


# Farmworkers and gardeners: skills opportunities and challenges (2016)

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## Summary

Farmworkers and gardeners (also including forestry and fishery workers) are responsible for growing, managing and harvesting crops; rearing livestock; managing forests; and gathering fish.

## Key facts:

- Skilled agricultural, forestry and fishery workers are responsible for growing, managing and harvesting

crops; rearing livestock; managing forests; and gathering fish.

- The five key skills required for these workers are teamwork, problem solving, learning, planning and job-specific skills.
- **Shortages** of skilled agricultural, forestry and fishery workers affect three EU Member States; **surpluses** are reported in five EU countries.
- Despite the demand for food and other agricultural resources increasing, the number of these workers declined by 15% during the 2005–2015 period. It can be attributed to on-going productivity improvements through the application of science and technology and associated new production methods.
- Over the next 10 years, employment in this occupation is likely to decline by another 13%.
- Managing environmental impacts, understanding different technological and analytical methods, and having business acumen are among some of the new, higher level skills required for agricultural, forestry and fishery workers in the future.

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## Who are they?

Skilled agricultural, forestry and fishery workers <sup>1</sup> are responsible for growing, managing and harvesting crops; rearing livestock; managing forests; and gathering fish. These employees can be either market oriented or subsistence workers, although both sub-groups perform many similar roles. Skilled agricultural workers represent around 90% of employment within this occupational group. A range of mid-level –and increasingly higher level- skills are required, including the operation and maintenance of machinery, and knowledge of plant and animal life.

## What skills do they need?

According to [Cedefop's European skills and jobs survey \(ESJS\)](#) the key 5 skills for skilled agricultural, forestry and fishery workers are **teamwork, problem solving, learning, planning** and **job-specific skills**. These skills could support employees in this occupation to also tackle anticipated future skill challenges (see drivers of change below).

**Figure 1: Most important skills required for skilled agricultural, forestry and fishery workers**



Problem solving



Based on responses of people working in this occupation on which skills they perceive as the most relevant for their job.




From Cedefop's European skills and jobs survey

Cedefop has mapped the countries in which occupations are in **surplus** or **shortage**. For more information please see [here](#)

### Where are they mostly in demand?

The labour market dynamics for this occupation differ across EU Member States:

**Figure 2: Shortages and surpluses for skilled agricultural, forestry and fishery workers across the EU**

-  Shortage
-  Surplus
-  Varied for detailed occupations (see analysis)



According to [Cedefop](#), *market-oriented skilled agricultural workers* risk to be in [shortage](#) in Latvia and the Netherlands, while a [surplus](#) of them is reported in France, Slovakia and Romania. Shortages of *market-oriented skilled forestry, fishing and hunting workers* are found in the Netherlands and Romania, and a surplus in Spain, France and Poland. No mismatches are recorded for *subsistence farmers, fishers, hunters and gatherers*.

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## What are the trends for the future? 2

Despite the demand for food and other agricultural resources increasing, the number of these workers declined by 15% during the 2005–2015 period. It can be attributed to on-going productivity improvements through the application of science and technology and associated new production methods.

Over the next 10 years, employment in this occupation is likely to decline by another 13%. As technological developments transform the agriculture, forestry and fishery sectors highly qualified people will be much more needed (an increase by one-third, or almost 300 thousands of new jobs). Simultaneously, employment of low qualified workers will decline significantly – by more than 1.1 million of jobs in 2015–2025.

However, given the age structure of the occupation (45% of workers are aged 50 or more), there is a huge challenge ahead – despite more than one million jobs lost due to technology and other reasons, the total demand for workers will be more than five million, mostly to replace [3](#) those that would retire in that period. More information on employment trends and characteristics of these occupations can be found [here](#).

There will be skills challenges, too. Managing environmental impacts, understanding different technological and analytical methods, and having business acumen are among some of the new, higher level skills required for agricultural, forestry and fishery workers in the future.

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## Which drivers of change will affect their skills?

The [sector-relevant](#) technical skills that correspond to the type of resource they work with are very important for skilled agricultural, forestry and fishery workers. However, workers in this occupation need also possess a range of transversal and basic skills to adapt to changing production processes, and to other sector-specific changes and challenges.

- **Advanced machinery and robotics** are gradually fulfilling roles previously carried out by labourers in the farming sector. While their use presents an array of opportunities for boosting resource efficiency, farmers increasingly need to adapt their operations and maintenance expertise to use equipment effectively, and maximise the productivity and lifespan of machinery [4](#). The prevalence of robotics and

advanced machinery in agriculture will diversify the role of the farmer, moving away from old farming methods, manual labour and basic machinery maintenance, towards maintaining agricultural robots ('agribots').

- **Developments in analytical software and cloud computing** pertinent to agriculture offer farmers e-tools they can consult in carrying out their activities and completely new approaches such as "precision farming" 5. Software can also store digital evidence to be presented to national and EU agricultural regulators on the fulfilment of subsidy conditions. Data management is likely to become an important skill in farming practice, allowing workers to process information collected from different sensors and mapping systems 6.
- **Climate change and environmental degradation** increase farmers' responsibilities on conservation and environmental management. Farmers need to maintain the productivity of their land while facing extreme weather events, potential water shortages etc. As agricultural and fishery practices are central to promoting environmental sustainability, there is a growing need for skilled agricultural workers to understand how environmental sustainability is integral and applicable to their everyday practice (i.e. managing pesticide and other chemical use, reducing carbon dioxide emissions, using renewable energy, and managing water resources) 7.
- **Shifting consumer demand** for non-traditional fish species, driven by the desire for sustainably sourced products requires understanding of marine protection zones and skills on managing non-traditional fish stocks. This same shifting consumer demand also increases the demand for farmers' understanding of and skills on organic production methods and an awareness of pertinent market regulations 8.
- **EU and national level regulations**, including the Common Agricultural Policy (CAP), have been implemented across the EU with the aim of reducing some of the negative externalities of farming, fishing and forest management. CAP regulations require farmers to have an up-to-date understanding of evolving regulations and awareness of sustainable practices to make the most efficient use of resources 9.
- Agriculture is challenged by the **ageing of its workforce** to a greater extent than most sectors in Europe 10. Among others, this highlights the importance of succession planning skills, with greater emphasis on career development 11. In turn, senior skilled agricultural workers need to be able to communicate technical information, along with the ability to mentor and identify new areas for improvement within their own workforce.

"The fishing industry is [now] a multi-million pound industry where skippers and their crews are expected to work on modern vessels and be highly skilled technicians operating a range of electronic instruments. More skills and expertise are required to be proven via qualifications and/or be endorsed by certified bodies, requiring fishers to attend training courses including basic sea survival, fire fighting, first aid, and health and safety. In addition, skippers, mates and engineers working on fishing vessels above a certain length and engine power, or operating in certain sea areas, are required to hold statutory Maritime and Coastguard Agency (MCA) Certificates of Competency".

Source: [Marine Management Organisation](#) 

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## How can these skill needs be met?

Given the demographic challenge in these occupational groups and the job openings due to people retiring, attracting young(er) workers with adequate skills is one of the priorities particularly for agriculture. Continuous professional development can also act as an incentive for those seeking career progression and help in slowing the rapid ageing of the farming workforce. Farm owners/employers as well as policy makers will need to promote learning opportunities for younger farmers who are new to the sector, but also upskilling older workers particularly to the new technologies. There may be transition phases in specific industries where coordination between departing and new workers would require fine-tuning so not to let go of older workers' experience and skills.

As these workers shift to higher levels of qualifications and skills, up- and reskilling programmes could assist these workers in keeping abreast of technological advancements which is important for maximising the productivity and revenue of their operations, such as precision farming. New demand is likely to be created for education courses that equip prospective workers with new skillsets, which will incorporate new skills traditionally not linked to such occupations, such as coding, data analysis and flying drones [13](#).

Local communities and authorities, as well as consumers can also play a significant role in raising awareness of these occupations' importance and the needs for a more advanced skills profile. Having a workforce suitably qualified and trained to the latest developments and regulations is of particular importance to the wider public good, as these occupations mainly work in the food chain sectors. For example, the amplified interest in farm fishing, strongly supported by the European Commission [14](#), can have multiple benefits for the environment, consumer behaviour and economy of the EU. Attracting to and retaining skilled workers in the relevant occupations is one of the key pillars for the sustainable growth of the sector.

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## References

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[1] Defined as ISCO 08 groups 61- Market-oriented skilled agricultural workers, 62 Market-oriented skilled forestry, fishery and hunting workers and 63 Subsistence farmers, fishers, hunters and gatherers. ILO (2012) [International Standard Classification of Occupations ISCO-08](#). More information on the occupation can be found [here](#).

[2] [Cedefop 2016 forecast](#)

[3] The need to replace workers leaving a profession for various reasons, such as retirement. For more information on replacement demand and how it drives employment across sectors. can be found on the

Skills Panorama [here](#).

[4] NESTA, 2015, "[Precision agriculture: separating the wheat from the chaff](#)", viewed 22 May 2016

[5] "'Precision farming' refers to a management concept focusing on (near-real time) observation, measurement and responses to inter- and intra-variability in crops, fields and animals. Potential benefits may include increasing crop yields and animal performance, cost and labour reduction and optimisation of process inputs, all of which would increase profitability. At the same time, 'precision farming' should increase work safety and reduce the environmental impacts of agriculture and farming practices, thus contributing to the sustainability of agricultural production".

EIP-AGRI Focus Group, 2015, Precision Farming, viewed 20 June 2016

[6] European Commission, 2014, Precision agriculture: an opportunity for EU farmers: potential support with the CAP 2014-2020, viewed 30 May 2016

[7] European Commission, 2015, Towards a long-term strategy for European agricultural research and innovation by 2020 and beyond (background paper), viewed 20 May 2016

[8] European Commission, 2015, Organic food: Helping EU consumers make an informed choice, viewed 1 June 2016

[9] Joint Research Centre (JRC) of the European Commission for the European Parliament, 2014, Precision agriculture: an opportunity for EU farmers: potential support with the CAP 2014-2020, viewed 20 May 2016

[10] European Commission, 2015, "[EU farms and farmers in 2013: an update](#)" *EU Agricultural and Farm Economics Briefs*, viewed 30 May 2016

[11] Breuer, Z, 2012, [Agriculture, Forestry and Fishing: Sector Skills Assessment 2012](#), UK Commission for Employment and Skills

[12] Marine Management Organisation, 2013 "[Future Trends in Fishing and Aquaculture in the South Inshore and Offshore Marine Plan Areas](#)", viewed 22 May 2016

[13] NESTA, 2015 "[Precision agriculture: separating the wheat from the chaff](#)", viewed 22 May 2016

[14] European Commission, [Fish farmed in the EU: a healthy, fresh and local alternative](#), viewed 20 June 2016

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