Improve

FOOD & DRINK SKILLS COUNCIL

Skills Needs in the Greater Lincolnshire Agri-food Sector

The Greater Lincolnshire Local Enterprise Partnership














April 2012

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Executive Summary

This report aims to identify the Greater Lincolnshire agri-food sector's skills needs and how these skills issues act as barriers to business growth.

To fulfil the aims of the project the research approach consisted of a succinct review of relevant existing literature, an analysis of core official national datasets and an online survey of 20 agri-food businesses located in Greater Lincolnshire. The key findings are presented below.

Recruitment difficulties

- Recruitment difficulties are reported to be primarily due to a shortage of skills, qualifications or experience in applicants and were reported in the following roles:
    - **Managerial**: experience/people management/literacy/numeracy skills
    - **Food science & product development**: experience/technical/customer awareness skills
    - **Farm worker**: job specific skills
    - **Operatives** : work-readiness/literacy/numeracy skills
- The shortage of skilled and experienced applicants in the occupational areas described was attributed to the remote location of businesses, a low pay area in general which discourages locals from moving away from claiming benefits and beginning employment and a lack of perceived career development amongst potential applicants.
- An increased workload for other staff and reduced production levels were the most commonly reported impacts of skills shortages. New recruitment methods and increasing spend on advertising were the resolutions most frequently attempted by businesses.

Workforce skills deficiencies

- The following workforce skills deficiencies were identified by respondents:
    - **Production/semi-skilled**: communication skills (oral/literacy/numeracy/understanding)
    - **Technical/professional**: strategic/operational management, team-working, IT skills
    - **Management**: strategic/operational management, team working, writing skills
    - **Supply chain**: literacy, numeracy, team-working
    - **Skilled crafts**: working readiness, the right attitude, numeracy skills
    - **Commercial**: strategic management, team working
- Increased operating costs, reduced production levels/output, increased workload for other staff and difficulties meeting quality standards were the impacts of workforce skills deficiencies cited by respondents.
- Training activity and an increase in training activity was the main approach taken by business respondents to address skills gaps and ensure they have the 'right skills'.

Other key findings

- Non-UK migrant workers play a vital role for agri-food employers in filling gaps in the workforce caused by an unwillingness of local labour to perform the roles required and a lack of local labour in general.
- Automation and the operation of machinery and equipment is a key characteristic of agri-food businesses in Greater Lincolnshire, indicating the increasing importance of skills and knowledge for equipment operation, maintenance and production forecasting.

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- The number of people employed in agri food is expected to decrease between 2006 and 2020, yet a growth in the demand for skills is expected over the period 2006-2016. This suggests the importance of increasing the skills and qualification levels of the Lincolnshire population particularly in light of the location of Greater Lincolnshire and its rural characteristics which can make it difficult to attract and recruit for highly skilled positions

Next steps

1. The provision of external support services to agri-food businesses

The research consulted with respondents about a range of areas where potential support would benefit their business. Should the GLLEP want to assist agri-food businesses in the future those areas with the highest level of interest are as follows:

- A ready-made careers campaign to attract young people into the industry
- Training courses designed specifically for your workers' needs
- Industry facts and labour market information

2. Further research

- Exploratory research about what types of technologies are being utilised by food production businesses in Greater Lincolnshire. This work would help build an understanding about the under-utilisation and lack of investment in these emerging technological innovations, which are in widespread use outside the UK, and are a barrier to growth for agri-food businesses.
- A research study to examine automation and use of technology within the agri-food industry which explores how training provision might be developed to encourage and support a greater uptake of new technology.
- Detailed qualitative research with a small sample of agri-food businesses using a case study approach to examine skills levels in relation to the approaches adopted for production.

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1 Introduction and Background

1.1 Background

The Greater Lincolnshire Local Enterprise Partnership (GLLEP) has identified agri-food as a key growth sector in the local area. Improve Ltd has been commissioned by the Lincolnshire & Rutland Employment and Skills Board, on behalf of the GLLEP to undertake research exploring the sector's skills needs in the context of it being a barrier to growth.

1.2 Research Objectives

The research aims to understand what the skills needs and issues are in the agri-food industry within Greater Lincolnshire and seeks to identify how the skills issues are acting as barriers to growth. In particular, this research sought to examine a series of questions, including:

- What is the size of the sector?
  - in terms of employment and the number of businesses in the area
  - which agri-food sub-sectors are most prominent in the area?
  - what are the key workforce demographics? e.g. share of migrant workers
- What proportion of the existing workforce is considered to have skills gaps?
  - where are the skills gaps (e.g. technical skills, language, numeracy, literacy etc)?
- What is the rate of hard-to-fill vacancies (HTFVs) and skills shortage vacancies (SSVs) in the agri-food sector?
- Is it difficult to recruit suitable candidates into sector vacancies?
  - what specific job roles are particularly difficult to recruit for?
  - what is lacking? e.g. right attitude, work ethic, basic skills, etc.
- What is the impact of skills deficiencies?
  - have businesses declined contracts as a result of not having the right skills?
- What are businesses doing to resolve skills deficiencies?
  - are businesses able to train the existing workforce to fill skills gaps?
- What key areas of support would help businesses address skills issues?

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2 Desk Review

2.1 Literature Review

Greater Lincolnshire, covering North Lincolnshire and North East Lincolnshire unitary authorities and the non-metropolitan county of Lincolnshire, is a large geographic area with a population of 1,021,700 people (23% of the East Midlands population)[i] (ONS, 2010a). The area is predominantly rural and its economy has traditionally relied upon agriculture and related industries (de Hoyos and Green, 2011).

2.1.1 Socio-Economic and Demographic Change

Lincolnshire has a relatively low population density; in 2007 it was less than half (41%) that of the wider East Midlands region and less than a third (30%) of England's population (LRO, 2009). In addition, Greater Lincolnshire has a comparatively low proportion of its population of a working age (16-64 years): In 2010 it accounted for 61% of the total Greater Lincolnshire population, whilst in the East Midlands and Great Britain the working age population accounted for 64.6% and 64.8% of the total population, respectively (Nomis, 2012). These statistics highlight a rural geographic area with a smaller workforce for employers to select from when a vacancy arises than in other areas, and this can be problematic for businesses (de Hoyos and Green, 2011).

De Hoyos and Green's (2011) study of recruitment and retention issues in a Lincolnshire employer study revealed a tendency for low labour turnover in businesses. Possible explanations for this include business location and the fact that a relatively small number of businesses in the area has the impact of restricting employment opportunities available. Atherton et al (2010) corroborates this and suggests that rural labour markets are 'inherently constrained by their limited size' and are likely to be less specialised than urban labour markets. The 'under-employment and under-utilisation of skills' is a key dynamic resulting from the lack of options for alternative employment.

It is well documented that rural areas, like that of Lincolnshire, have experienced out-migration of highly educated young people. Often, those that leave the area to study at universities do not return to the area due to a small quantity and range of higher level jobs. This makes it difficult for businesses to fill any highly skilled roles they do have available (de Hoyos and Green, 2011).

Similar to many rural areas, Lincolnshire experienced a 10% increase in its population during the 1990s driven by both internal and international immigration (de Hoyos and Green, 2011). Non-UK workers play an important role for agri-food employers in the area who need to fill low skill job vacancies and this is demonstrated in the literature: Improve (2008) research, investigating the role of migrant workers in the food and drink manufacturing industries, emphasises a relatively high average number of migrant workers employed (52 migrant workers) by each East Midlands company surveyed. A lack of local labour was the key reason given by respondents for employing non-UK workers and in general employers surveyed felt that migrants were beneficial for them as they had a good work ethic (32%), willing to do the roles required (20%), and were eager to please (11%). Zaronaite and Tirzite's (2006) report on the dynamics of migrant labour in South Lincolnshire emphasises that the local economy is reliant on migrant workers to fill the gaps in the workforce:

"The company would not survive without casual labour" (pp 10)

A study of migrant workers in Southern Lincolnshire (Green et al, 2006) reflects these findings in the same, small geographic area. They highlight the flexibility provided by the use of non-UK workers, specifically in migrant workers' 'better attitude to work', to meet business needs. The main drawback

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identified by East Midlands employers was the existence of language barriers; 39% of employers felt that language barriers made employing migrants difficult (Improve, 2008).

In 2007, more than three quarters (77%) of all employment in Lincolnshire was within four principal industry sectors: government and other services (31%); distribution, hotels and catering (25%); food and farming (11%); and construction (10%). Although government and distribution, hotels and catering account for the largest share of employment in the county, the food and farming sector in Lincolnshire reveals an employment rate that is almost four times the UK food and farming employment rate (3%) (LRO, 2007), highlighting the over-representation of the agri-food sector in Lincolnshire.

2.1.2 Agri-food Skills Deficiencies

Lantra, the Sector Skills Council (SSC) for land-based and environmental industries, reports a lower incidence of vacancies than the England average (Lantra, 2011): 7% of sector employers had a vacancy at the time they were surveyed compared with 12% of all employers in England. 3% of sector businesses reported hard to fill vacancies reflecting the England average (3%) and 2% of sector employers reported skills shortage vacancies, a lower proportion than the England average (3%).

The agricultural sector also demonstrates a lower incidence of workforce skills gaps compared with the England average: 15% of businesses in the sector report skills gaps in contrast to an England average of 19% (Lantra, 2011).

Lantra (2011) points to a sector that has been in transition over recent years and an increase in the demand for highly skilled staff has become more evident. The current skills sector employers feel are important are:

- technical skills (e.g. animal handling and care, disease identification and control, implementing new technology including genetic engineering);
- ICT skills (e.g. robotics);
- leadership/management skills (e.g. succession planning; entrepreneurial skills); and
- essential skills (i.e. literacy, numeracy and communication).

In the 2005 'Advice and Skills Requirements of Land Based Industries Arising from Diversification' report WM Enterprise Consultants emphasised how numerous and diverse the skills needs of agricultural holdings are: from technical and practical skills such as machinery operation, spraying application and milking, to administration and management. A lack of support and technical back-up for precision farming technology is perceived to be holding farmers back from realising benefits. They suggest that this could explain why only 2-3% have invested in precision technology. Respondents from the East Midlands agricultural livestock sector reported the main skills needed relate to adding value and environmental work including meat marketing, food hygiene and management skills.

Reflecting the findings presented above, the Lincolnshire and Rutland Economic Snapshot survey undertaken by the Lincolnshire and Rutland Employment and Skills Board (2011) revealed that only 30% of respondents did not consider their workforce to have any skills gaps. Of the remainder, the most frequently cited skills deficiencies were technical, practical and job specific (35%), management (34%) and IT (28%).

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Improve, the SSC for the Food and Drink Manufacturing and Processing industries (FDMP), reports (2010) a similar incidence of vacancies in the East Midlands sector (10%) to the England sector average (11%). However, these current vacancies account for nearly one in four (23%) of the FDMP workforce in the East Midlands, a greater proportion than the England industry average of 13%. This is an important indicator as it provides evidence of where there may be skills shortages and difficulties in managing production capacity. While 10% of East Midlands FDMP employers reported vacancies, none reported hard to fill vacancies, and consequently no skills shortage vacancies were reported.

In terms of workforce skills gaps, Improve's employer skills needs survey (2010) highlights a higher proportion of employers with skills gaps in the East Midlands (21%) compared with the FDMP England average (16%). Management and skilled trades occupations are the occupations where skills gaps were most likely to be mentioned. Where skills gaps were reported amongst managers, employers cited leadership and strategic skills, supervisory and operational skills, IT and technical, practical and job specific skills. Skills gaps amongst skilled trades roles included technical, practical and job specific skills, craft skills (e.g. butchery, knife skills, fishmongery, bakery), team working skills, product development skills and management skills.

Similarly, Ecotec's (2009) study of FDMP training needs in the East Midlands established leadership and management, specialist skills amongst skilled trades, and technical skills as the most notable areas of skills deficiencies. Managers and supervisors were reported to lack both people and company management skills. Recruitment difficulties were reported by employers when trying to fill specialist skilled trade vacancies in artisan bakery, cheese making and meat processing. The Ecotec research study also highlighted the shortage of technical skills, particularly food scientists, technologists and engineers. The development of new products, recipe formulation and shelf life, together with issues of packaging and transportation are highly scientific and require individuals with appropriate qualifications and skills; attracting graduates and experienced scientists and engineers into the sector is challenging. This leads to a significant shortage of the aforementioned, and unlike supervisory and management roles, it is reported that these cannot be simply filled by internal promotion and in-house training. It is suggested that the problem lies in attracting the engineers and scientists into the sector and ensuring enough young people undertake science and technology higher level courses (Ecotec, 2009). Many young people and potential new entrants are being drawn to more popular industries; this is also highlighted in a more detailed study about young people's attitudes to the food and drink industry which was conducted across England (Hutchinson et al, 2011).

Data from the Lincolnshire Research Observatory (2007) reveals that the number of people employed in food and farming is expected to decrease between 2006 and 2020 and this has certainly been evident through the recent economic recession which has led to job losses as well as reducing labour demand (de Hoyos and Green, 2011). Future employment projections for Lincolnshire (Owen *et al*, 2007) over the period 2006-2016 indicates a growth in the demand for skills and suggests the importance of increasing the qualification levels of the Lincolnshire population.

Many of the new job opportunities being created in Lincolnshire, around the time Green and Hardill's paper (2003) was written, require low skills and generally the lack of recruitment problems and prevalence of low skills presented in the literature indicates a region characterised by a low skills equilibrium. Atherton *et al* (2010) explored the relationship between rurality, skills and productivity in the East Midlands, and suggests that low skills in remote rural areas are self-reinforcing: these areas may lose skilled people and don't attract employers or residents with higher level skills. In

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agreement with this, respondents to de Hoyos and Green's (2011) study agreed that the prevalence of low skill, low-value employment and a lack of opportunity for progression was the primary local economic development challenge facing rural areas. To tackle the low skills equilibrium cycle would require efforts at a range of scales, from local to national. UKCES (2010) emphasise the increasingly accepted view of the importance of encouraging demand for higher skilled jobs through investing in long-term business development, considering skills as a long-term investment and working to operate in high-value markets at a national level.

2.1.2.1 Skills Issues - Food Supply Chain

During 2011 for the first time issues affecting the whole food supply chain were considered collectively; this includes agriculture, food and drink manufacturing, food retail and food hospitality. Jassi et al (2011) explored occupational data for the workforce across the agriculture and food and drink manufacturing sectors and found that significant proportions of the workforce are working below the minimum skills level required. This is particularly prevalent across specific occupational groups within the food supply chain, as illustrated in the table below.

Table 1 – Occupational groups most commonly working below minimum skills level

Occupational Group	Agriculture	Food and drink manufacturing
Skilled trades	X	X
Managers and senior officials	X	X
Sales and customer services	X	
Elementary roles	X	X

Source: Jassi et al (p.49; 2011)

The following skills issues have also been identified in the aforementioned report as affecting all the sectors within the UK food supply chain, albeit to varying degrees:

- an over reliance of migrant workers into the industry;
- a shortage of Food Scientists and Technologists;
- skills gaps amongst the existing workforce, most commonly technical and job specific skills, leadership and management skills and problem solving skills;
- a high incidence of hard to fill vacancies and skills shortage vacancies; and
- the need to continuously recruit new entrants due to growth and the need to replace those leaving the industry workforce.

A recent report, *Young People's attitudes in England towards Careers in Food and Drink* (Hutchinson et al, 2011) confirms that young people are not attracted to working in the industry and they are not knowledgeable (along with teachers, parents and advisers) about what the industry can offer. The study recommended activities including engagement with schools and the provision of case study examples and other materials that can be used by teachers and advisers.

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2.2 Secondary Data Analysis

Note: please see Appendix 1 for details of the business types included in this report. The definition of Agri-food used within this report is narrower than that used in some locally produced reports. It does not include, for example, businesses involved in the manufacture or rental of agricultural machinery, food packaging and food warehousing.

2.2.1 Businesses

There are 4,300 agri-food businesses operating in the Greater Lincolnshire LEP area, and together these businesses operate across 4,545 individual sites (some businesses may operate several sites or units), which is equivalent to 11% of all business units in the Greater Lincolnshire LEP area. Agri-food is one of the dominant sectors in the LEP area in terms of numbers of business units, alongside the retail industry and the construction sectors (both account for 12% of business units) (IDBR, 2011).

95% of agri-food businesses are operating within the agricultural sector (4,090 businesses), 4% within the food and drink manufacturing industries (160 businesses) and 1% within fishing and aquaculture (50 businesses).

Agri-food businesses are concentrated in the largest of the LEP's geographical boundaries, the non-metropolitan county of Lincolnshire, where 86% (3,690 businesses) of agri-food businesses are located. 11% of businesses (490) are situated in North Lincolnshire unitary authority, and a further 3% (120) of businesses are located in North East Lincolnshire unitary authority.

Table 2 – Greater Lincolnshire Agri-food Businesses 2011

Agri-food Sector	North East Lincolnshire	North Lincolnshire	Lincolnshire	Greater Lincolnshire Total
Crop & Animal Production	60	470	3,560	**4,090**
Fishing & Aquaculture	20	0	30	**50**
Food & Drink Manufacturing	40	20	100	**160**
Total	**120**	**490**	**3,690**	**4,300**

Source: IDBR (2011)

Exploring the distribution of businesses by sub-sector and geography further illustrates the importance of crop and animal production in the rural areas of North Lincolnshire and Lincolnshire (both 96% of agri-food sector businesses). The agri-food sub-sectors in North East Lincolnshire have a broader distribution, with the fishing and aquaculture businesses accounting for 20% of the unitary authority's agri-food business count. Food and drink manufacturing also makes up a larger presence in the area (33% of agri-food businesses).

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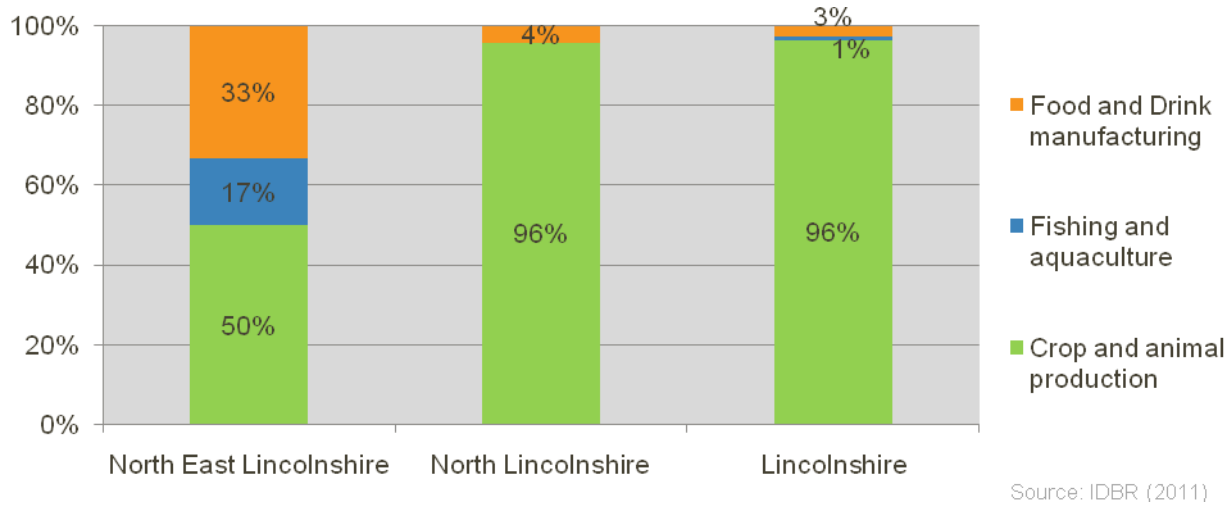
Figure 1 – Greater Lincolnshire Agri-food Businesses 2011



Source: IDBR (2011)

The vast majority of Greater Lincolnshire's agri-food businesses are micro in size. 97% of agri-food businesses employ between 0-19 staff, and just 3% of businesses employ 20 staff or more. Across the three LEP areas, North East Lincolnshire is home to the largest share of businesses employing 20 staff or more (8%) which may reflect the larger proportion of food and drink manufacturing businesses operating there, in comparison with the two other Greater Lincolnshire areas. 78% of food and drink manufacturing businesses employ between 0-19 staff, and 22% employ 20 or more individuals. In contrast, 100% of the fishing and aquaculture businesses, and 98% of crop and animal production businesses employ between 0-19 staff (IDBR, 2011).

2.2.2 Employment

There are 17,075 people employed in the Greater Lincolnshire agri-food sector, with 70% of employment found in crop and animal production, 29% in food and drink manufacturing, and 1% in fishing and aquaculture (IDBR, 2011). Please note that the employment estimate provided here does not include temporary workers employed by employment agencies and working within agri-food businesses.

Table 3 – Greater Lincolnshire Agri-food Employment 2011

Agri-food Sector	North East Lincolnshire	North Lincolnshire	Lincolnshire	Greater Lincolnshire Total
Crop & Animal Production	..C	..C	10,466	**12,005**
Fishing & Aquaculture	..C	..C	65	**113**
Food & Drink Manufacturing	..C	..C	2,557	**4,957**
Total	**..C**	**..C**	**13,088**	**17,075**

Note: ..C denotes suppressed data to avoid disclosure

Source: IDBR (2011)

The county of Lincolnshire accounts for 77% of agri-food employment in Greater Lincolnshire[ii].

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2.2.3 Key workforce demographics

The following sub-sections present workforce characteristic data for the FDMP workforce and the agricultural workforce in the East Midlands. It should be noted that the geographic boundary of Greater Lincolnshire LEP is not consistent with many existing datasets and publications nevertheless, they offer useful insights about the agri-food industry.

2.2.3.1 The food and drink manufacturing workforce

The East Midlands FDMP workforce is mainly male, full-time, and permanent (ONS, 2010b):

- 68% male Vs 32% female;
- 91% full-time Vs 11% part-time;
- 98% employed Vs 2% self-employed;
- 89% permanent Vs 11% temporary;

81% of the East Midlands FDMP workforce is White, whilst 16% are Asian/Asian British, 2% are of an Other Ethnic Group, and 1% are Black/Black British. 18,400 FDMP workers in the East Midlands are non-UK nationals, which is equivalent to 36% of the workforce (ONS, 2010b).

43% of the East Midlands FDMP workforce has been employed by their current employer for more than 5 years (ONS, 2010b):

- 27% of employees have worked for their current employer for 'more than 2 years but less than 5 years';
- 10% for 'more than 1 year but less than 2 years';
- 10% for 'more than 6 months but less than 12 months';
- 6% for 'more than 3 months but less than 6 months'; and
- 4% for 'less than 6 months'.

2.2.3.2 The agricultural workforce

The East Midlands land-based and environmental industries workforce is mainly male, employed and of a White ethnic origin (Lantra, 2011):

- 66% male Vs 34% female;
- 62% employed; 35% self-employed; 3% unpaid family worker;
- 98% White; 2% non-white

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3 Online Survey Findings

3.1 Respondent profile

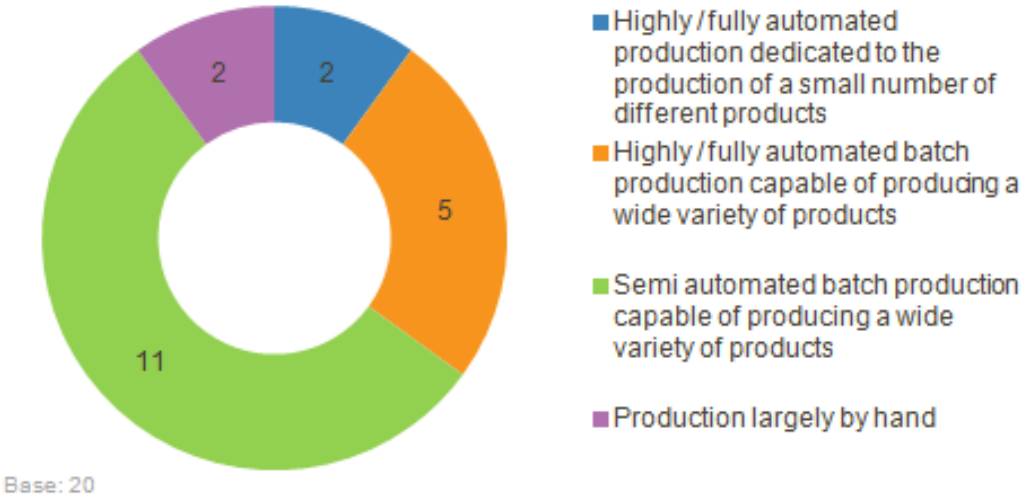
The online survey aimed to and went on to successfully achieve responses from 20 agri-food business units. The vast majority of businesses were located in the larger geographic area of Lincolnshire county and were most likely to be representing large business sites with 200 employees or more. 14 respondents stated that the main business activity of their organisation was the manufacture and processing of food products and six respondents reported the main business activity to be agriculture. For further information on the profile of respondents please see Appendix 2.

3.2 Level of automation

An involvement in the operation of machinery or equipment features in the workforce of all the survey respondents, to a greater or lesser degree. Nine respondents reveal that more than half of their workforce is involved in machinery/equipment operation, 10 respondents stated that less than half of the workforce is involved in this and one respondent cited that they don't know.

Reflecting this 18 agri-food business respondents are either highly automated (N=7) or semi-automated[iii] (N=11). The highly automated group can be further subdivided into those producing a wide variety of products (N=5) and those concentrating on a small number of different products (N=2). This bias towards a more diverse product range, necessitating an increased frequency of changeover in production, has skills implications in the areas of forecasting and plant maintenance. Only two respondents report that production largely by hand best describes the businesses' current approach to production (See figure 2 below). These findings indicate the importance of equipment operating and maintenance skills and knowledge for agri-food businesses in Greater Lincolnshire.

Figure 2 – Current level of automation / approach to production



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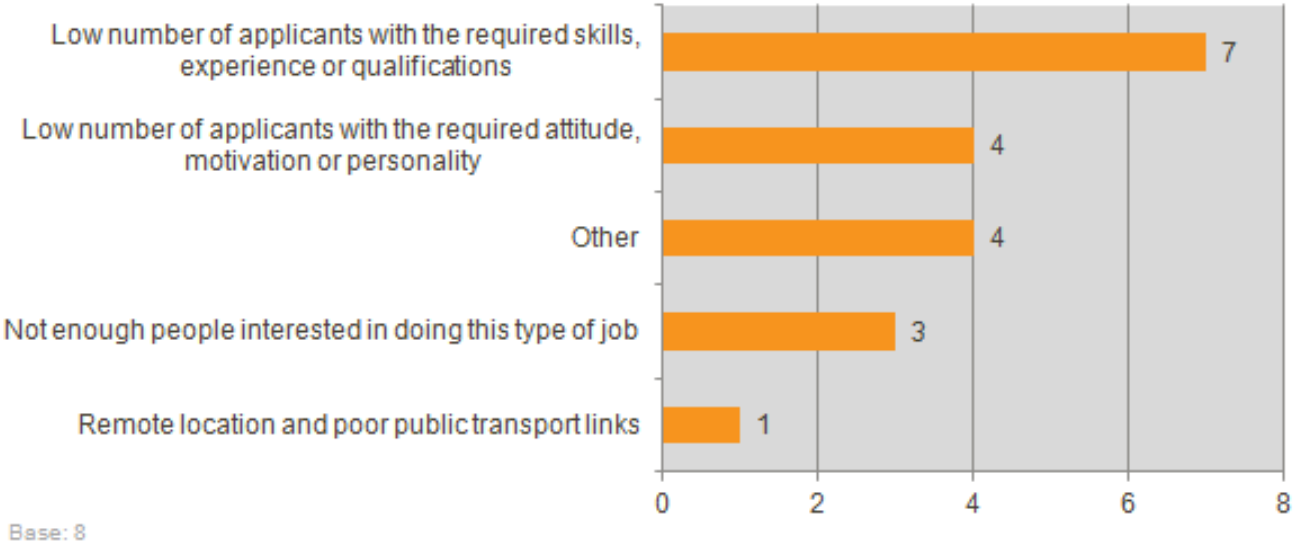
3.3 Recruitment

Eight of the 20 respondents (40%) reported experiencing recruitment difficulties in the previous 12 month period. Six of the eight respondents were from large companies employing 200 or more staff, and seven of the eight respondents worked for food processing companies.

Of these responses, the most frequently cited (N=7) reason for experiencing difficulties filling vacancies was a 'low number of applicants with the required skills, work experience, or qualifications'. A 'low number of applicants with the required attitude, motivation or personality' was reported by four respondents, and three cited 'not enough people interested in doing this type of job'. See figure 3 below for a full breakdown of views.

Figure 3 – Reasons for recruitment difficulties



One respondent (Food manufacturer with 200+ staff) highlighted experiencing difficulties recruiting for salaried roles, rather than those that are weekly paid and believed this was due to national shortages in some areas and a highly competitive market in other areas.

Survey respondents that considered a lack of skills, experience or qualifications to be a reason for recruitment difficulties were asked to indicate the roles which they have found difficult to fill and the type of skills that were lacking amongst applicants. Company owners, directors, senior managers, or managers were deemed to be lacking in strategic and operational management skills. The food scientist, technologist and product development job category was reported to be difficult to recruit into and skills lacking included 'job specific', 'technical', 'product development' and 'work readiness' skills. Farm workers or labourers were reported to be difficult to recruit due to a lack of job specific skills and operative roles were hard to fill due to a shortage of numeracy, literacy and work readiness skills.

To explore skills shortage vacancies in further detail, respondents were asked to list the top 3 job vacancies they have found difficult to fill over the previous 12 months (due to a lack of skills, experience or qualifications) and what specific skills were lacking amongst the applicants. These findings are presented in tables 4, 5 and 6, one for each job vacancy cited.

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Table 4 – Top skills shortage vacancies – job 1

Sector	Size of Company	Job Vacancy 1	Specific skills/experience/qualifications lacking
Fish Processing	200+ staff	Technical Manager	No answer
Growing of crops	11-49 staff	Highly skilled tractor driver	Many of the skilled drivers (in the industry rather than our specific business) are approaching retirement.
Bakery and other food	200+ staff	Development Technologist	No answer
Fruit & Vegetable processing	200+ staff	Senior Food Technologist	Customer awareness
Grain mill/starch products	50-199 staff	Shift Manager	Used to coordinating 3-4 people and therefore found it difficult when having to manage the 20-25 workers that we have
Other food processing	200+ staff	Product Development Manager	Experience in similar industry

Table 5 – Top skills shortage vacancies – job 2

Sector	Size of Company	Job Vacancy 2	Specific skills/experience/qualifications lacking
Fish Processing	200+ staff	Production Manager	Literacy and numeracy
Growing of crops	11-49 staff	~	~
Bakery and other food	200+ staff	Product Managers	No answer
Fruit & Vegetable processing	200+ staff	Junior Food Technologist	What may be involved in the job (meeting company expectations)
Grain mill/starch products	50-199 staff	Engineers	Mechanical and electrical skills to fix the machines
Other food processing	200+ staff	Senior Development Technologist	Experience in similar industry

Table 6 – Top skills shortage vacancies – job 3

Sector	Size of Company	Job Vacancy 3	Specific skills/experience/qualifications lacking
Fish Processing	200+ staff	Production Operative	Literacy and numeracy
Growing of crops	11-49 staff	~	~
Bakery and other food	200+ staff	Quality Managers	No answer
Fruit &	200+ staff	~	~

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Vegetable processing			
Grain mill/starch products	50-199 staff	Graduate Officer	Not enough graduates applying
Other food processing	200+ staff	Commercial Manager	Depth of knowledge

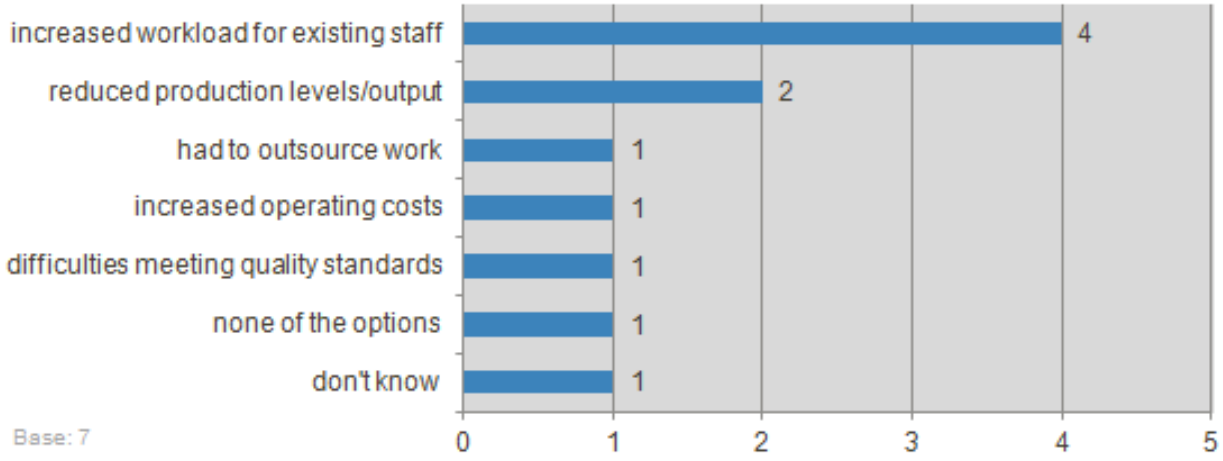
The grain mill and starches respondent went further to explain that they have struggled to find graduates that would stay with the company and progress. Reflecting findings in the literature review, the respondent goes on to suggest that "this is possibly due to the location of the business; it is fairly remote...also the salary is not the worst but also not the best. We are a small company and because of this, as a graduate, you can develop and progress fairly quickly – we possibly haven't advertised this point well enough".

A large fruit and vegetable processing company explained that their "business is in a low pay area. Work is available, however we cannot get the local workers willing to work because the way the system is. They would receive more money claiming benefits and this is what they choose to do".

The "recruitment of the high calibre people has been limited by location and lack of perceived career development" for one large fish processing business, reflecting the findings presented in the literature review.

Respondents (N=7) were invited to report the impacts recruitment difficulties (due to a lack of skills, qualifications or experience) have had on their business: four respondents cited an 'increased workload for existing staff' and two respondents reported 'reduced production levels/output' for the organisation. The full range of impacts is presented in figure 4 below.

Figure 4 – Business impacts as a result of recruitment difficulties



Positively, all companies that have experienced skills shortage vacancies have taken action to resolve these difficulties. The most common attempt to resolve recruitment difficulties was to 'use new recruitment methods or channels' (N=5), followed by 'increasing advertising or recruitment spend' and 'expanding trainee programmes' (N=3). Two respondents took action in the form of 'redefining existing jobs' and 'increasing the training given to existing staff'. Increasing salaries was only reported by one respondent.

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A respondent working for a grain mill and starch products company employing somewhere between 50 and 199 staff explained that “one graduate applied for a role that although we didn’t feel they had the skills for, we employed them and created a job role more suited to them and gave them on the job training. We also joined the MDS (Management Development Services) scheme, to try to attract more graduates.”

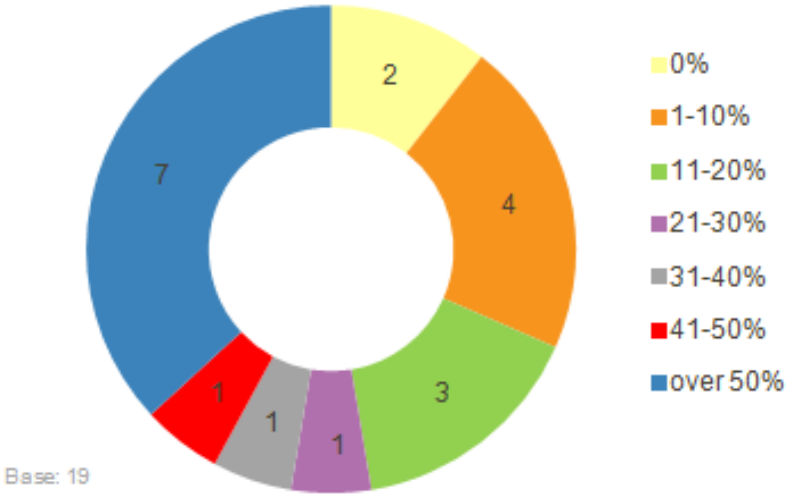
Another respondent in the agricultural sector (11-49 staff) stated that they have “employed a high quality school/college leaver. The son of an existing employee.” This demonstrates the value or word of mouth and family connections in rural areas such as Greater Lincolnshire.

3.4 Migrant workers

Of those respondents who could estimate the share of the workforce that were migrant workers (N=19) the vast majority (N=17) confirmed the use of migrant workers. Only two respondents indicated that their workforce was not made up of any migrant workers.

More than a third (N=7) of Greater Lincolnshire agri-food respondents reported that more than half of their workforce were migrants. A further four respondents revealed that between 1-10% of the workforce were migrant workers, three respondents stated that migrant workers accounted for 11-20% of the workforce and three reported migrant workers make up between 21 and 50% of those employed by the company (see figure 5 below). These findings emphasise the significance of migrant workers to agri-food businesses in Greater Lincolnshire.

Figure 5 – % of workforce that are migrant workers



Half of respondents (N=9) considered the ‘unwillingness of the local labour force to perform the roles required’ to be the main reason for employing migrant workers. Seven respondents reported the ‘lack of local labour available’ to be a key reason and six respondents believed a principal reason for employing migrant workers was simply that ‘these are the roles that migrants apply for’. Figure 6 presents the full results:

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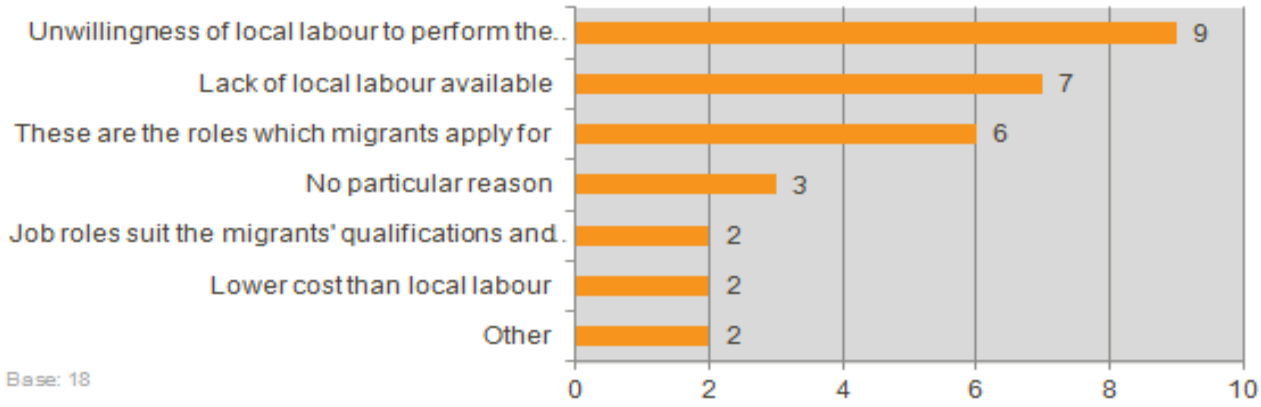
Figure 6 – Reasons for employing migrant workers



One respondent (Growing of crops, fruit or vegetables; 11-49 staff) went so far as to say that whilst they "employ 11 staff regularly, the casual seasonal labour is some 90% migrant". 55% of this respondent's annual labour expenditure was dedicated to casual labour alone: "total casual labour expenditure is approximately £300,000 from a total of £550,000." This highlights the supplementary, seasonal nature of non-UK national employment within some agri-food businesses.

A large crop production business explained that speaking English is an extensive requirement of immigration and that a "greater provision of ESOL and quality training" is needed. The respondent went on to report that "a number of training providers (i.e. NVQ based) have offered subsidised training and no real benefit - often it's a paper exercise in order to extract government funding. Wastes commercial time and it is frustrating".

3.5 Workforce skills gaps

A total of four out of 20 respondents (21.1%) reported skills deficiencies amongst their current workforce. The production or semi-skilled functional area was the most commonly reported function with skills gaps. The skills that were reported to be lacking and in need of improving were:

- literacy
- numeracy
- oral communication
- language
- written
- technical
- job-specific

The technical and professional function was also an area reported to have skills gaps and skills in short supply were reported to be:

- strategic management
- operational management
- IT
- team working

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The management function was reported to have the following skills in short supply:

- strategic management
- team working
- writing

The supply chain function was also an area reported to have skills gaps and skills lacking included:

- literacy
- numeracy
- team working

Employees working within the skilled craft functional area had the following skills in short supply:

- numeracy
- work readiness
- the right attitude

Respondents reported the following skills to be lacking within the commercial functional area:

- strategic management
- team working

To explore workforce skills gaps in further detail, respondents were asked to list the top 3 job roles where staff are not fully proficient and describe the specific skills deficiencies. These findings are presented in three tables, one for each job role cited (see tables 7-9 below). Communication skills are a clear skills gap within the production operative function: whether this is literacy, numeracy, English language understanding, writing or speaking. Similarly, one respondent highlights a deficiency in communication skills within their Quality Control staff. People management skills are also reported for Production Management, specifically staff motivational skills.

Table 7 – Top skills gaps – job role 1

Sector	Size of Company	Job Role 1	Specific skills lacking
Fish processing	200+ staff	Production Management	Staff motivational skills
Fruit & Veg processing	200+ staff	Multi skilled operatives	English language - understanding
Fish processing	200+ staff	Team leaders	Literacy and numeracy - filling in reports, KPI tracking

Table 8 – Top skills gaps – job role 2

Sector	Size of Company	Job Role 2	Specific skills lacking
Fish processing	200+ staff	Quality Control	Communication skills
Fruit & Veg processing	200+ staff	Machine Operators	English language - speaking
Fish processing	200+ staff	Machine Operators	Literacy and numeracy – KPI tracking

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Table 9 – Top skills gaps – job role 3

Sector	Size of Company	Job Role 3	Specific skills lacking
Fish processing	200+ staff	Operatives	Initiative
Fruit & Veg processing	200+ staff	Line leaders	English language - writing
Fish processing	200+ staff	Production operators	Literacy and numeracy – understanding instructions

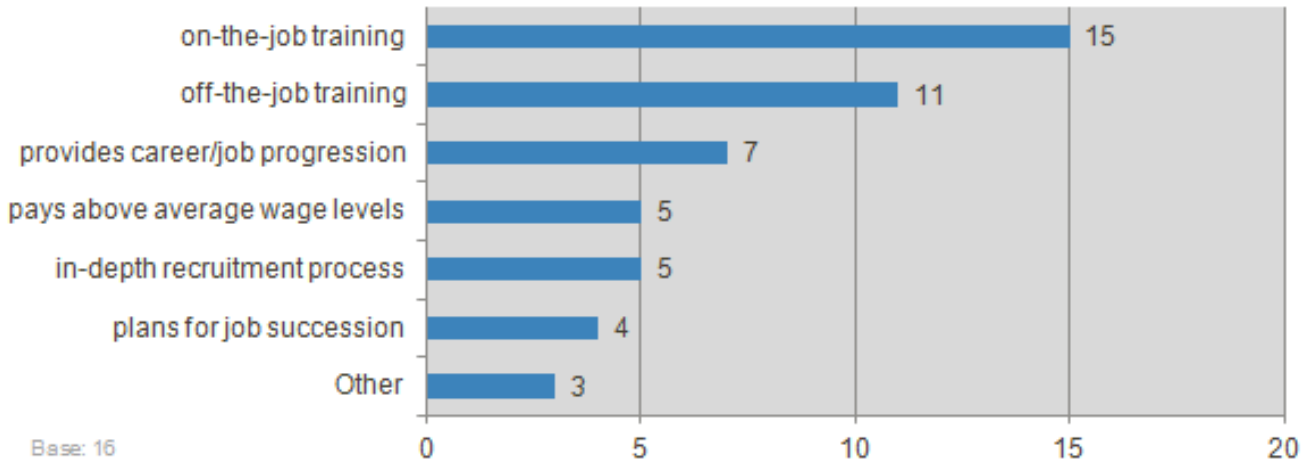
Respondents (N=4) were asked to give details of any impacts skills deficiencies have had on the business. Three of the four respondents (75%) reported 'increased operating costs', two respondents cited both 'reduced production levels/output' and 'increased workload for other staff', and a further one respondent stated that they had experienced 'difficulties meeting quality standards'.

Of the four respondents citing skills deficiencies all reported that the business had taken action to resolve their workforce skills deficiencies: three stated that their company had 'increased training activity' to meet the skills gap, one respondent reported that they decided to 'recruit new staff' and one respondent described how their company had "previously thrown extra people [at the problem] but now progressing through training and mentoring and setting clear objectives."

3.6 Addressing skills issues

Respondents that did not report any workforce skills deficiencies (N=16) were asked to provide an insight into what their organisation does to ensure it has the right skills. The results are presented in figure 7 below. The most common activity to ensure the workforce has the right skills is training: on-the-job training is reported by 15 respondents and off-the job training by 11 respondents. The ability to provide career progression is considered important (N=7), so too is an in-depth recruitment process and paying above average wage levels (both N=5). Planning for job succession is reported by four respondents.

Figure 7 – How the organisation ensures it has the right skills



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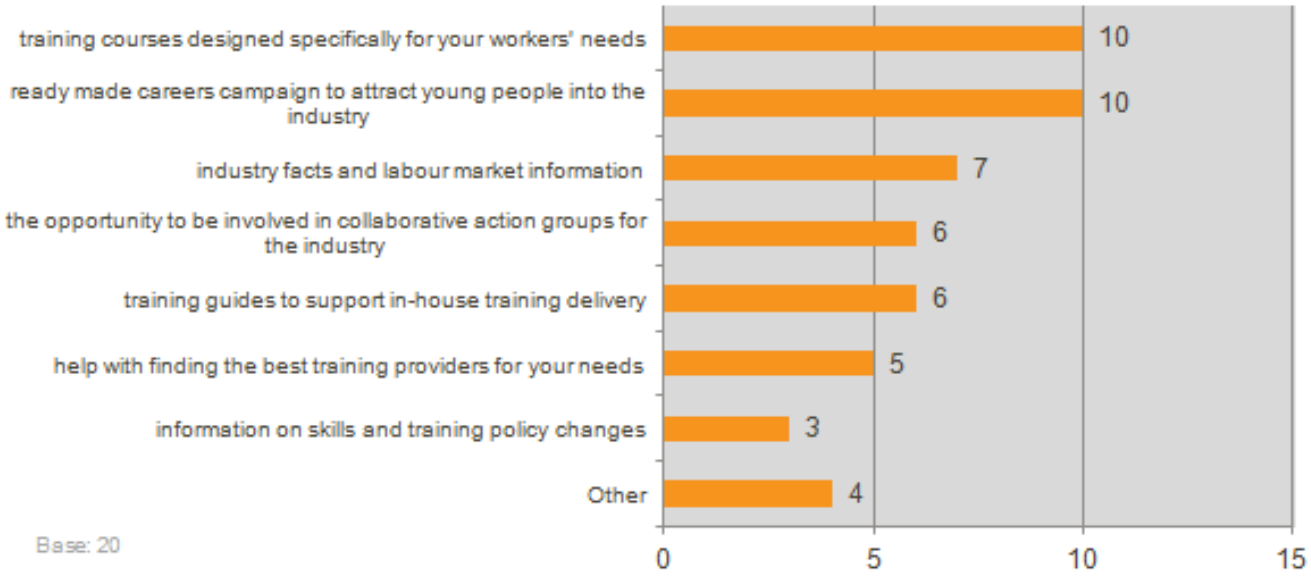
All survey respondents (N=20) were asked to indicate what key areas of external support would assist their businesses in addressing any current or future skills issues which may arise. Half of respondents (N=10) reported that 'a ready-made careers campaign to attract young people into the industry' and 'training courses designed specifically for your workers' needs' would assist them. More than a third (N=7) of responses revealed an interest in 'industry facts and labour market information' and six respondents cited 'training guides to support in-house training delivery' and 'the opportunity to be involved in collaborative action' (see figure 8 below).

Figure 8 – Key areas of external support which would assist the business



One respondent who selected 'Other' stated that they "find it time consuming employing workers who are under 18 as there is too much paperwork in terms of health and safety requirements etc - less regulations would make this easier to take on young people and for them to stay in the business, complete further courses/training and progress".

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4 Conclusions and Next Steps

4.1 Conclusions

Agri-food is a key sector in the Greater Lincolnshire LEP area; made up of 4,300 businesses (11% of all business units) which together employ more than 17,000 workers. The vast majority of these businesses are operating within the agricultural industry (95%) rather than the food processing subsectors (4%), are micro in size, and are mostly located in the larger non-metropolitan county of Lincolnshire.

The workforce is mainly male, full-time and of a White ethnic origin. Self-employment accounts for more than a third of those employed in the agricultural workforce which is a considerably larger share than that seen in the food processing industries.

Non-UK migrant workers are vital to the industry and its workforce (17/19 respondents employ them and 7/19 respondents confirming that more than half of their workforce are migrants) because they fill the labour gaps caused by the unwillingness of local labour to perform the roles required and a lack of local labour generally.

Automation and the operation of machinery and equipment is a key characteristic of agri-food businesses in Greater Lincolnshire, indicating the importance of skills and knowledge for equipment operation, maintenance and production forecasting. This findings mirror those of a recent study in the South West of England (LSIS, 2011) which reported that two thirds of FDMP businesses were automated and that automation led to perceived increases in efficiency and productivity.

Recruitment issues are reported to be more of a concern for agri-food respondents than workforce skills gaps. Recruitment difficulties are reported to be primarily due to a shortage of skills, qualifications or experience in applicants and were reported in managerial (experience, people management, literacy/numeracy skills), food science/product development (technical, experience, customer awareness skills), farm worker (job-specific skills) and operative (literacy/numeracy/work-readiness) roles. The shortage of skilled and experienced applicants in these areas was attributed to the remote location, a low pay area discouraging locals to move away from claiming benefits and a lack of perceived career development amongst potential applicants.

Respondents did consider recruitment difficulties resulting from skills shortages to have had an impact on business: an increased workload for other staff, and reduced production levels were the most commonly reported impacts on businesses. The most frequent attempt to resolve recruitment issues was to use new recruitment methods and increasing spend on advertising and recruitment. The value of word of mouth and family connections was also emphasised.

Workforce skills gaps are not a major problem for Greater Lincolnshire agri-food employers responding to this survey: just four out of 20 respondents reported skills gaps. Despite this there is some evidence of skills deficiencies within the production/semi-skilled functional area (particularly communication skills) and strategic and people management skills alongside team working skills are cited within other functional areas. Again, the impact of skills deficiencies on business is reported including increased operating costs and workload for existing staff and a reduced production output.

There is consistency amongst participant companies in relation to their approach in addressing skills gaps or in ensuring they have the ‘right skills’: training activity (and an increase in training activity) was the most common approach, together with the ability to provide career progression and plan for job succession.

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The number of people employed in the Lincolnshire agri-food sector is expected to decrease between 2006 and 2020 however despite this, projections indicate a growth in demand for skills and suggests the importance of increasing the skills and qualification levels of the Lincolnshire population.

The following is a summary of the main issues highlighted in the literature together with the findings of the primary research.

- an over reliance of migrant workers into the industry;
- a shortage of Food Scientists and Technologists and Food Engineers;
- a lack of managerial skills and literacy/numeracy/work-readiness skills;
- skills gaps amongst the existing workforce, most commonly technical and job specific, communication skills within the production/semi-skilled functional area, leadership and management skills and problem solving skills;
- increasing levels of automation is a characteristic of the agri-food industry;
- the location of Greater Lincolnshire and its rural characteristics can make it difficult to attract and recruit for higher skilled positions; and
- the growth in the demand for skills and the need to continuously recruit new entrants due to growth and the need to replace those leaving the industry workforce.

4.2 Next steps

In the context of widely documented skills need in the industry as recognised in the Skills Action Plan for the Food Supply Chain (Jassi, 2011) the primary research consulted with respondents about a range of areas where potential support would benefit their businesses. The areas identified by respondents corroborates national research findings and should the GLLEP want to assist agri-food businesses in the provision of external support services in the future, it is recommended that those with the highest level of interest be considered first (refer to Figure 8), as follows:

- A ready-made careers campaign to attract young people into the industry
- Training courses designed specifically for your workers' needs
- Industry facts and labour market information

There are a range of areas that the research team has identified for further research, which would help to build on existing knowledge and better understand the agri-food sector in the Greater Lincolnshire area:

- Exploratory research about what types of technologies are being utilised by food production businesses would help build an understanding about the widely documented under-utilisation to emerging technologies in the UK that are set to change the face of the industry. A recent report (Stanford, 2011) reviewing emerging, experimental and future technological innovation demonstrates the benefits of investment in new technology and assesses the impact on future skills requirements. The lack of investment in these technological innovations which are in widespread use outside of the UK is a barrier to growth for agri-food businesses.
- A research study to examine automation and use of technology within the agri-food industry - exploring how training provision might be developed to encourage and support a greater uptake of new technology.

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- Detailed qualitative research with a small sample of agri-food businesses using a case study approach to examine skills levels in relation to the approaches adopted for production. This research would also ascertain whether the workforce is ready for more advanced methods. Whilst the primary research reported in this research did not highlight a high incidence of skills gaps, the research team suspect it is because businesses are often unaware of what could be improved upon and on which issues may be hampering growth.

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Appendix 1: Methodology

Approach

To ensure that the research objectives are fulfilled, Improve has used a mixed methodology. Such an approach has ensured that all relevant studies are not replicated and enabled triangulation of the research results. A distinction has been made between the agricultural workforce and the food and drink manufacturing and processing workforce wherever possible as the sectors have been treated separately in many studies and for data collection purposes.

Literature Review

A review and analysis of literature about the agri-food industry in Greater Lincolnshire has been undertaken to ensure that the subsequent primary research was based on a sound understanding of the industry. Aims included:

- providing a clear picture of the context in which the study was being undertaken; and
- ensuring that the primary research built on, and took into account, research already conducted and avoids duplication.

To undertake this task, a wide range of research sources were used including reports, academic publications and national datasets (see chapter 6, bibliography). It should be noted that the geographic boundary of GLLEP is not consistent with former studies, however many of them offer useful insights about the agri-food industry, at least in parts of Lincolnshire and the surrounding hinterland.

Secondary Data Analysis

In addition to the literature review, data extraction and analysis from relevant official national datasets has been conducted to provide key statistics about the sector and its workforce demographics. These statistics provide vital information to the research project and have informed the primary research phase. Please see the summary of datasets below:

- The Inter-Departmental Business Register (IDBR) 2011 which is managed by the Office for National Statistics and provides a 99 per cent coverage of all UK business activity. It covers businesses in all parts of the economy, except some very small businesses (self-employed, those without employees and low turnover) and some non-profit making organisations. The employment estimate provided by this dataset does not include temporary workers employed by employment agencies and working within agri-food businesses.
- The Labour Force Survey (LFS) 4 quarter average for 2010. The LFS is a quarterly sample survey of households living at private addresses in the United Kingdom. Its purpose is to provide information on the UK labour market that can then be used to develop, manage, evaluate and report on labour market policies. It is conducted by the Office for National Statistics.

Online Survey

An online survey of 20 agri-food employers based in the GLLEP area (North East Lincolnshire, North Lincolnshire, and Lincolnshire) has been designed and administered by Improve Ltd and conducted between the 28 March and the 20 April 2012. Follow-up telephone interviewing was carried out in the latter stages to ensure the required number of interviews were completed in the

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timescales set. The online survey questionnaire was semi-structured, consisting of both open-ended as well as closed questions and took respondents no longer than 15 minutes to complete.

The definition of the agri-food sector was agreed at the outset and is based on the following Standard Industrial Classification (SIC) codes:

- 01.1 Growing of non-perennial crops
- 01.2 Growing of perennial crops
- 01.4 Animal Production
- 01.5 Mixed Farming
- 01.6 Support activities to agriculture
- 03.1 Fishing
- 03.2 Aquaculture
- 10.1 Processing and preserving of meat and production of meat products
- 10.2 Processing and preserving of fish, molluscs and crustaceans
- 10.3 Processing and preserving of fruit and vegetables
- 10.4 Manufacture of oils and fats
- 10.5 Manufacture of dairy products
- 10.6 Manufacture of grain mill products and starches
- 10.7 Manufacture of bakery products
- 10.8 Manufacture of other food products
- 10.9 Manufacture of prepared animal feeds
- 11.0 Manufacture of beverages

Businesses predominantly involved in food packaging or warehousing are not included within this report and these business activities fall under different SIC codes to those listed above.

Business contact details were supplied by Improve's business contact listings, and supplemented by Marketscan data, particularly to ensure representation of both agricultural and food manufacturing businesses.

The aim was to achieve a broad representation of agri-food sub-sectors, and an over-representation of medium and large companies as it was considered that these companies employ the majority of the workforce. This is particularly because it would provide a more comprehensive view of recruitment and skills issues than micro and small businesses.

Methodological Limitations

The primary research element of this project was an online questionnaire based survey and as with all research methods there are limitations. Results are based on a small sample (20 responses), and therefore are *not* statistically representative of the population of agri-food businesses in the GLLEP area. The primary research findings reported should be treated as indicative and this should be borne in mind when reading the report.

The small scale of this survey, and due to the survey being hosted online means that quotas or targets on responses by sectors, Greater Lincolnshire areas, and company size-bands could not be set.

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Appendix 2: Respondent Profile

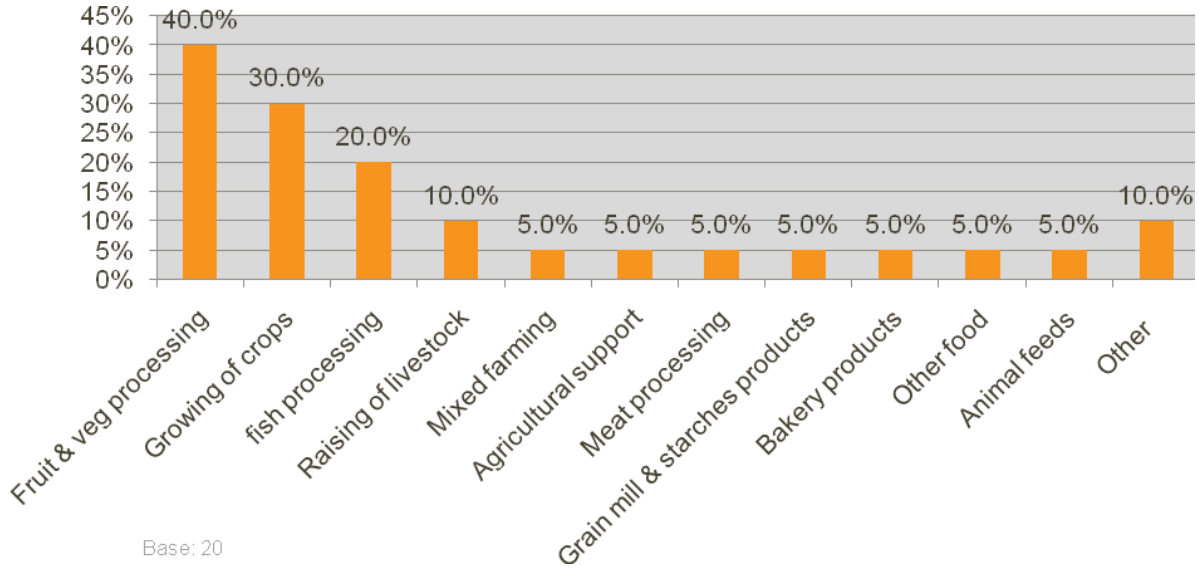
Business profile

The online survey aimed to and went on to successfully achieve responses from 20 agri-food business units. The vast majority of businesses (80%) were located in the larger geographic area of Lincolnshire county, 15% of business sites were situated in North East Lincolnshire unitary authority and 5% in North Lincolnshire unitary authority.

Survey respondents were most likely to be representing large business sites with 200 employees or more (65%). 15% of respondents worked for businesses with 50-199 employees and 20% with companies employing 11-49 staff.

More than two thirds of respondents (70%) stated that the main business activity of their organisation was the manufacture and processing of food products and 30% reported the main business activity to be agriculture. In addition respondents were asked to indicate which agri-food activities their company was involved in (which could be more than one activity): respondents were most likely to be involved in the processing of fruit and vegetables (40%), the growing of crops, fruit or vegetables (30%), or the processing of fish, crustaceans or molluscs (20%). The figure below shows a breakdown of the agri-food activities respondent organisations were involved in.

Figure A – Agri-food business activity involvement



The sector profile of respondents presents a notable over-representation of food manufacturing and processing businesses compared with the Greater Lincolnshire agri-food business population (see section 3.2.1). However, a focus on the achievement of responses from primarily medium and large companies has generated this profile.

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Endnotes

[i] ONS (2010) mid-year population estimates. In Greater Lincolnshire Labour Market Report, Nomis 2012.
[ii] data for the remaining LEP areas has been suppressed by the data source to avoid disclosure
[iii] Semi automated batch production capable of producing a wide variety of products

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