ABL Vol 39 No 1 2013 pp. 64-87

Akubras to Hard Hats: Easing Skill Shortages through Labour Harmonisation Strategies

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Abstract

This article examines skill and labour shortages within rural agricultural industries in Western Australia. It draws on primary and secondary data, including 600 survey respondents in the sector. It is determined that there may be a shortage of farm workers during the busy seasons, while they are unemployed during the low seasons. Consequently, it is proposed that a human capability framework is utilised to encourage farm owners and (or) workers to consider the potential for labour-harmonisation strategies which would allow workers to transit between working on the land during the busy seasons and in mining during the low seasons. The outcomes of the study are considered in relation to indicators of precarious work illustrating that LH could enable an easing of labour shortages for both the farming and mining sectors, while providing benefits for the respective workers, employers, and the region in general.

1. Problems with Labour and Skill Shortage Definitions and Measurement

This article reports on a study that was commissioned in 2008 by the Western Australian Primary Industry Training Council (WAPITC) in order to determine first, whether a skill shortage existed and second, if so, the extent of the skill shortages within rural agriculture-based industries in the region. The rationale for the study was based on reports from WAPITC members that labour shortages were affecting the productivity of the sector. Conversely, some government reports suggested that a shortage did not exist and there was not expected to be an increase in demand for workers in the agriculture sector (DEWR 2006).

Part of the problem concerning skills in the sector has been a lack of accurate and detailed information relevant to agriculture and related sectors. For example the Bureau of Transport and Regional Economics (BTRE 2006) identified that there was no comprehensive data referring to the geographic distribution of skill shortages in the sector, as relevant research had not

been conducted examining the potential existence or extent of shortages, the geographical distribution in regional Western Australia, nor the impact this was likely to have (BTRE 2006). Moreover, discussions held with the Australian Council of Agricultural Deans indicated that the agricultural industry classification contained in the Australian and New Zealand Standard Industrial Classification (ANZSIC) excludes services to agriculture (ABS 2012c). In addition, farmers in rural areas have been outsourcing higher-skilled jobs such as financial, agronomic, and market advisors with increasing regularity to offsite farm-service providers and this pattern has not been recognised in the statistics collected. For example in a report to the Australian Council of Agricultural Deans, Pratley and Hay (2010) analysed job advertisements and estimated that for every three jobs located on a farm, there were two jobs that could be outsourced to off-farm service providers. Such estimates indicate that the demand for jobs in the sector has been substantially underestimated in existing calculations.

Further issues relate to the definitions of skill and labour shortages. Trendle (2008) maintains that skill and labour shortages have no universally agreed definitions, although the terms are sometimes used to refer to a shortfall in the number of individuals in the labour force, and sometimes to a possible mismatch between workers and jobs in the economy. Shah and Burke (2005, p. 44) propose that 'the concept of a skills shortage has different meanings to different people' and the lack of a common understanding of the concept often obscures analyses of problems, their causes, and possible solutions. The OECD (2003) uses the term labour shortage, specifying that labour shortages are not easy to define or measure, whereas the definition of a skill shortage provided by DEWR (2006, p. 39) refers to:

> situations where employers are unable to fill or have considerable difficulty filling vacancies for an occupation at current levels of remuneration and conditions of employment and reasonably accessible locations.

Shah and Burke (2005) point out that skill shortages can have an impact on the economy, resulting in underutilisation of capacity and reduced production. In turn, the response of employers is usually to raise wages, which means that, during times of shortage, 'the existing supply of workers circulates more quickly between employers, thus making retention more difficult and the employees involved less productive' (p. 47). For example, a recent Hay Group survey found that the resources boom has raised salaries in regional Western Australia by almost 17 per cent above the market average, with some premium jobs in mining, and oil and gas commanding salaries at 35.5 per cent above the market average—up from 26.6 per cent in 2011 (Ooi 2012).

Reported shortages in the agriculture and related industry sectors interact with both labour shortages, where people are required to undertake unskilled and semi-skilled work. There are also skill shortages relating to jobs that require accredited training and qualifications. Given the broad intentions of this study, labour shortages, skilled, unskilled, and semi-skilled requirements are all given consideration. However, the confounding nature of skill and (or) labour-shortage definitions has meant that, to date, there has been a dearth of transparent data available on the topic, combined with problems of measurement which will be discussed in the next section of the article.

When undertaking the study, the first research objective was to identify whether a labour shortage existed in the sector. Second, if there was found to be a shortage, the intention was to identify the nature of the skill and (or) labour shortage, the reasons for it, and what could be done to deal with it. Specifically, the research questions were as follows:

1. Does a labour shortage exist in the agricultural sector?
2. If a shortage were found to exist, then:

   What was the extent of the shortage of skilled and unskilled labour in grains, sheep, equine, farm input supply, agricultural mechanics, and rural transport industries?

   What were the reasons for the shortage of skilled and unskilled labour?

   What impact was the labour shortage having on the industries/sector?

   What could be done to deal with the labour shortage problem?

The next section of the article draws on secondary data and the research literature to outline the relevant issues related to labour and skill shortages in the agricultural and related industry sectors in consideration of measurement factors to do with the seasonal nature of work, casual labour, and outsourcing. Next, we return to the title of the study asking: why Akubras to hard hats? A human capability framework is proposed in order to encourage farm owners and workers to consider the potential for labour harmonisation (LH) strategies which would allow employees to transit between working on farms during the busy seasons, then working in mining when their labour is not required on the farms. Subsequently, the method and sample utilised for the study is discussed followed by the findings, conclusions, and implications for further research.

2. Labour Skill Issues in Agriculture and Related Industry Sectors

Government expectations of changes in labour demand have been contradictory to other reports, such as surveys conducted by Westpac and the National Australia Bank where evidence showed that the agricultural sector had experienced labour shortages since 2002 (CCIWA 2007). In 2005, it was reported that over 20 per cent of firms in the sector were finding it more difficult to recruit labour than three months prior, and over half indicated that the availability of suitable labour was a constraint on productivity (CCIWA 2007). Similarly, a national survey conducted by the Kondinin group in 2004 indicated that 65 per cent of growers found that sourcing both permanent and casual farm workers was difficult (Nugent 2005). Hence, it is observed that government statistics indicated that there was not a shortage of skilled labour in the past, primarily because the industry has not been as competitive in attracting labour as other sectors such as mining.

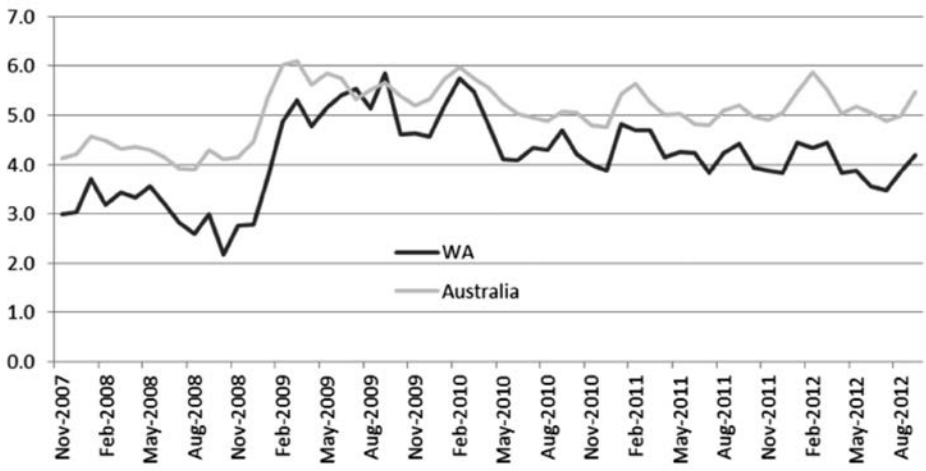
Shah and Burke (2005) suggest that occupational unemployment rates can provide indications of skills imbalances, with a high rate indicating a surplus and a low rate a shortage. However, they caution that it is also possible that the number of unemployed workers may under-represent the supply with, for example, a person being qualified to work in one occupation but temporarily employed in another so that they are not counted among the unemployed. When unemployment rates are considered as indicators for the sector, ABS statistics show that the rate for Australia was 4.4 per cent in September 2007 and 3.2 per cent for Western Australia, while unemployment in some rural areas was as low as 1 to 2 per cent. Unemployment levels in the regional wheat belt areas of rural Western Australia have traditionally been half to two-thirds lower than the rest of the state (Wheat Belt Development Commission 2006) in common with those found in other Australian rural areas (DAFF 2008). Indeed, low unemployment in rural areas has been apparent for almost a decade, although across Australia figures were close to 6 per cent in early 2009 following the global financial crisis, dropping to approximately 4 per cent in Western Australia and 5 per cent more recently (see Figure 1, ABS 2012a; 2012b).

The agriculture forestry and fishing sector accounted for 11 per cent of businesses in Australia as a whole in 2006 (Wheat Belt Department Commission 2006; Tonts and Haslan-McKenzie 2008). Notably, figures were not collected by the Department of Employment and Workplace Relations (DEWR) regarding the extent of employment in this sector.

The most detailed information available on skills was produced by the DEWR *Skills in Demand* list based on surveyed businesses that advertised vacancies, in combination with labour market and economic indicators.

The DEWR Skilled Vacancies Index (DEWR 2006) specified that there was no significant change in the number of advertised vacancies since the mid-nineties, and more recently Skills Info (DEEWR 2012) noted that employment had dropped 9 per cent over a five-year period to August 2011 in the sheep, beef cattle, and grain-farming industries with more part-time workers being employed in the sector.

Figure 1: Unemployment Rates Western Australia and Australia



Source: Australian Bureau of Statistics (2012a and 2012b)

Since the data for this study ~~were~~ collected, the difficulties of identifying labour and skills shortages in the agriculture and related industries (agribusiness or agrifood industry) have been acknowledged. AgriFood Skills Australia (2012, p. 35) stated that 'attempting to identify need based purely on quantitative data is an unreliable and potentially misleading exercise'. AgriFood Skills Australia has recognised the difficulty in calculations with seasonal and contract work, informal labour-hire practices, and cross-industry employment patterns and, as a result, recent analysis has been informed more by surveys similar to that used in this research. Specifically, AgriFood Skills Australia (2012) found labour shortages for the following areas: agricultural and horticulture mobile operators, agricultural technicians and consultants, agronomists, animal technicians, conservation officers, crop farm workers, environmental scientists, farm managers, horticulturalists, mixed crop and livestock farmers, shearers and wool handlers, and veterinary nurses. Conversely, when DEEWR (2012) produced the Skills Info Report, they considered skilled occupations requiring three years post-secondary

qualifications and only found shortages in the agricultural technician and agricultural scientist or consultant occupations.

However, the DEEWR (2012) findings have not been replicated in other areas of government. The only occupations on the skilled occupation list for 2012 (Department of Immigration and Citizenship 2012) in the sector include: agricultural engineer, agricultural consultant, agricultural scientist, and forester. These occupations require high levels of training that the National Farmers Federation and AgriFood Skills Australia (2011) bodies suggest do not reflect the need to deal with the acute skill and labour shortages affecting rural areas more generally where both skilled and unskilled or semi-skilled labour is needed. Consequently, the next section probes these issues further before making suggestions towards a strategy that may assist with easing labour and (or) skill shortages in the sector.

3. Why Akubras to Hard Hats?

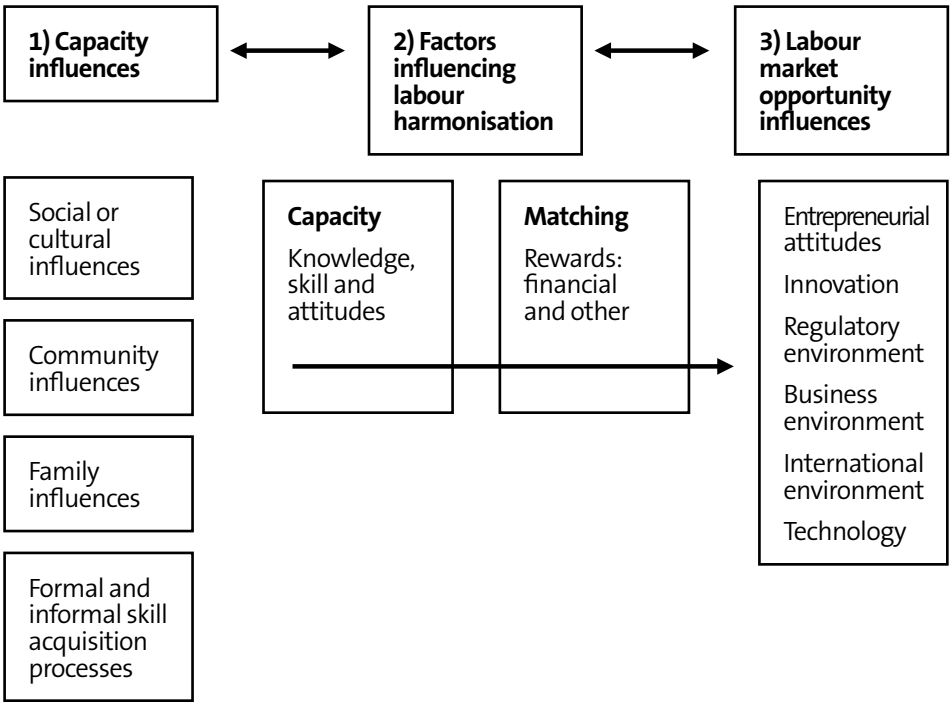
A complication concerning the issue of skill shortages in crop farming and agriculture, particularly in Western Australia, is that it is generally not a year-round problem. For example during planting and harvesting seasons, crop farmers rarely have days off and are likely to require additional labour to assist. For the remainder of the year, farmers could sell their crops, spray weeds and pests, manage animals, fix machinery, and plan for the next year or, alternatively, they could outsource these aspects and undertake other work themselves. The latter strategy would then allow for the utilisation of LH initiatives. If LH initiatives were to be integrated within a human capability framework (HCF) (New Zealand Department of Labour 1999), agricultural workers could then use their capacity in the labour market to seek out opportunities in the mining sector.

The HCF was first introduced by the New Zealand Department of Labour in 1999. In a related sector, Lowry and Elkin (2010) use the HCF to analyse the shortage of dairy assistants in the New Zealand dairy industry. Earlier, Tipples (2004) maintained that the HCF was an important research model to guide a range of different government employment and social-policy initiatives. Lowry and Elkin (2010) cite a number of sources which indicate that the HCF moves beyond human capital ideas, providing a more open, holistic, and realistic model for research. The HCF comprises three main elements: capacity, matching, and opportunities. Tipples (2002) defined capacity as being related to the knowledge, skills, and attitudes that people have to bring to the labour market; opportunities as the alternatives available to people to enable them to profit from their capacity; and matching processes as the linking of their capacity to opportunities available in the labour market.

Figure 2: Human Capability Frameworks Components

Source: New Zealand Department of Labour (1999. p. 4)

Figure 3: Elements of the Human Capability Framework, Slightly Adapted for Labour Harmonisation



Source: New Zealand Department of Labour (1999)

Figure 2 outlines a simple model of the HCF processes and Figure 3 is a more detailed illustration of the various processes that have been adapted from the New Zealand Department of Labour (1999) framework. The New Zealand government proposes the framework as a way of considering the skills and abilities of the population with regard to how they can be effectively used to generate income and promote a thriving community and economy (New Zealand Department of Labour 1999). In the next section, the three elements of the HCF—capacity, opportunity, and the process by which they are matched—are considered in turn with regard to how the HCF may be associated with labour movement from agriculture to mining.

Element 1—Capacity influences: The capacity element in the HCF refers to peoples' skills, knowledge, and attitudes, including their ability to do something such as undertake manual labour. The framework suggests that such abilities are both innate and learned, with learning taking place in a variety of situations both at home and in formal learning environments. However, changes in farming families in particular have meant that, although many farm skills are likely to be learned at home or on-the-job, the children and wives of farmers are likely to seek careers away from home resulting in a lack of skilled labour (Alston 2004; Lowry and Elkin 2010).

Element 2—Factors influencing labour harmonisation (capacity matching): Referring to element 2, Figure 3, according to the New Zealand Department of Labour (1999) capacity matching refers to places where people can utilise their capacity to generate income and other rewards with the opportunities that are available, given the influences of entrepreneurial attitudes, innovation, the international environment, technology, the business and regulatory environments, finance and capital, and consumer preferences.

Matching capacity with opportunities: All of the processes involve connecting abilities with opportunities. The types and level of opportunities may be constrained by the capacity of workers to undertake work in other sectors. This may be due to a lack of training and skills, as a number of studies indicate that casual employees have fewer opportunities to participate in skills training and professional development than permanent, ongoing employees (Connell and Burgess 2002). This could be a major drawback for the proposed LH strategy; specifically, where will agricultural workers gain the training and skills required to work in the mining sector? While agricultural workers do have skills advantageous in the mining sector, they are learned on-the-job without formally accredited qualifications, for example using large machinery, or working in remote regions and independently to resolve issues that arise.

Element 3—Labour market opportunity and influences: The labour market opportunity element of the HCF includes the economic and political changes in the environment and how they have an impact on the way in which farmers manage their businesses. Lack of protection from outside forces, and the loss of subsidies and tariffs have all meant that farmers now have to consider their farms as a business rather than a way of life. Alston (2004) maintains that globalisation, market restructuring, deregulation, and commodity fluctuations have had major impacts on incomes in the Australian agricultural sector. Further, she argues that these factors, combined with increased use of technology to replace labour, have resulted in a significant decline in the number of farm families working in agriculture. Of those that remain in the

agricultural sector, many seek alternative sources of income. Figures from 1997 indicated that approximately 50 per cent of farm families in Australia rely on off-farm income to ensure that their families stay in farming (Society of St Vincent de Paul 1998). The Australian Productivity Commission (2005) found increasingly that families were relying on off-farm wages and salaries (45 per cent in 2002–03 up from 30 per cent in 1989–90). Moreover, a large proportion of off-farm income (average 65 per cent) is derived from off-farm wages, investments, and government social support). Given these conditions, it is not surprising that Alston (2004) further points out that workplace reform has led to eroded conditions for many rural workers, with employment becoming precarious due to a rise in 'casualisation' and less-secure working conditions (Connell and Burgess 2006).

McGann (2012) stated that close to a third of workers overall in Australia are now employed as casuals or as independent contractors. Turning to the agriculture sector, the Australian Productivity Commission (2005) reported that in 2001 agriculture had a high proportion of self-identified casual employees (19 per cent), similar to the service sector (21 per cent) and significantly higher than in mining (8 per cent). They maintain that casual employment in the sector was due to seasonal work, multiple employers across several industries, demand for workforce flexibility, and changing labour supply demographics. The Australian Productivity Commission (2005) also reported that, in 2002–03, nearly half of the workforce in agriculture was self-employed (47 per cent).

4. Method

In this section, the methodology that was used to deal with the research questions posed earlier in the article is outlined.

The study involved a sequential, mixed methodology with each stage informing the next. The first stage of the study involved conducting secondary data searches on the topic sourced from existing literature, including past reports and studies. For the second stage, the results of the data searches were investigated further through in-depth interviews with 19 industry employers and industry experts. In addition, three focus groups comprising 22 workers in all were drawn from each of the industries (grains, sheep, equine, farm input supply, agricultural mechanics, and rural transport). In the third and final stage, the results of the interviews and focus groups informed the design of a structured questionnaire ~~to use~~ to discover whether the interview and focus group findings were generalised more widely. The survey questionnaire comprised 20 sets of questions, and was developed using a Likert scale of 1 'strongly agree' (or 'not at all important') to 7 'strongly

disagree' (or 'very important'). A total of 632 surveys were collected during April and May 2008 at field days and other events that took place throughout the agricultural region of Western Australia. The face-to-face approach resulted in a response rate of 84 per cent. Sets of questions on the reasons for labour and skill shortages were then factor analysed in order to identify similarities between the reasons why respondents answered in the same way. The reasons for skill shortages were categorised according to: competition, income, satisfaction, lifestyle, hours, training, stress, and other incentives; Table 2 provides the results.

In terms of the characteristics of the sample group (Table 1), respondents had, on average, 16 years' experience in the sector (most ranged from three to 29 years) and were employers in the sheep and wool, grains, farm input supply, and rural transport industries. The most frequently cited positions held by respondents were: manager and owner followed by grain farm worker, contractor, and truck driver. Nearly all respondents worked in micro businesses with five or less employees. While the sample was representative in terms of gender and age, there were some concerns regarding the over-representation of people from around the central wheat belt and southern region (where the researchers were located), with fewer respondents living in the northern agricultural regions.

Table 1: Characteristics of the Survey Respondents

Experience in sector	16 years—standard deviation 13 years
Employer experience	Sheep and wool (48 per cent), Grains (47 per cent), Farm input supply (23 per cent), Rural Transport (22 per cent)
Positions held	Manager (36 per cent), Owner (31 per cent), Grain farm worker (17 per cent), Contractor (9 per cent), Truck driver (8 per cent)
Business size	Five or less employees (90 per cent)
Gender	Male (81 per cent sample compared to expected 70 per cent workers DTWD (2011) and 97 per cent WA decision makers ABARES (2011))
Age	20 to 29 year olds (30 per cent – expected 23 per cent ABS (2008) 30 to 39 year olds (18 per cent – expected 22 per cent) 40 to 49 year olds (20 per cent – expected 22 per cent) 50 to 59 year olds (20 per cent – expected 19 per cent 60 years and over (5 per cent – expected 13 per cent)
Business location	Central wheat belt (40 per cent), South (44 per cent), North (6 per cent), Perth (9 per cent)

5. Findings

This section of the article considers each question in turn before taking into account the implications in more detail.

Extent of labour shortage

This section takes up the first two research questions:

1. Does a labour shortage exist in the agricultural sector?
2. If there is a shortage, what is the extent of the shortage of skilled and unskilled labour in grains, sheep, equine, farm input supply, agricultural mechanics, and rural transport industries?

Respondents were asked an open-ended question concerning which industries had experienced labour shortages; most respondents reported labour shortages in the sheep and wool industry (88 per cent) followed by rural mechanics (84 per cent), the grains industry (67 per cent), rural transport (61 per cent) and, to a lesser extent, in equine (42 per cent). Fewer shortages were evident in the farm input supply industries, such as rural merchandise (26 per cent), agronomy (20 per cent), fertiliser (16 per cent), finance (15 per cent), chemicals (15 per cent), and other farm input supply industries (19 per cent).

However, when respondents were asked if they agreed or disagreed that it had been increasingly difficult to find labour in the last two years in their industry, nearly all agreed. Shortage of labour was highest for rural mechanics (97 per cent) followed by rural transport (96 per cent), sheep and wool (92 per cent), grains (88 per cent), farm input supplies (87 per cent), and then the equine industries (74 per cent).

The most significant problem in finding labour was finding skilled labour where workers were experienced (71 per cent), had specialised skills (29 per cent), or possessed recognised training qualifications (24 per cent). The other significant problem related to worker availability in general (42 per cent) and, in particular, being available seasonally (29 per cent) and casually (21 per cent).

Reasons for labour shortages

Turning to the reasons for the shortage of skilled and unskilled labour, it was found that the main reason given by respondents was primarily the income or wage structure. As outlined in Table 2, this response resulted in a mean of 5.8 and competition from other industries, such as mining, a mean of 6.2. The other reasons given for labour shortages were varied. Based

Table 2: Reasons for Shortages of Labour and Skills in the Agricultural Sector

Issues	Mean	Standard Deviation
Competition from other industries, for example mining	6.2	1.5
Income or wage structure	5.8	1.4
Satisfaction Issues:		
Personal interest, for example wool, horses, trucks, machinery	5.3	1.7
Job satisfaction	4.9	1.6
Teamwork	4.6	1.8
Variety of tasks	4.6	1.7
Lifestyle Issues:		
Lifestyle	5.1	1.7
Community facilities available	5.0	2.2
Isolation	4.8	1.7
Hour Issues:		
Long hours	5.1	1.5
Inflexible hours	4.7	1.6
Training Issues:		
Relevancy of training	4.8	1.9
Lack of worker training facilities	4.6	1.8
Accessibility of training facilities	4.6	1.9
Lack of assessors	4.4	2.1
Lack of supervisory staff	4.3	2.0
Stress Issues:		
Extra skills required	4.8	1.5
Industry image	4.7	1.7
Pressure to meet deadlines	4.6	1.7
Job security	4.5	1.8
Poor work conditions	4.4	1.7
Dangers	4.3	1.8
Lack of incentives—meals, accommodation, discounts	4.6	1.8
Strict immigration policies	4.1	2.4

Scale: 1 to 7; 1 not at all important to 7 very important or don't know

on the factor analysis, similar respondent answers were grouped so that reasons were categorised into related issues (this explained 59 per cent of the variance with Cronbach alpha reliabilities over 6.0). Some issues were related to whether jobs created satisfaction through having variety in tasks and teamwork, or appealed to a personal interest in the industry (mean 4.6 to 5.3). Other problems were more related to the lifestyle issues of jobs in the agricultural sector, including the community facilities available and isolation (mean 4.8 to 5.1). The length of working hours and the inflexibility of hours were also of concern (mean 4.7 to 5.1). Other issues related to stress in jobs such as the danger, lack of job security, pressure to meet deadlines, extra skills required, poor working conditions, as well as teamwork and industry image (mean 4.3 to 4.8). Other issues were problems with training, including accessibility to training facilities, the relevance of training as well as a lack of training facilities, assessors, and supervisory staff (mean 4.3 to 4.8).

Impact of shortages

The next section deals with the research question concerning the impact the labour shortage was perceived as having on the agricultural industries or sector. Respondents indicated that in terms of the impact of labour shortages on their business, more than two-thirds (69 per cent) had seen a change in business operations in the last two or more years. Answering on a scale ranging from 1 (no impact) to 7 (high impact), the greatest impact was said to be on current employees having to work longer hours (mean 5.2), higher stress levels (mean 5.1), and less family time (mean 4.8) (Table 3). There was also found to be an impact on restricted business expansion or contraction of the business (mean 4.5), inability to take advantage of opportunities (mean 4.5), loss of production (mean 4.4), and inability to employ unskilled labour (mean 4.4). Issues relating to delayed retirement (mean 3.9) and increased accidents or problems (mean 3.6) were not found to affect as many respondents.

What can be done to deal with labour shortages?

The final question—What can be done to deal with the labour shortage problem?—resulted in almost unanimous agreement that wages offered should be increased (91 per cent). Just over half of the respondents agreed with offering better working conditions (56 per cent) and nearly half with the need to guarantee employment (48 per cent). Fewer agreed to government and education-related suggestions, such as government subsidies and allowances (41 per cent), government loans for training costs of apprentices and trainees (low-paid workers) (29 per cent), vocational education training while at high school (24 per cent), structured workplace learning while at high school (23 per cent), more diverse courses (18 per cent), and more short courses (15 per cent).

Table 3: Impact of Labour Shortage on Business Operations

Impact of Labour Shortage	Mean	Standard Deviation
Longer working hours	5.2	1.7
Higher stress levels	5.1	1.7
Less family time	4.8	1.9
Restricted business expansion or contracted business	4.5	1.8
Inability to take advantage of opportunities	4.5	1.8
Loss of productivity	4.4	1.9
Employing unskilled labour	4.4	1.9
Delayed retirement	3.9	2.2
Increased accidents or problems	3.6	1.8
Scale 1 to 7; 1 no impact to 7 high impact		

It was also suggested that the labour shortage may be dealt with, to some extent, by using more formal job-search methods given that few respondents were using employment agencies (48 per cent) or advertisements (in descending order: newspapers -4 per cent; *Farm Weekly* -2 per cent; and the *Countryman* -0.3 per cent). Most respondents used informal methods to find workers such as: word of mouth (64 per cent), family, friends, and neighbours (63 per cent), and informal pub and social events (33 per cent).

Less than half of the respondents were aware of assistance that may have been available to them to help deal with skill or labour shortages issues, and nearly a quarter of respondents were unsure of the details. Assistance included zone tax rebates for remote employees, apprenticeship or trainee incentives for business, an $800 tool allowance for apprentices or trainees, Farm B which is training subsidies replaced by Farm Ready which ceased on 12/6/2012, travel allowances for apprentices or trainees, $500 per year completions for apprenticeships, and the Harvest Trail Scheme (casual worker coordination).

Most suggestions given by respondents to deal with labour shortages concerned assistance with regard to training (42 per cent) followed by government assistance (24 per cent), obtaining more workers (20 per cent), and paying workers more money (18 per cent). Suggestions related to training included: providing incentives and loans to cover training costs, more intensive and directly relevant courses, more training assessors and facilities in rural areas, more immigrant training, and apprenticeships or cadetships. Government assistance suggestions included paying less tax, the provision of assistance in finding labour, tax benefits for rural workers, and the withholding of government benefits so as to encourage people

to work. Income and wage incentives concerned paying more wages or competitive wages and ensuring that businesses became more profitable or reduced costs (transport, fuel, and input costs). Finally, suggestions for obtaining casual and permanent workers included recruiting people from the city, the mining industry, educational institutions, and immigrants.

Humphreys et al. (2009) and Buykx et al. (2010) considered retention strategies for Australian rural nurses and concluded that a range of retention strategies were needed that had the flexibility to meet the needs of workers in different contexts. Suggested strategies, which may also prove useful within the rural agriculture sector included: remuneration incentives, the provision of housing, improved working conditions, training, and improved contractual obligations in addition to more social, family, and community support.

6. Discussion

This article focuses on a study that set out to examine skill and labour shortages within rural agricultural industries in Western Australia. It determined that there is a dearth of accurate data on the sector due to issues of definition and measurement relating to the seasonal nature of work, casual labour, and outsourcing. Specifically, indications are that there may be a shortage of farm workers during some months, while they are unemployed during others.

To consider these issues, we reviewed literature focusing on skill and labour shortages in the agricultural sector, in addition to several frameworks, models, and strategies. Subsequently, it is proposed that the HCF integrating an LH strategy whereby short-term labour requirements are filled by personnel in the agriculture sector would provide positive benefits for both sectors. Specifically, with an LH strategy, full-time farmers and (or) employees could complement their farm incomes by drawing an off-farm wage during slack periods on the farm. This is already being used by organisations such as Phoenix Shutdown Services (2012) bringing the agriculture and mining sectors together. Farmers Weekly Editorial (2012, p. 1) reported that 'the highly publicised skills shortage within Western Australia is forcing organisations such as Phoenix Shutdown Services to adopt alternative labour sourcing strategies', which is where the LH initiative was created. LH refers to the utilisation of sustainable alternatives to supply labour to the mining industry via cross-industry strategies. This applies to short-term labour requirements potentially being filled by personnel in the agriculture sector.

A key driver behind the initiative is to retain skilled labour in rural areas. Given that the agriculture sector has lost skilled labour to mining over the past

few years due to the higher pay rates, it is proposed that the LH initiative allows farmers to build their farming legacies while offsetting farm wages and earning a mining wage on a casual as-needed basis. The initiative was introduced with the intention of utilising cross-industry labour to assist with short-term labour demands in the mining industry. With the assistance of industry bodies, and local and state governments, it is intended that interest will be generated, education provided, and opportunities offered for LH transitions from agriculture to mining and back again, thereby easing some of the skill shortages in the mining sector. However, we propose that more widespread usage of LH transitions between the agriculture and mining sectors may also assist in easing skills shortages for the agricultural sector. Primarily, this could occur through guaranteeing year-round employment or wages; continuing to provide the satisfaction that farm workers enjoy through working on the land combined with the more highly paid, structured, mining environment. Key ideas behind the introduction of the initiative are to:

1. utilise agricultural labour to undertake short-term shutdown type works;
2. utilise agricultural labour to help with peak labour demands;
3. keep experienced personnel employed predominantly in the agriculture sector, while taking the pressure off mining labour demands;
4. multi-skill or train agricultural personnel;
5. help place downward pressures on agricultural employment overheads/offsetting farm employment overheads;
6. increase the mining labour-sourcing channels;
7. promote cross-industry relationships and the utilisation of alternative industry labour.

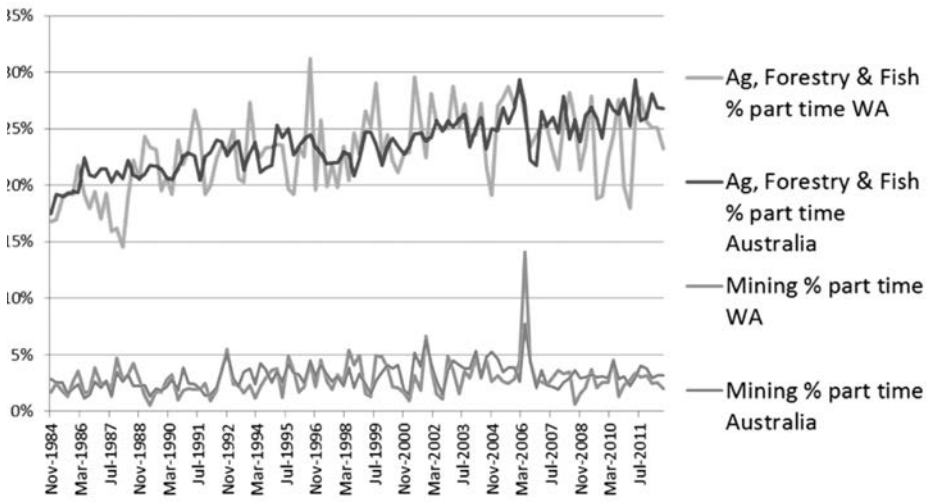
(Farmers Weekly Editorial 2012)

Although the LH initiative has only recently been formalised, Phoenix Shutdown Services has been successful in placing agricultural personnel in casual work on their mine sites for over two years. Reportedly, farmers have been placed on mine sites on a casual basis due to their skills such as boiler making and mechanical fitting. As a result, the intention of the organisation is to extend the option to interested people throughout the rural areas of Western Australia.

Currently, there is some evidence that there are already some transitory work arrangements in place relating to parallel mining and farming careers and dual-training arrangements. Figure 4 illustrates some growth in part-time

employment rates in Agriculture, Forestry, and Fishing in Australia overall with a recent dip shown in Western Australia. Part-time rates of employment in mining are very small however, both in Australia and in Western Australia, apart from a spike that was evident in 2006. However, both transitory and part-time work arrangements could increase if LH strategies in both sectors were more widely adopted.

Figure 4: Part-time Employment Rates in Mining and Agriculture, Forestry, and Fishing



Source: ABS (2012c)

Consequently, we propose that the utilisation of an HCF be encouraged for farm owners and (or) workers to consider the potential for LH strategies. Such strategies allow employees to transit between working on farms during the busy seasons, then working in mining when their labour is not required on the farm. The outcomes have been considered here in relation to indicators of precarious work, illustrating that LH could provide an easing of labour shortages for the farming and mining sectors, as well as benefits for the respective workers, employers, and the region in general. However, the issues relating to dual training and support for such mechanisms need to be improved and communicated widely. Other findings from the study indicate that many respondents were not aware of the support they could be receiving from various government bodies and other initiatives. Hence, it is evident that communication channels need to be examined so that support that is available to employers and potential workers can be publicised, particularly where shortages are problematic in the agriculture sector.

Table 4: Tucker's Indicators of Precariousness, Akubras, Hard Hats, the Potential Benefits of LH

Components	Precariousness Indicators	Akubras	Hard Hats
Certainty of ongoing employment **Benefit of LH:** Potential for year-round work fit between the two sectors	There are no short-term or long-term careers prospects. There is a high risk of job loss. The job can be terminated with little or no notice by the employer. There is no explicit or implicit contract for ongoing employment. The earnings are uncertain or irregular.	Informal contracts more likely in the agriculture sector but due to small business effect (for example personal relationships) less likely to be terminated with no notice. Demand for work dependent on seasonal rainfall affecting crop yields.	Resource sector provides formalised contracts. Potential issues surrounding termination with little or no notice.
Degree of employee control **Benefit of LH:** Workers may have more perceived/ actual control due to ability to move between two sectors without relying on just one	Employees have a low level of control/ bargaining power over employment processes and working arrangements (for example hours, pace of work, working conditions). Hours of work and functions of the job are uncertain, can be changed at will by the employer. The task performed or the health and safety practices at the workplace make the job dangerous or unhealthy.	Impact of external environment on employers or workers in the agriculture sector influences hours of work, nature of tasks, and potential changes that need to be adopted at short notice. Worker bargaining power is high, due to shortage of workers and time-critical nature of the tasks. Agriculture has some of the most severe accident consequences of any sector due to the isolated nature of the situation/job placement.	Working hours, pace of work are set in the resources sector, thus low levels of control and contract workers are unlikely to have much bargaining power. Function of the job is clearly defined, unlikely to be changed by employer. Tasks performed may be dangerous due to the nature of work and location, but tempered by stringent occupational health and safety controls.

Level of income **Benefit of LH:** Potential for year-round/higher income with two employers/two sectors	The job is low income—at or below the minimum wage. The level of income is insufficient to maintain the wellbeing of workers and their dependents.	Agriculture provides at least a minimum wage and due to long hours and hourly pay will result in relatively high pay but this is inconsistent throughout the year and will not apply to farm owners.	Resource sector—high pay rates and long hours resulting in high wages which again may be inconsistent year round if returning to agriculture.
Level of benefits **Benefit of LH:** Little to be gained in terms of LH benefits, only increased wages through loadings available to casual mining workers	Little or no access to standard non-wage benefits such as sickness, domestic, parental, or bereavement leave. Limited opportunity to gain or retain skills through access to education and training.	Due to the nature of informal contracts, workers are dependent on employer relations to provide non-wage benefits. Skill development tends to occur on-the-job with little emphasis on accreditation.	Casual contracts include a loading to offset the lack of non-wage benefits. On-the-job and accredited skill development and certification is expected and (or) supported.
Degree of regulatory/union protection	There is, in practice, no protection against unfair dismissal, discrimination, sexual harassment, unacceptable working practices, including hazardous conditions. Union representation non-existent/low and discouraged by the employer.	The Australian Workers Union appears most active opposing both the National Farmers Federation and the West Australian Farmers Federation Industrial Association in 2003 to win a 25 per cent loading for shearers (all of whom are casual), later winning the same for fruit and vegetable workers.	CFMEU key union offers union membership for casual workers as well as permanent. Given that a key campaign is to ensure that jobs are offered to Australians prior to migrants the LH strategy should be welcomed by the CFMEU.

Having established that various bodies now recognise the problems related to identifying labour and skill shortages in the agriculture sector, given that services to agriculture are excluded from the ANZSIC classifications (ABS 2012c), it is recommended that this oversight be reversed. Moreover, as AgriFood Skills Australia (2012, p. 35) has stated 'attempting to identify need based purely on quantitative data is an unreliable and potentially misleading exercise'. This body has recognised the difficulty in calculations with seasonal and contract work, informal labour-hire practices, and cross-industry employment patterns.

With reference to consideration of the potential benefits that may be gained by the transition from 'Akubras to hard hats', we refer to the Tucker (2002) integrated model which includes factors related to precarious employment. Tucker conducted an extensive literature review in 2002 for the New Zealand Department of Labour with the intention that the outcomes would provide definitions of precariousness that would be appropriate and relevant for a variety of locations. Tucker examined the supply, demand, and institutional explanations for the prevalence of non-standard work, in addition to the motivations of employers and workers for offering and engaging in non-standard employment. The model was also utilised by Hannif and Lamm (2005) who examined precarious work in the call-centre industry. Referring to key aspects of precarious employment outlined in numerous countries by authors such as Campbell and Burgess (2001) and Standing (1997), the model is presented as a table (see Table 4) incorporating Tucker's indicators and how they relate to the features of this article—Akubras and hard hats, particularly if LH were to be considered with regard to the two sectors.

7. Conclusion

It is concluded that transitory employment arrangements between the agriculture and mining sectors may assist in easing labour and skill shortages in both sectors by using an LH strategy in combination with the HCF illustrated in Figure 2. Although this LH strategy has not been used widely yet, the potential benefits outlined earlier provide options for other organisations to follow the lead taken by Phoenix Shutdown Services (see Farmers Weekly Editorial 2012).

Given that the main reason survey respondents gave for labour shortages in agriculture was competition from other industries such as mining (see Table 2), it is proposed that LH strategies could help to alleviate this problem, while providing year-round income for agricultural workers. However, a potential problem is where and how do agricultural workers receive the training and education required to undertake work in the mining sector?

Issues related to training were very evident in the respondents' answers to questions asking what can be done to attend to labour shortages in the sector. While the main suggestion for easing the labour shortages related to increased wages (91 per cent), others focused on guaranteed employment (48 per cent). It is unlikely that guaranteed employment could be achieved, but the utilisation of LH strategies could lead to improvement. Government loans, training subsidies, vocational education and training at high school, and more short courses were other suggestions. So, the questions remain: who will provide the cross training, and who will pay for it? Moreover, many employers want qualified staff with the requisite skills for the job, yet many people residing in the rural regions of Western Australia will have difficulty accessing training.

Implications for research

Finally, we propose that more work needs to be undertaken in a number of areas related to this study. First, it is suggested that future research may include an extension of this study across other areas in Australia, given that this article has focused on Western Australia. Second, there are several factors in the HCF that were not explored, such as societal or cultural, and community and family influences, in addition to a number of factors relating to labour market opportunity influences. Many of these factors are pertinent to the agriculture sector and the labour or skill shortages and resultant social changes have been underway for some time in Australian agriculture and in the rural communities that service the industry, resulting in loss of farms, farm workers, and hardship for many who remain (Alston 2004). Third, although globalisation and the mining boom in Western Australia has apparently affected the rural agriculture businesses located there, the LH strategy outlined in this article could also benefit from future analysis and examination in order to determine its effectiveness, or otherwise, over time. In particular, longitudinal research would assist in tracking the outcomes of the LH strategy and the effectiveness of workers moving between mining and farming-related sectors.

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