



CEDEFOP SKILLSNET SECTORFLASH

agrifood

Defining the sector

Agri-food includes agricultural production, food processing as well as delivery chains and encompasses various economic sectors, such as trade (wholesale and retail), industry (food processing, machine construction for the agri-food sector, transport), services (logistics, financial management, insurance), and public administration (regulation, legislation).

From food shortages to food surpluses

The agri-food chain plays an important role in Europe's economic, cultural and political life. Initially, the objective of the European common agricultural policy (1957) was to subsidise production of basic foodstuffs in the interests of self-sufficiency and food security. The current policy shift from fighting food shortages to direct subsidies to help avoid oversupply of food products was brought about by redesign of EU policy towards preservation and management of natural resources.

Trends and challenges

Gross value added (GVA) of agriculture, hunting and fishery industries in EU-27 was 1.8 % in 2006, lower than 10 years ago (2.9 %) and incomparably lower than GVA of industry and trade (over 20 % in both cases).

Source: Eurostat, 2007(b).

Despite a recent trend in farms' enlargement, the sector is still dominated by SMEs that are less open to innovation than big (multinational) companies. Low ICT intensity and low research and development investment alongside high labour costs have had a bad impact on sectoral performance

compared to the main economic competitors outside Europe. Developing skills for innovation is a primary challenge for the sector's competitiveness.

Positive but low labour productivity growth in the food industry (0.8 % from 1995 to 2001, compared to 2.7 % from 1990 to 1995) reflects the difficulty in disseminating ICT to SMEs and limited innovation for creating new products and production processes – particularly biotechnology (EU is lagging behind the US with 30 % less biotechnology patent applications in all domains).

Source: European Commission, 2006(a).

Growing demand for better quality food products has considerable impact on supply of agricultural raw materials, production and distribution of food, and other associated businesses. Further challenges influencing the sector are climate change, sustainability, need for stronger regulation (food safety, safe working conditions, etc.), ageing workforce, competition in global markets and competition between big chains and small holdings, new delivery methods, changing consumer demands, ethical concerns and

knowledge-intensive technology. The energy sector (bio-fuel production) and rural development policies also have growing impact on the agri-food sector.

Employment and skills in agri-food in Europe

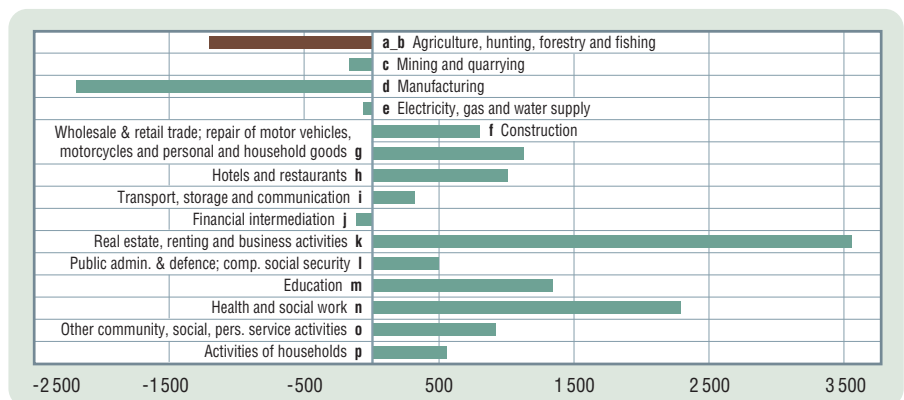
Food, beverages and tobacco rank first among manufacturing industries in EU-25 with 13.6 % of total manufacturing turnover (EUR 815 billion for EU-25), and 11.6 % value added.

The food industry is the first industrial employer with an estimated 4.1 million employees (a number that continues its downward trend, particularly in new Member States), of which 61.3 % are employed in SMEs (undertakings of less than 250 persons) that represent more than 99 % of the total number (282 000) of undertakings.

Source: European Commission, 2006(a).

Employment growth in agriculture, hunting, forestry and fishing between 2000 and 2006 was negative: the number of workers decreased from 16.5 million to 12.6 million in EU-27.

Employment change by sector (NACE) in 2000-05 (thousands), EU-25



Source: Adapted from Eurostat 2006, labour force survey, second quarter 2000 and 2005.

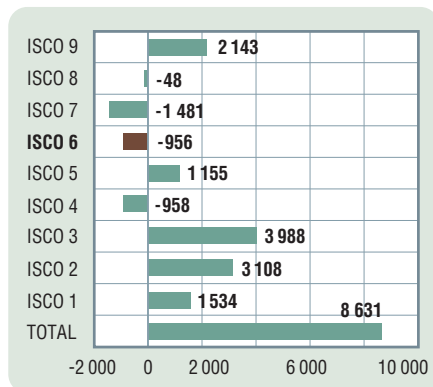
The share in total employment decreased correspondingly from 8 % to 6.3 % (Eurostat, labour force survey).

As agriculture modernised and the EU economy became more service-oriented, agriculture has become much less important as a source of jobs. The emphasis placed on rural development since the beginning of this decade has resulted in more investment in forestry, the recreational importance of the countryside, biodiversity, diversification of the rural economy, environmental protection in rural areas, better quality of life and job creation.

Source: Overviews of the EU activities - Agriculture, 2007.

Between 2000 and 2005 there was a decline in employment among medium-skill intensive occupations including agricultural and fishery workers.

Employment change by occupation in 2000-05 (thousands), EU-25

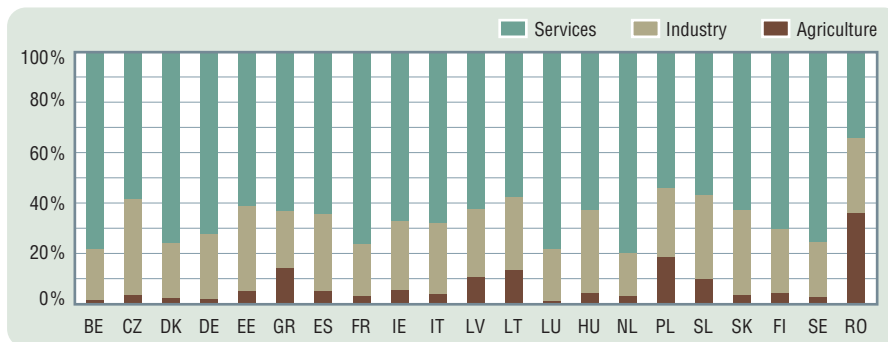


- ISCO 1 Legislators, senior officials and managers
- ISCO 2 Professionals
- ISCO 3 Technicians and associate professionals
- ISCO 4 Clerks
- ISCO 5 Service workers and shop and market sales workers
- ISCO 6 **Skilled agricultural and fishery workers**
- ISCO 7 Craft and related trades workers,
- ISCO 8 Plant and machine operators and assemblers
- ISCO 9 Elementary occupations

Source: Adapted from Eurostat 2006, labour force survey, second quarter 2000 and 2005.

The sector's share of employment however differs significantly between Member States varying from over one third in Romania to less than 2 % in Belgium, Luxembourg and the UK. The share of employment in agriculture also remains high in Poland, Lithuania, Greece and Portugal (European Commission, 2006(b)).

Employment composition by sector in EU Member States (%) in 2005

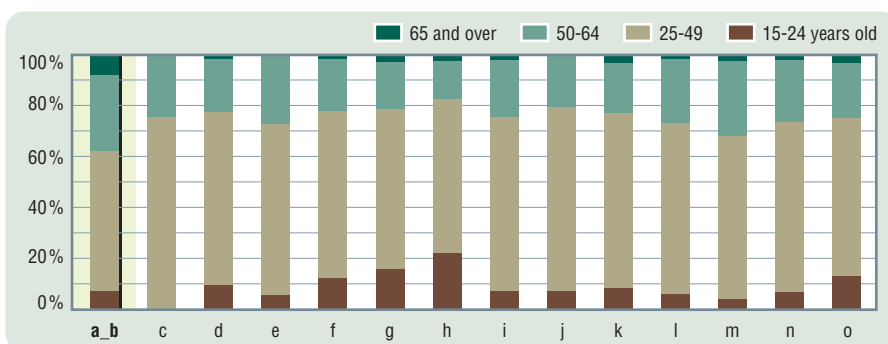


Note: PL – 2004; RO – 2002.

Source: European Commission, 2006(b).

Not only growth and job creation generate demand for the workforce. With an increase in the number of those retiring in coming years, the share of so-called 'replacement demand' in total demand for employment also increases. Agriculture is a prime 'ageing' sector with the highest share of the workforce over 50 years old. Equally, agricultural and fishery workers are the most significant 'ageing' occupation. (Cedefop, forthcoming (a)). Preparing the younger generation with relevant education and skills is therefore important.

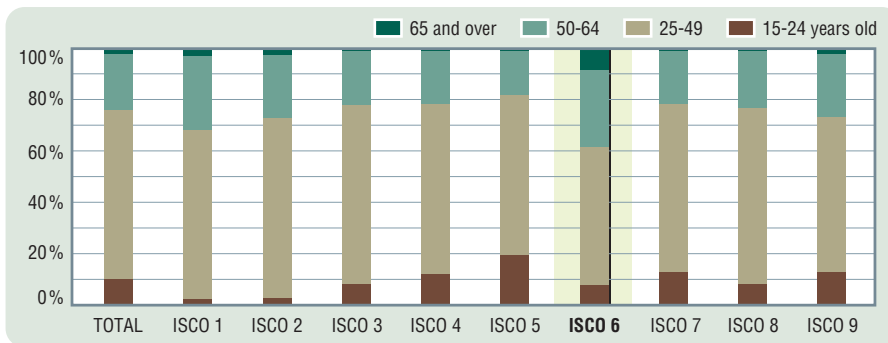
Employment by age groups and economic activity (%) in 2005, EU-25



- a_b **Agriculture, hunting, forestry and fishing**
- c Mining and quarrying
- d Manufacturing
- e Electricity, gas and water supply
- f Construction
- g Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods
- h Hotels and restaurants
- i Transport, storage and communication
- j Financial intermediation
- k Real estate, renting and business activities
- l Public administration and defence; compulsory social security
- m Education
- n Health and social work
- o Other community, social, personal service activities

Source: Adapted from Eurostat 2006, labour force survey, second quarter 2005.

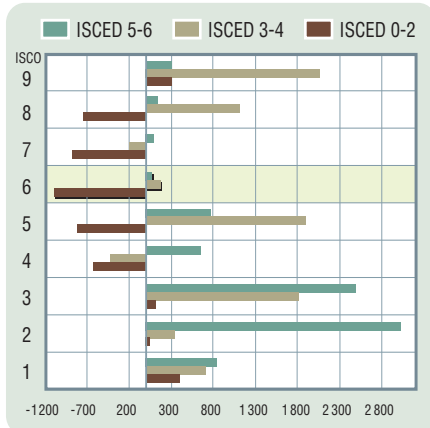
Employment by age groups and occupation (%) in 2005, EU-25



Source: Adapted from Eurostat 2006, labour force survey, second quarter 2005.

Development of the skill composition of employment by occupation demonstrates the drop in significance of the low-qualified in most occupations – most pronounced among skilled agricultural and fishery workers.

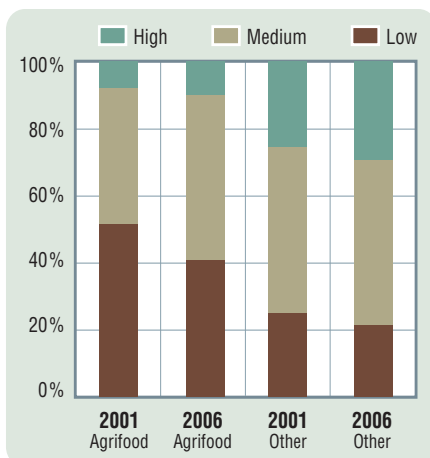
Employment by occupation and highest level of education attained, change 2000-05 (thousands), EU-25



- ISCO 1 Legislators, senior officials and managers
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Source: Adapted from Eurostat 2007, labour force survey.

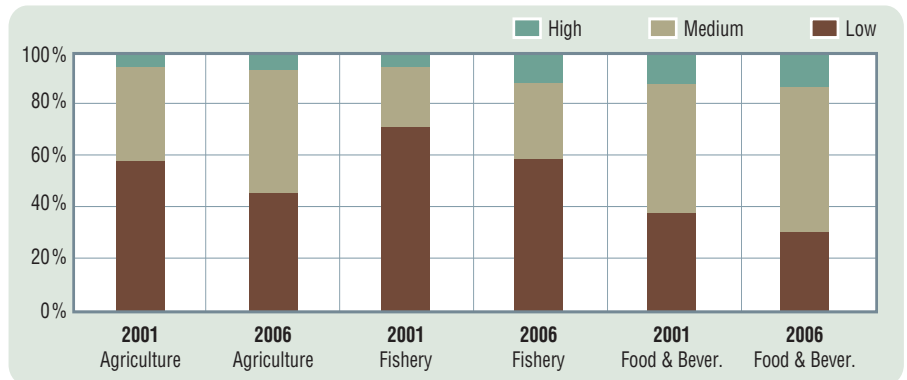
Education level in agri-food sector and in all other economic sectors (NACE), 2001 and 2006 (%), EU-27



Source: Adapted from Eurostat 2006, labour force survey.

It can be observed that from 2001 to 2006, in EU-27 the level of educational attainment

Educational level of employees in agri-food sectors, 2001-06 (%), EU-27



Source: Adapted from Eurostat 2007, labour force survey.

of employees in agri-food sectors (agriculture, fishery, food and beverage) has increased considerably. The percentage of those with low educational level dropped from 52.7 % in 2001 to 41.4 % in 2006, whereas the medium and high educational level increased from 40.2 % to 50.2 %, and from 7.1 % to 8.4 % respectively. However, comparing the level of educational attainment in the agri-food chain with that of other NACE sectors, the number of higher educated employees in agri-food is considerably lower.

Among the agri-food sectors (agriculture, fishery, food and beverage) it is fishery which has the largest share of workers with low levels of educational attainment (almost 59 % in 2006) although the situation has improved substantially between 2001 and 2006. Likewise, among workers in agriculture where the share of those with low education dropped to 46 % and the share of workers with intermediary education increased by 11 percentage points (about 48 % in 2006). Higher educational attainment in agriculture remains very low (6.4 %), although the share is somewhat better than in 2001 (5.1 %). The highest educational attainment levels are found in food and beverage which enjoys very high share of workers with intermediary level of education (56.6 %) and also demonstrates a larger share of those with higher education (12.8 %) despite very low dynamic in this segment.

Almost one half of the 7.8 million holdings in EU-27 surveyed in the farm structure survey in 2005 made use of less than one full-time worker. Seven out of eight persons working in agriculture (88 %) were family labour force and three out of four persons (73 %) were either holders or their spouses. More than half of the holders were older than 55 years.

Source: Eurostat, 2007(b).

Future skill needs: innovation in agri-food and forestry-wood chains

International workshop 20 and 21 November 2006, Lisbon, Portugal

The main objective of the workshop organised by Cedefop was to identify new and changing skills and the increasing links of the primary sector with manufacturing and services.

From innovation to new skill needs and occupations

Two principal changes in the sector have determined the demand for new skills and for a different type of the workforce: diversification of primary production to generate more income from other sources and enlargement of farms. Such farms employ a variety of professions, which means that internal organisation and personnel administration, management, international marketing, finance, logistics, etc. are becoming increasingly important. These are new for many farmers, who often are used to production *per se* rather than the management of their farms.

In the agri-food sector, several skills were considered very important within the framework of current innovations: entrepreneurial skills, employability, coping with waste management, innovative skills on an interdisciplinary level and skills needed for human resources management. Moreover, there has been a shift from knowledge towards performance and a call for attention to the development of soft skills (communication, teamwork, work effectively in a multicultural environment, etc.).

Competition stimulates quality and the use of new technologies

There is a constant need for improving quality of products to be able to compete on global scale. This creates skill needs in quality control, including (food) safety and environmental control, quality management and quality improvement in all components of the production chain, e.g. hazard analysis and critical control points and risk communication. New technologies and automated systems are invented to reduce costs and increase quality. Skill needs emerge in the implementation, operating and maintenance of new devices. The supply-chain has a 'reversal' logic from consumer needs and purchasing organisations to production and multi-functioning of organisational networks. This demands skills in process innovation, co-operation, interdisciplinary understanding, collective cost reduction and quality improvement as well as political sensitivity to various stakeholders who have different interests. Sustainability, including corporate social responsibility and integrity, also determines a number of new skill needs. Personal development, creativity, entrepreneurial spirit, the knowledge-sharing for achieving competitive advantage and the knowledge-protection against hostile competition are also increasingly more important.

Employment trends demand higher workforce mobility and adaptation skills

Global competition and employment shifts towards skill-intensive production processes and services, and the overall diminishing share of the primary sector requires flexible and adaptable workforce. Management and entrepreneurial skills will improve the ability of farmers to deal with globalisation and other external developments and will also increase intra- and inter-sectoral mobility. Adaptation skills and ability to learn are needed for farm workers that decide to pursue a different career path. The educational and training system should therefore, support the development of the employability of people and should give a new impetus to job creation in the agri-food chain.

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International network on early identification of skill needs

The international network Skillsnet, established in 2004 by Cedefop, focuses on the early identification of skill needs in Europe and beyond, and attempts to detect, anticipate and monitor new and changing skill needs in economy and society. Skillsnet brings together researchers, policy-makers, practitioners and social partners to present and discuss outcomes and methods of research and analysis. Particular attention is paid to skill needs in regions, sectors, companies and occupations and among specific target groups. Skillsnet aims at fostering cooperation and exchanges between countries on methods and results of research and particularly at transferring findings into policy and practice. Regular activities of the network include thematic workshops and conferences organised by Cedefop and partner institutions in the network and publication of the proceedings.

Future skill needs in innovative agri-food and forestry-wood chains

(Cedefop online publication)

The publication can be downloaded from the Skillsnet website www.trainingvillage.gr/skillsnet



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