their own way, based on the national data. For our present purposes, however, a more uniform categorisation is necessary. This categorisation is based on the interview data, which suggest a distinction in professional, management, opportunity, strategic and co-operation/networking skills. These categories are divided into subcategories, based on the data (Table 51).

Table 51 Skill categories mentioned in the interviews in six European countries.

Category	Underlying skills
Professional skills	▪ Plant or animal production skills ▪ Technical skills
Management skills	▪ Financial management and administration skills ▪ Human resource management skills ▪ Customer management skills ▪ General planning skills
Opportunity skills	▪ Recognising business opportunities ▪ Market and customer orientation ▪ Awareness of threats ▪ Innovation skills ▪ Risk management skills
Strategic skills	▪ Skills in receiving and making use of feedback ▪ Reflection skills ▪ Monitoring and evaluation skills ▪ Conceptual skills ▪ Strategic planning skills ▪ Strategic decision-making skills ▪ Goal setting skills
▪ Co-operation / networking skills	▪ Skills in cooperating with other farmers and companies ▪ Networking skills ▪ Team-working skills ▪ Leadership skills

Professional skills

Professional skills are mentioned by interviewees in all the countries except the Netherlands. Interviewees associate professional skills with understanding and managing biological processes, but also with technical skills to deal with modern technologies and IT. Some Finnish interviewees mention that organic and diversified farmers need specific professional skills that are not common in agriculture. The Dutch interviewees did not mention any professional skills, probably because these skills are seen as a basic requirement for all farmers.

Achieving high levels of production and quality is a basic requirement for all farmers to succeed in the farming business, according to the interviewees. In view of the trends occurring in the environment of agriculture – price competition on the market and the increasingly high standards of quality demanded by the supply chain and the consumers – farmers are being forced to improve the standard of their agricultural activities. Technical skills – being able to make use of the most modern technologies – can help farmers to improve their production processes.

Management skills

Management skills are seen as essential for farmers. Put another way, a farmer has to be (or to become) a business manager. Three main groups of management skills are mentioned in the interviews, related to financial management and administration, human resource management and customer management.

Proper financial management and administration is needed for business monitoring and planning and for decision making based on economic factors. One example is given by a Dutch interviewee, who stated that the decision to sell a product at a certain price has to be based on a cost price calculation. Some Finnish and Swiss interviewees think that farmers have not mastered financial management skills to an adequate extent, even though they are set to become more and more important.

The labour requirement on farms is growing, due to increases in scale and diversification. Therefore, according to interviewees in all countries, human resource management is becoming increasingly important for farmers. Working with employees requires social, organisational and workforce management skills as well as the skills to delegate and to find a professional workforce. Being an employer also requires some personal and psychological characteristics, e.g. charisma and leadership capacities, as mentioned in various interviews.

Customer management skills are mentioned by interviewees in a variety of contexts. An active dialogue with customers is important in order to ascertain customers' needs and to monitor customer satisfaction. This information could be used to adjust the products offered by the farm (in terms of quality, quantity, delivery time etc.). Marketing and selling skills are also mentioned often in the interviews. The promotion of farm products and the process of negotiation are important tasks for farmers, especially farmers engaged in diversifying their business.

According to the interview results, an important management task is farm planning, i.e. the adjustment of all farm processes. General farm management and planning skills enable the farmer to find and use resources and give him the means to achieve the farm objectives. Farmers have to be able to manage cash flows and labour demand and to adjust product delivery to meet customer demands. Monitoring the business, as stated by Finnish respondents, is a major aspect of farm planning.

Opportunity skills

Market and customer orientation, identifying market opportunities and being aware of threats and opportunities were important issues raised in the interviews in all countries. The changing environment of agriculture forces entrepreneurs to recognise new opportunities in order to continue in business. The acquisition and exploitation of knowledge and information is an important skill and contributes to being able to recognise opportunities. Participation in (social) networks, IT and communication skills are mentioned by interviewees as important means for information gathering. Risk taking and making investments is a major element in identifying business opportunities. Risk management skills are therefore important abilities for entrepreneurs in agriculture, according to Polish, Finnish and Italian respondents. Interviewees in all countries connected the opportunity skills

to personal characteristics and attitudes, e.g. flexibility, a proactive attitude and an open mind for new things.

Another important aspect of opportunity skills is innovation – the ability to make use of new business opportunities. Creative thinking, an ability to generate ideas and a willingness to do something new are all requirements for entrepreneurs, enabling them to innovate and make use of new business opportunities. Again, these things are strongly related to personal and psychological factors, such as traits and attitudes.

Strategic skills

In many interviews, the ability of farmers to receive and use feedback is mentioned as an important skill to improve personal competences and business processes. This is also connected to the farmer's personal attitude to feedback from employees, advisors, family, customers etc. The skill of 'reflection' is also mentioned by interviewees, in the sense that a farmer should reflect about what it means to 'be a farmer' (according to one Swiss interviewee). Farmers should be able to reflect on strategic decisions, discuss alternatives and reconsider current strategy. Monitoring and evaluation skills are also mentioned in the interviews, as these enable the entrepreneur to improve farm strategy by identifying and analysing the weak points in the business. An important element of strategic skills, according to the interview results, is a willingness and ability to benchmark with other farmers. More general remarks are made by interviewees about strategic management. Strategic management covers different fields of business activity and their relationships, including issues such as the skill of setting goals from the perspective of the whole business and the general management of resources and market activities (according to a Finnish interviewee). One Dutch interviewee states that a strategy has to be based on personal strengths. Strategic management also includes strategic decision making: a farmer has to make decisions according to a well-chosen strategy. And finally, strategic management has to do with setting goals for 'success' and then being able to evaluate the effectiveness of the strategy.

Conceptual thinking is one aspect of strategic skills. In the interview results, business monitoring and evaluation and problem identification and analysis are mentioned in connection with farmers being able to improve business processes. Another aspect of conceptual skills is recognising what is essential, as mentioned by Swiss and Finnish interviewees: managing the whole of the enterprise and at the same time focusing on what is essential. Conceptual skills are also related to strategic management, because a farmer has to oversee the whole of the business and its environment.

Co-operation and networking skills

Skills related to cooperation and networking are mentioned in all the countries. Cooperation is restricted in most cases to cooperation with other farmers, e.g. achieving economies of scale or becoming more powerful in relation to retailers and supermarkets. Another advantage of cooperation with other farmers is the possibility of making use of other farmers' expertise and skills. In some cases, cooperation within the supply chain is mentioned by interviewees. Another important area mentioned is networking skills, related to various tasks: outsourcing work, information exchange, support, finding

resources, empowerment of individuals and links to non-agricultural communities. Other relationship skills mentioned in the interviews are communication skills and team-working and leadership skills. Team-working and leadership also require communicative skills on the part of the farmer, e.g. to motivate employees.

Skills-related remarks

A wide variety of skills-related remarks is found in the interview results, ranging from 'being educated' to having a positive attitude. Three categories can be distinguished: personal characteristics, attitudes, and knowledge and experience (Table 52).

Table 52 Skill-related remarks, made by interviewees in six European countries

Personal characteristics	Attitudes	Other
Flexibility, dealing with uncertainties	Positive attitude	Education
Creativity, innovation	Pro-active attitude	Experience
Ambition, motivation, commitment	Open-minded	Age
Self-knowledge	Open to new things	Gender
Feeling responsible	Attitude to feedback	
Courage to do new things	Being interested in the job	
Carefulness	Risk-taking attitude	
Honesty		
Immunity to stress		
Communicativeness, politeness		
Humour		
Dynamism		

Personal characteristics and attitudes are very important aspects of entrepreneurship, according to the interviewees. Many of them state that these elements are essential preconditions for being entrepreneurial – or not – because they are related to the ability to deal with changing conditions in the environment. Flexibility, immunity to stress, dynamism and a pro-active attitude can help farmers to deal with uncertainties and changing circumstances.

As mentioned above, some personal characteristics and attitudes are strongly related to skills. Innovation is related to creativity, for example; the courage to tackle new challenges, an open attitude to new things, skills of reflection and one's attitude to feedback are all related to self-knowledge. Other elements have an effect on all the farmer's activities, such as a positive attitude, ambition and motivation. Farmers' attitudes towards risk is also an important factor in terms of being an entrepreneur: one Italian interviewee states that entrepreneurship implies risk taking and investments in the business.

Education is mentioned in many countries as a basic requirement of farmers. The responses are partly about the level of education – higher education being seen as important for being an entrepreneur. Other respondents mention that a basic agricultural education is no longer sufficient and that farmers need to be educated in business economics, marketing and communication as well. One Finnish interviewee, as well as Swiss participants in the national workshop, stressed the importance of a willingness to undergo further training. Work experience is also mentioned by a Swiss interviewee as a

useful factor in becoming an entrepreneur and being successful. One Polish interviewee comments that younger farmers need to get some experience on other farms or in other businesses in order to learn about and develop entrepreneurial expertise.

Age is an important issue for entrepreneurial behaviour, according to Swiss, Polish and Italian interviewees. Younger farmers do not feel a very strong relationship with agricultural tradition, according to Italian respondents, and have never been used to subsidies and market protection (Polish interviewee). Young people are also more flexible and open to new things and are better educated, as mentioned by Polish respondents.

In Italy, special attention is paid to the gender of farmers in relation to entrepreneurship. Interviewees observe that women are very much involved in business diversification. For instance, they run bed and breakfast accommodation or other agro-tourist services, in which they can use their hospitality and cooking skills, according to the Italian interviewees.

8.2 Discussion

An overview of the results enables some comments to be made about trends and skills. Another part of the discussion is devoted to the identification of significant entrepreneurial skills, which will be done through a comparison with the key concepts of the EU project (Chapter 1).

8.2.1 Trends

The responses given by the interviewees regarding the question about trends indicate, first, that some interviewees have difficulty identifying trends and developments in the environment of agriculture. They tend to focus on trends in agriculture, such as increases in scale or diversification. In our opinion, these trends within agriculture are caused mainly by the developments taking place in the business environment. Therefore, it is quite easy to translate the trends in agriculture mentioned in the interviews into strategies of groups of farmers.

A second point regarding the responses to the question about trends concerns the interviewees' perception of external developments. One and the same trend was perceived by some mainly as an opportunity and by others mainly as a threat. This is illustrated clearly by the interviewees' perceptions of the globalisation of the market: in the Netherlands, Italy and Switzerland some interviewees mention the increase in opportunities to sell products on a large international market, while others perceive growing price competition as a threat to the producers in their country.

Third, the results show that the world is changing rapidly. This is a key observation made in all the countries. The changes in the market and in EU policy were mentioned in the introduction to this report, and these changes also affect consumer demand, the organisation of the supply chain and rural areas in general. These large and complex changes call for a very high level of entrepreneurial skill on the part of farmers. One striking result is the correspondence that exists between the responses offered in the various European countries: the general trends are perceived in all countries, although from different perspectives and with varying consequences for agriculture. For example, the accession of

new countries to the EU is seen partly as a threat in other EU countries, whereas in Poland accession to the EU provides major opportunities to sell agricultural products, even if it has not brought the expected improvements in prosperity to Polish farmers so far.

However, the idea expressed by some interviewees that EU enlargement threatens the livelihood of farmers in traditional member states is worth discussing. Some interviewees recognise market potential in the accession of new member states, because these countries have a large population with a growing disposable income. Facts gathered from the last decade tend to confirm that, in most cases, new member states are still net importers of agricultural products, due to the trade agreements signed before and after accession to the EU and the poor competitive position of local producers (Juhász, 2004; Lončarić and Lončarić, 2004).

Switzerland is an exceptional case to some extent because it is not a member of the EU. The Swiss market is highly protected, preventing farmers from competing on the international market. Differences in Swiss responses to the question about trends are also likely to stem from the country-specific situation, e.g. prosperity that affects consumer behaviour, the cost of land, labour and other production factors, and the country's socio-economic history.

Looking at the perceived trends in agriculture, it is interesting that 'winding up the farm' is mentioned by only a few interviewees, even though it is clearly evident in the descriptions of the respective national situation of agriculture. Some explanations for this development are given by others, such as the high average age of farmers (Italy) and declining levels of income (Italy, the Netherlands and Poland) that force farmers to close their business.

It could be questioned why respondents make no mention of consumer demand for organic food. A German member of the project advisory board stated that the demand for organic products is increasing in Germany. However, the general impression of the market for organic products in the countries analysed is that after an increase in demand the market stabilises or demand even decreases (http://www.organic.aber.ac.uk/statistics/europe05.shtml). It is therefore understandable that respondents in the countries analysed did not perceive the demand for organic products as a major trend in the business environment of farmers.

A Dutch member of the advisory board questions why the trend of increasing energy costs is not mentioned by respondents. However, at the time of publishing this report, the situation is slightly different from the situation in mid-2005, when the interviews took place. Energy prices have increased since then and will probably increase further, so energy is likely to become an important topic of debate in agriculture in the near future.

8.2.2 Skills

The responses to the skills question are highly interesting, for three reasons. The first is the variety of skills mentioned, the second is the large number of skills-related comments made by the respondents, such as traits and attitudes, and the third interesting point is that the results from the different countries are very much alike.

Variety of skills

In almost all the countries, respondents spoke about professional skills, these being viewed as a basic requirement for any farmer who wishes to continue in the farming business. According to the interviewees, management skills are becoming increasingly important, due to the growing complexity of the business: farmers have to become businessmen, as some interviewees stated. However, in many interviews other skills are also mentioned that exceed the boundaries of strictly professional and managerial expertise, such as opportunity skills, co-operation and networking skills and strategic skills. Can we say that these skills are the 'real' entrepreneurial skills?

In order to answer this question, it is necessary to do more than simply examine the interview data, because respondents were not asked to distinguish between entrepreneurial and other skills. Recalling the description of the key concept of entrepreneurship in the General Introduction (Chapter 1), entrepreneurial skills are connected with creating and developing a profitable business. Secondly, entrepreneurial skills are different from professional and managerial skills.

To identify the skills and abilities a farmer needs to create and develop a profitable business, the results indicate that identifying business opportunities and strategic planning are major requirements for farmers. Through this, farmers are able to find ways and strategies to create a profitable business. Co-operation and networking skills, innovative abilities and risk-taking are important requirements in realizing business opportunities, according to the respondents. Business monitoring and reflection, team working and leadership are also mentioned as being important elements for farmers in developing and improving their business.

This analysis is generally in line with literature on entrepreneurship, as reviewed in McElwee, 2005. For instance, the EU's Green paper on the subject defines entrepreneurship as 'the mindset and process to create and develop economic activity by blending risk-taking, creativity and/or innovation with sound management, within a new or an existing organisation' (European Commission, 2003). Other descriptions of entrepreneurship emphasise identifying and realizing opportunities (Stevenson and Jarillo, 1990; Timmons, 1999; Shane and Venkataraman, 2000), accepting risks and failure (Shapero, 1975), innovating and creating something new (Kuratko and Hodgetts, 1998; Hisrich and Peters, 1998) and the role of networks and co-operation (Kuratko and Hodgetts, 1998).

Man et al (2002) allocates entrepreneurial skills to six key categories. The key clusters are opportunity, relationship, conceptual, organising, strategic and commitment skills. When the results of the interviews here are compared with these skill clusters, three of the six clusters are clearly visible: opportunity, relationship and strategic skills. The conceptual skills are also present in the results, although they are a minor part and are therefore grouped within the strategic skills category. Organising and commitment skills are not clearly present in our interview results, although management skills could be part of the organising skills. The commitment skills are not mentioned by respondents in terms of skills, but in terms of traits and attitudes of the farmer (motivation, ambition, drive).

Skills-related remarks

A very interesting aspect of the results of the pilot study presented here are the skills-related remarks made by interviewees in all the countries. When asked about skills, respondents also mentioned factors that are not skills, such as traits and attitudes, and farmers' age and level of education. They also said that these factors are very important for farmers to continue in business. Again, if we compare these results with the key concept of entrepreneurship, many of them are related to entrepreneurship. For instance, flexibility and the ability to deal with uncertainties, a pro-active attitude, an open attitude towards new things, a risk-taking attitude and commitment are important requirements for entrepreneurs.

One suggestion made by many respondents that is worth noting is the preconditional character of these skills-related remarks. Some respondents state that without these qualities entrepreneurial behaviour is impossible, e.g. without a risk-taking attitude a farmer is not able to realise business opportunities. Others state that the development of entrepreneurial skills is hindered by the absence of specific personal qualities and attitudes, such as the motivation to learn, self-reflection, attitude towards feedback etc.

In all the countries, education is associated with entrepreneurship. Higher education in particular encourages a broader view on the world, according to the interviewees. They observe, however, that agricultural education is still focussed on professional and management skills.

Italian interviewees raise the question of whether the current educational and training establishments are equipped to teach entrepreneurial skills. At best, education and training could encourage those who are already entrepreneurial in their orientation. The same Italian interviewees give an example of an innovative learning project, in which professional skilled older farmers are paired with younger, more entrepreneurial farmers. This project resulted in very innovative and dynamic farms with a solid production base and a high level of external orientation. In the Netherlands, too, innovative arrangements have been developed to improve farmers' entrepreneurial skills. These projects also use the exchange of skills, experience and knowledge between farmers with various skill levels to develop the entrepreneurial qualities of participants (Smit, 2004, de Wolf et al, 2004, Waal, 2006).

Age is mentioned by the interviewees as an important factor with regard to entrepreneurship. In discussion workshops in some partner countries, participants made some rather paradoxical comments on the age factor. On the one hand, younger farmers are less experienced than other farmers, but on the other they are more open to new things and less bound to traditions, according to some comments. The degree of ambition possessed by younger farmers could be greater than that of older farmers. The comments suggest that younger farmers are more able to develop entrepreneurial skills than older farmers. The definition of younger and older farmers is not made clear and will depend on context-specific characteristics. In Italy, the average age of farmers is about 70, so a farmer of 50 years old could be regarded as a younger farmer. It could be useful to focus projects and activities on farmers who want to continue in business, rather than merely focusing on age.

8.2.3 Similarity of country-specific results

The results of question two show a large similarity between countries. The members of the Advisory Board of the project noticed this element of similarity as well and paid attention to it in their comments. In all six countries, the same skill groups are mentioned, except for the professional skills, which are not mentioned by Dutch respondents.

This similarity is striking, because it tells us that the skills required for farmers are the same for farmers in different European countries. The similarity of the results suggests also that the results are also valid for other EU countries, because the participating countries are selected from various parts of the EU.

8.3 Conclusions

8.3.1 Conclusions regarding the results

The significance of entrepreneurship in agriculture has been explored in this research through interviewing a number of experts and stakeholders in six European countries. Certain conclusions can be drawn from the interview results, albeit it is important to bear in mind that these conclusions are based on the opinions of about 120 interviewees in six European countries. The conclusions are formulated as answers to a few key questions:

a) What are the major trends and developments in the environment of farm businesses?

b) Which skills are required of farmers in view of the trends and developments in the business environment?

c) Which skills can be seen as entrepreneurial, or how could entrepreneurial skills be defined?

d) Do farmers need different skills, compared with other business people?

e) What is the importance of farm strategy with respect to the required entrepreneurial skills or to skills in general?

f) Can any conclusions be drawn from the comparison of country-specific results?

1. Major trends and developments

The environment of the farming business is changing increasingly fast, according to the interview results. The business environment is no longer simple and straightforward; it is becoming increasingly complicated. The major trends mentioned are:

- Globalisation of the market and EU enlargement;
- The CAP reform, including fewer market regulation measures and price subsidies (this trend is also present in Switzerland, due to Swiss agricultural policy);
- Changing consumer demands, as seen in stronger demands for food safety and product quality and changing food consumption patterns;

- Changes in the supply chain: increase of scale on the part of retailers and supermarkets and a growing demand for quality control and quality assurance;
- Changing environment and growing pressure on rural areas;
- Growing demand for non-agricultural functions and services;
- Climate change; and
- Increasing energy prices.

The results of the interviews in six European countries show that these developments are seen partly as a threat and partly as an opportunity. These contradictory perceptions may be an accurate reflection of feelings in the agricultural sector.

2. Which skills does a European farmer need?

The main conclusion from the interview results of the pilot study presented here is that farmers need a wide variety of skills and qualities:

- In order to meet the needs of consumers and supply chain actors, the farmer has to be able to ensure that his products reach a high quality standard. To be competitive on the market, cost efficiency is necessary. Mastering production and technical skills is therefore a basic requirement, according to the respondents.
- Respondents in all countries state that a farmer needs management skills if he wants to continue in business. Improving and controlling business processes, working with employees, and customer management are important activities for farmers, which require a variety of skills and qualities.
- However, in relation to the major trends and developments in the business environment of farms, farmers also need other skills and qualities in order to be able to continue in business. Respondents mention identifying and realizing business opportunities, market awareness and customer orientation, strategic planning, risk management, business monitoring and reflection, co-operation and networking, team working and leadership as important skills for farmers to continue in business. This requires not only a range of skills but also a number of skill-like qualities, such as ambition, creativity, innovation, flexibility, an ability to deal with uncertainty, an open mind, a positive attitude, commitment and a positive attitude to risk-taking.

An external orientation and an awareness of trends and developments in the business environment are mentioned by many interviewees. What is not specified in the responses, however, is how farmers should find their way in a context of information overload. The ability to select relevant information is as important as the information gathering itself. Use of the internet and participation in networks are important activities, according to the interviewees, but the farmer himself has to find out what is relevant and what is not. In our opinion, a clear vision and an elaborated strategy could help farmers to define the term ‘relevance’ and could even help farmers to be selective in the use of information sources. The focus of a Dutch research project was on how farmers gather information to develop a farm strategy (Splinter et al, 2005). This research shows that farmers do need some structure and

support in finding, selecting and using information. It could be worthwhile conducting research on this topic.

Research proposal 1

How can farmers be supported in the process of finding, selecting and using relevant information to develop a farm strategy and to recognise and realise business opportunities?

3. Which skills can be seen as entrepreneurial?

The main objective of this research is: *'Exploration of the significance of entrepreneurship in agriculture in selected European countries'*. According to the key concept of entrepreneurship, an entrepreneurial farmer is a person who is able to create and develop a profitable business in a changing business environment. Although professional and management skills are important for farmers, they are different from entrepreneurial qualities. Scientific literature, as reviewed in McElwee, 2005, is helpful for the identification of the 'real' entrepreneurial skills, although different elements are highlighted by different authors.

Generally speaking, entrepreneurial skills are related to identifying business opportunities, finding the means and resources to realise business opportunities by networking and co-operation, developing a business strategy and managing and improving the business. To sum up, opportunity, strategic, co-operation and networking skills are important entrepreneurial skills.

An important addition to this conclusion is provided by the respondents, when they say that the personal qualities of the entrepreneur are not limited to skills alone: an entrepreneurial farmer has some traits and attitudes that are more or less preconditions for entrepreneurial behaviour and the development of entrepreneurial skills, such as an open mind, creativity, commitment and a pro-active attitude. Specific attention is paid by many respondents to education and age.

The role of education in the development of entrepreneurial skills is evident, according to the results. However, some respondents comment that agricultural education is still focused on professional and management skills. Italian interviewees also question if traditional educational and training establishments are adequately equipped to teach entrepreneurial skills. They suggest that innovative arrangements are required. This could be translated into a research proposal.

Research proposal 2

How can entrepreneurial skills be developed through education and training?

Respondents in all countries state that age is an important factor for entrepreneurship, although it is not clear if younger farmers are more entrepreneurial than older farmers and which age groups are meant when respondents talk about 'younger' and 'older' farmers. Age is a relative factor and depends on the average age of farmers, which is quite different in the different EU countries. Therefore, a third research proposal could be formulated as follows:

Research proposal 3

Do entrepreneurial qualities and their potential development differ between age groups, and how can age groups be defined in this regard?

4. Do farmers need different skills, compared with other business people?

A Finnish interviewee and some Swiss participants in the workshop question whether farmers are different from other business people. In fact, the question is whether agriculture needs different entrepreneurial skills compared with other businesses. The interview results reveal a broad similarity with the literature on entrepreneurship in small and medium-sized enterprises, as summarised by McElwee (2005). However, it would be worth researching whether the production of food and public services makes certain skills more significant compared with other businesses. Skills related to marketing, communication and social networks may be more important for farmers, as they enable them to stay in contact with society and consumers. If this is so, the comparison with other businesses should be specific to enterprises and sectors that are involved in comparable businesses, e.g. the production and selling of food and public services.

Research proposal 4

Does the production of food and public services increase the significance of specific (entrepreneurial) skills in comparison with other types of business?

5. What is the importance of farm strategies with respect to skills?

Three main farm strategies can be derived from the interview results: cost reduction, adding value and diversification. Some interviewees stated that specific skills are required for some strategies, e.g. communication skills are very important for farmers specialising in agro-tourism. The choice of a strategy already requires a high level of entrepreneurial skill. However, the interview results do not provide enough information about the question of whether specific skills are more important for a certain strategy. Therefore, a research proposal could be formulated as follows:

Research proposal 5

How important are different farm strategies with respect to (entrepreneurial) skills? Are certain skills more important for specific strategies, e.g. diversification?

6. Comparison of country-specific results

The trends mentioned in the six countries are not very different, so it could be concluded that farmers in all countries require the same entrepreneurial qualities. However, the specific situation of two countries in particular is quite remarkable, related in each case to the position of these countries to the EU.

Poland is the first exception in this respect because this country is a new member state of the European Union. The CAP reform reduced subsidies in existing EU countries, but brought new opportunities for receiving subsidies to new member states. Polish interviewees therefore mention the use of EU subsidies as an important issue for farmers. However, the opening up of the market is not a major issue in the Polish results. In other countries, e.g. the Netherlands and Italy, interviewees expect growing competition from central and eastern European countries, but it seems that this competition has not yet begun. Poland is also exceptional because of its history under the socialist system. The central

planned economy gave producers a very comfortable position in terms of income security. Since the liberalisation of the market and accession to the EU, producers have had to deal with a lot of uncertainties to which they are not accustomed. Moreover, the poorly developed infrastructure, the high number of very small farms and the low level of technology development gives Polish agriculture an even higher backlog in comparison with other EU countries.

Switzerland is the second exception, because this country is not a member of the EU. The highly protected market is currently under discussion. Barriers to market access and agricultural trade have been lowered in the last decade and will be removed in the future, but producers are still not used to competing on the international market. However, in some respects Switzerland is not that exceptional: The same debate about the high public costs of agriculture is ongoing in both Switzerland and the EU. Society is increasingly questioning the support of a small minority of the national population. While the EU decided to reform the CAP and reduce subsidy levels drastically, the Swiss government is also aiming to reduce national expenditure on agriculture, resulting in a lower income for farmers.

The results of the interviews do suggest a high degree of uniformity in the six European countries. However, some comments could be made about this. The first is that while the entrepreneurial qualities required might be quite similar for all countries, the current level of entrepreneurship may vary greatly between and also within countries.

EU policy aims to establish equal competition between member states, diminishing the differences in legislation and subsidies between countries. This is clearly seen in the CAP reform. At the same time, the market is being globalised, driven by WTO policy. Therefore, farmers all over the EU and Switzerland will encounter more or less the same market and policy conditions. However, the entrepreneurial skills required are generally the same for all EU countries, although some variation may be necessary for specific strategies. Based on the interview results, it may be that farmers with a specific strategy need similar entrepreneurial skills, regardless of their nationality.

However, the current level of entrepreneurial skills may show a large variation, both within and between countries. Interviewees did mention differences between sectors, age groups, farm size categories, education levels, history outside agriculture, and regions, and the results also suggest differences between countries. The way products are sold largely determines the entrepreneurial qualities required, according to the interviewees. The key factor seems to be the level of responsibility the farmer has for their own business activities. The more responsibility farmers have, the more their entrepreneurial qualities need to be developed. Price and income subsidies, market regulation measures and the dominant position of cooperative firms in the spheres of processing, marketing and selling are reducing the level of farmers' responsibility. Put another way, *farmers need more entrepreneurial qualities when the number of uncertainties and risks increases*.

One element in this discussion worth noting is the process of self-selection, as suggested in some interviews. When farmers are forced to become responsible for their own business, some farmers improve their skills and are therefore able to succeed in business. Other farmers are not able (or willing?) to develop their skills and their farms do not survive. This self-selection process thus gives rise to different levels of entrepreneurial skills between sectors and countries, depending on the business environment.

8.3.2 Conclusions regarding the methodology

The empirical research method proved to be very useful for the pilot study presented here. With roughly 20 interviews with experts and stakeholders per country, it was possible to produce a sound impression of the significance of entrepreneurial skills in agriculture. The open questions provided sufficient opportunity for the to respondents to express their thoughts and opinions. In addition, the method of presenting the questions on sheets was helpful to both the interviewer and the interviewee as a focus for discussion.

The question about trends was a very useful one to open the discussion about the skills that farmers need. Respondents seemed to be more able to identify the most important skills once they had started thinking about the trends and developments taking place in the environment of the farming business. In the analysis, too, the trends provided a useful framework for understanding why specific skills are important for farmers.

With the exception of the third question, the interview questions were clear to the respondents and generated energy and enthusiasm. Respondents were very interested in the results of the interviews and especially in the results from other countries. The third question caused the respondents some difficulty. The results reveal very different answers and some respondents were not able to answer at all. Looking at the answers, some respondents gave very obvious answers that were not really based on their experience or knowledge but on a kind of general impression. For instance, Dutch interviewees mentioned a high level of entrepreneurship in greenhouse horticulture, compared to dairy and arable farmers. It is easy to offer some arguments for this statement based on a general impression, but none of the interviewees was familiar with any evidence about this comparison.

8.3.3 Input for the following stage of the project – main study

Returning now to the general outline of the project, there is a strong relationship between the present pilot study and the main study to follow. Examining the results of the pilot study can generate some useful input to the main study about the focus on certain skills and certain groups. The remarks of respondents about the current level of entrepreneurship could be seen as hypotheses about the results of the main study.

Skills

While professional and management skills are the basic requirements of all farmers, the main study should focus on the 'real' entrepreneurial skills mentioned in the pilot study. These are:

1) Skills involved in identifying and realizing business opportunities;
2) Skills involved in interacting with other persons/groups (networking, co-operation);
3) Strategy skills.

Focus groups

Based on the interview results, some suggestions can be given about the focus groups. Relevant factors linked with the level of entrepreneurship are: age of the farmer, farm size and main line of production. It could be useful to have various strategies represented by the respondents of the main study.

Hypotheses

The results of this pilot study give rise to a number of hypotheses about the level of entrepreneurial skills and about factors that hinder or stimulate the development of entrepreneurial skills. These are summarised in Table 53 below.

Table 53 Hypotheses for the main study

Factor	Hypothesis	Hindering or stimulating the development of entrepreneurship?
Age	Young farmers are more entrepreneurial	Hindering
History of subsidies and market regulation*	Farmers who never received subsidies and who produced for an unprotected market are more entrepreneurial	Hindering
Education	Farmers with (partly) non-agricultural education are more entrepreneurial	Stimulating
Strategy	Farmers with a clear added-value or diversification strategy are more entrepreneurial	-
Personal characteristics	Open-minded and creative farmers are more entrepreneurial	Both
Commitment, drive	Farmers with a strong commitment are more entrepreneurial	Stimulating
Attitudes	Farmers with a positive, open attitude are more entrepreneurial	Both
Network	Farmers with a large network in and outside agriculture are more entrepreneurial	Stimulating
Number of employees**	Farmers with a fairly large number of employees are more entrepreneurial	Stimulating

* NB strongly correlated with country and main production sector

**NB strongly related to farm size and production sector

8.3.4 Importance of the results of the pilot study in the context of the project

Based on the results of a literature review, the pilot study aimed at providing an overview of perceptions of entrepreneurial skills in various European countries. The results of this study point to potential research objectives with regard to entrepreneurial skills in agriculture. The conclusions drawn from the results serve to delimit this potential in that they highlight the most important issues, which are to be further analysed in the next (main) stage of the project.

These issues concern

- a common understanding of the term "entrepreneurial skills" for the consortium countries, which results in a suitable choice of skills to be further analysed in the following main study (see chapter

8.3.3). Furthermore, the results showed clearly how important it will be in the next stage of the project to distinguish between skills in a literal sense and personal qualities (traits and attributes), as each seems to be equally important for the development of entrepreneurial skills.

- a common image of skills required in the changing farming business, from the point of view of stakeholders and experts. This common image is important because stakeholders are a part of the business environment of farmers, i.e. farmers have to interact with them. This "external" view will be presented to farmers in the next stage of the project. The farmer's agreement or disagreement and their reasons for it will provide information about factors that influence the development of entrepreneurial skills.
- the influence of the social, cultural and political context on the perception of entrepreneurial skills. By asking about the trends and developments affecting agriculture, a country-specific context is created for interpreting the results. Concerning this question, the results are very interesting, as they indicate that the skills required for farming are, in the perception of stakeholders and experts alike, independent of the social, cultural or political context. It will be very interesting to see if farmers' agreements or disagreements with this are equally independent.

Being aware of the social, cultural and political context is also important, as it reveals potential factors that may influence the development of entrepreneurial skills. This issue is described in detail in the internal report (D4)

References

Finland

Carland, J. W., Hoy, F., Bouton, W. R. and Carland, J. C. 1984. Differentiating Entrepreneurs from Small Business Owners. Academy of Management Review, vol. 9, no. 2, pp. 354-359.

Lehtonen, H. and Pyykkönen, P. 2005. Maatalouden rakennekehitysnäkymät vuoteen 2013. (Structural change in Finnish agriculture up to 2013.) Helsinki: MTT:n selvityksiä nro 100 (Agrifood Research Finland, Research reports 100).

Niemi, J. and Ahlstedt J. (Eds.) 2005. Finnish Agriculture and Rural Industries 2005 – Ten Years in European Union. Helsinki: Agrifood Research Finland, Economic Research (MTTL), Publications 105a.

Vesala, K.M. and Peura, J. 2003. Farmers with Additional Business, Mono-Active Farmers and Non-Farm Rural Small Business Owners in Comparison from the Viewpoint of Entrepreneurial Role Expectations. In Borch, O.J. and Ronning, L. (eds.) Entrepreneurship in Regional Food Production. Nordlandsforskning: NF-Rapport nr. 26/2003, Bodö, pp. 56-82.

Italy

Brunori, Gianluca (1998) L'innovazione nell'agricoltura toscana: analisi del fabbisogno e criteri per la definizione delle prioritá di azione, Arsia: Firenze

Inea, MiPAF, (2004) L'Agricoltura italiana conta. Italgrafica Sud, Bari. Available on http://www.inea.it/pubbl/itaco.cfm

Istat, 2001, Censimento Generale della Popolazione.

Long, Norman (2001) Development Sociology: Actor Perspectives, Routledge: London

Miele, M. 2001, Creating Sustainability – The Social Construction of the Market for Organic Products"; Wageningen Studies on Heterogeneity and Relocalisation, n.3. ISBN 90-6754-639-9.

Regione Toscana, Irpet, Arsia, 2005, 70 Rapporto su Economia e Politiche Rurali in Toscana (Seventh Report on Economy and Rural Policies in Tuscany). Supplemento al numero 26 di Agrisole, 1-7 luglio 2005.

Regione Toscana – Settore Statistica 2003. Aggiornamento dati Censimento Agricoltura 2000 – Indagine sulla struttura e produzioni delle aziende agricole 2003; prime valutazioni sui principali risultati disponibili (Last update on National Census on Agriculture 2000; survey on farm's structure and production in Tuscany, 2003)". Available on http://www.regione.toscana.it/cif/infbreve/infbreve0907.pdf

The Netherlands

LEI and CBS, 2005. Facts and Figures from Agriculture over 2005 (in Dutch). Available on http://www.lei.wur.nl/NL/publicaties+en+producten/Reeksen/LTC/

Uffelen, R.L.M. van, A. van der Ham and G.M. Splinter, 2005. Success with innovative entrepreneurship. A profile of entrepreneurs nominated for the 'Agricultural entrepreneur of the year' award. (In Dutch with English summary) Agricultural Economics Research Institute of Wageningen UR, Den Haag. Available at http://www.lei.dlo.nl/publicaties/PDF/2005/2_xxx/2_05_04.pdf. 89 pp.

Verstegen, J.A.A.M. and T.L. Lans, 2006. De kunst van het zien en realiseren; competenties voor succesvol ondernemerschap in de agrarische sector (The art of opportunity identification and realisation; competences for successful entrepreneurship in agriculture. In Dutch). Agricultural Economics Research Insti-

tute of Wageningen UR, Den Haag. Available at
http://www.lei.dlo.nl/publicaties/PDF/2006/8_xxx/8_06_02.pdf. 18 pp.

Poland

Media briefing 18th November 2003. Earth of friends. Available on
http://www.foe.co.uk/resource/briefings/apples_short_supply.pdf

Groot, M. 2004. Oral presentation on fruit production on a workshop in Skierniewice, Poland.

GUS, 2005. Statistical Yearbook of the Republik of Poland. Central Statistical Office. Warsaw, December 2005. 892 pp.

GUS, 2005. Produkcja upraw rolnych i ogrodniczych w 2004 roku. Warsaw, March 2005. 140 pp.

Switzerland

Alföldi, T., Tutkun-Tikir, A. and Lehmann, B. 2006. Wie Schweizer Medien über die Landwirtschaft berichten. Agrarforschung Vol. 13 Number 1 pp. 34-39.

Institute for International Economics 2005. The Shift of a Free Trade Agreement between Switzerland and the United States. Washington DC.

Mann, S. 2003. Doing it the Swiss way. EuroChoices, Volume 2, number 3, pp. 32-35. Hampshire.

Nitsch, H. and Osterburg, B. 2005. Cross Compliance (CC) in der EU und Ökologischer Leistungsnachweis (ÖLN) in der Schweiz – eine vergleichende Analyse. Braunschweig.

Office of the United States Trade Representative (USTR) 2005. National Trade Estimate Report on Foreign Trade Barriers. Washington DC.

Organisation for Economic Co-operation and Development (OECD) 2003. Agricultural policies in OECD Countries; Monitoring and Evaluation. Paris.

Organisation for Economic Co-operation and Development (OECD) 2004. Agricultural policies in OECD Countries: At a Glance. Paris.

Stolze, M. 2005. Biolandbaupolitik. Jahrbuch Biolandbau Schweiz; Zahlen, Fakten, Hintergründe, pp. 21-23. Frick.

Swiss Farmers' Union 2004. Statistische Erhebungen und Schätzungen über Landwirtschaft und Ernährung. Volume 81. Brugg.

Swiss Federal Office for Agriculture (FOAG) 2003. Swiss Agricultural Policy; Objectives, Tools, Prospects. Bern.

Swiss Federal Office for Agriculture (FOAG) 2005. Agrarbericht. Bern.

Swiss Federal Statistical Office (SFSO) 2004. Einblicke in die Schweizer Landwirtschaft. Neuchâtel.

Introduction and Synthesis

Biemans, H., L. Nieuwenhuis, R. Poell, M. Mulder and R. Wesselink (accepted). Competence-based VET in the Netherlands: Backgrounds and pitfalls. Journal of Vocational Education and Training.

Cooper, A.C. and W.C. Dunkelberg, 1986. Entrepreneurship and paths to business ownership. Strategic Management Journal, Vol. 7, no. 1, pp. 53-68.

Drucker, P. 1985. Innovation and Entrepreneurship. Practice and Principles. New York 1985.

Hisrich, R. D. and M. P. Peters, 1998. Entrepreneurship. 4. Edition, Boston, Mass. 1998.

Juhász, A., 2004. The present and the future market access opportunities of the Hungarian fruit and vegetable sector. In: Bokelmann, W. (ed.), Proceedings of the XVth International symposium on horticultural economics and management, Berlin, August 29 – September 3, 2004. Acta Horticulturae 655, pp. 371-378.

Kuratko, D. F. and R. M. Hodgetts, 1998. Entrepreneurship. A Contemporary Approach. 4. Edition, Forth Woth 1998.

Lans, T., Bergevoet, R., Mulder, M., Huirne, R. en van Woerkum, C. (2004). Identification and measurement of competencies of entrepreneurs in agribusiness. Paper presented at PREBEM conference 2005, Amersfoort.

Lončarić, R. and Z. Lončarić, 2004. Croatian vegetable market under conditions of world market globalisation. In: Bokelmann, W. (ed.), Proceedings of the XVth International symposium on horticultural economics and management, Berlin, August 29 – September 3, 2004. Acta Horticulturae 655, pp. 397-402.

McElwee, G., 2005. Developing entrepreneurial skills in Agriculture; A literature review on entrepreneurship in Agriculture. Public report of EU-project Developing Entrepreneurial skills of farmers. University of Lincoln, 2005. Available on www.esofarmers.org.

Shane, S. A. and S. Venkataraman, 2000. The Promise of Entrepreneurship as a Field of Research. In: AMR, 25 (2000), Vol. 1, pp. 217 – 226.

Shapero, A., 1975: Entrepreneurship and Economic Development. Proceedings of Project ISEED, Milwaukee 1975.

Smit, A.B., 2004. Changing External Conditions Require High Levels of Entrepreneurship in Agriculture. In: Bokelmann, W. (ed.), Proceedings of the XVth International symposium on horticultural economics and management, Berlin, August 29 – September 3, 2004. Acta Horticulturae 655, pp. 167-173.

Splinter, G.M., M.P.M. Derkx, N.J. Jukema and G. Peppelman, 2005. 'Zorgen dat …'; Verbeteren van de concurrentiekracht van bedrijven in de open teelten (Information and strategic decision-making; Improving the competitive strength of entrepreneurs in the open-grown production sectors; In Dutch with English summary). Agricultural Economics Research Institute of Wageningen UR, Den Haag. (www.lei.wur.nl/UK/). 64 pp.

Stevenson, H.H. and J.C. Jarillo, 1990. A new entrepreneurial paradigm. In: Etzioni, A. and P.R. Lawrence (eds.), Socio-Economics. Towards a new synthesis. M.E. Sharpe, New York.

Timmons, J. A. 1999. New Venture Creation. Entrepreneurship for the 21st Century. 5. Edition, Boston, Mass. 1999.

Verstegen, J.A.A.M. and T.L. Lans, 2006. De kunst van het zien en realiseren; competenties voor succesvol ondernemerschap in de agrarische sector (The art of opportunity identification and realisation; competences for successful entrepreneurship in agriculture. In Dutch). Agricultural Economics Research Institute of Wageningen UR, Den Haag. (www.lei.wur.nl/UK/). 18 pp.

Waal, B.H.C. van der, (ed). 2006. Een verdere professionalisering van het ondernemerschap; Beschrijving en evaluatie van participatieve trajecten met biologische en geïntegreerde ondernemers. (Further professionalising of entrepreneurship; Description and evaluation of participatory projects with organic and integrated farmers; In Dutch with English summary). Applied Plant Research, Lelystad, 60 pp.

Wolf, P.L. de, H.B. Schoorlemmer, A.B. Smit and C.C. de Lauwere, 2004. Analysis and Development of Entrepreneurship in Agriculture. In: Bokelmann, W. (ed.), Proceedings of the XVth International symposium on horticultural economics and management, Berlin, August 29 – September 3, 2004. Acta Horticulturae 655, pp. 199-207.

Authors

Pieter de Wolf, Herman Schoorlemmer, Noen Jukema, Bartold van der Waal
Applied Plant Research PPO
Edelhertweg 1
8219 PH Lelystad
PO box 430
8200 AK Lelystad
Phone: +31 320 – 291111
www.ppo.wur.nl/UK/

Gerard McElwee
University of Lincoln UL
Brayford Pool
UK - LN6 7TS Lincoln
Phone: +44 1522 886423
www.lincoln.ac.uk

Jarkko Pyysiäinen, Kari Mikko Vesala
University of Helsinki UHEL
Box 33
Yliopistonkatu 4
FI - 00014 University of Helsinki
Phone: +358 9 1911
www.valt.helsinki.fi/sospsyk/english/

Tanja Bastia, Diego Pinducciu, Antonella Ara, Mara Miele and Terry Marsden
Cardiff University CU
7th Floor, 30-36 Newport Road
UK - CF24 0DE Cardiff
Phone: +44 29 2087 4000
www.cf.ac.uk

Krzysztof Zmarlicki, Lilianna Jabłońska
Research Institute of Pomology and Floriculture RIPF
Pomologiczna 18
PL - 96-100 Skierniewice
Phone: +48 46 833 20 21
www.insad.pl

Conradin Bolliger, Christine Rudmann, Darren Halpin
Research Institute of Organic Agriculture FiBL
Ackerstrasse
CH - 5070 Frick
Phone: +41 62 8657-272
www.fibl.org

The development of entrepreneurial skills in agriculture is viewed by many as an important condition to generate sustainable rural development. However the scholarly and practitioner communities find it difficult to agree on how to define this set of skills. This, in turn, generates a diversity of approaches and methods used to research the topic. As with any scientific endeavour, definitional clarity seems a necessary precondition for progress.

The aim of thus book is to seek some definitional clarity. It does so by collecting the ways in which important members of the socio-technical network use the term entrepreneurial skills. How do farm advisors, scientists, the staff of farm unions and governmental actors conceptualise entrepreneurial skills? What do they see as necessary skills? And what 'types' of skills are deemed mandatory?

The study is part of the European research project 'Developing Entrepreneurial Skills of Farmers' (www.esofarmers.org). Research institutes from six countries (England, Finland, Italy, The Netherlands, Poland and Switzerland) elaborated answers to the questions above via expert interviews.

ISBN: 978-3-03736-008-8