

Workplace Wellbeing in the farming community

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Abstract.

Since the early 1990's concern has mounted globally over worsening psychological wellbeing in the farming community. There is a tendency to think of the workplace in terms of offices, factories, workshops and merchant's premises and to neglect thinking of the farm as a workplace in the same way. A literature review was conducted to evaluate the status of farmer mental health and to identify some of the potential sources of stress for farmers. There was conflicting evidence in the literature whether stress and mental ill health was high or low in prevalence among farmers, however, all literature was in agreement that the situation was worsening for farmers. The literature also revealed that farmers are subject to complex, intertwined, multiple stressors. It was concluded that the accumulative and changing nature of these stressors is probably more important in diminishing farmer wellbeing than any life event taken alone.

Introduction

This paper represents preliminary work in the field of workplace wellbeing and focuses upon just one sector of the working population – farming. It falls nicely within the aims of the Asia Pacific Academy of Business in Society (APABIS) since the impetus for writing it stemmed from interaction between a member of the business community and an academic (the current author). The business person works for Agricultural Services Limited (ASL), a New Zealand organisation affiliated with the Agriculture Industry Training Organisation (AGITO) providing advice and training in the agriculture sector. As a sideline to their work members of both ASL and AGITO have become concerned about the state of psychological wellbeing and suicide rates among those working in the farming sector. As a response to ASL saying “we need to get our head around this issue” a liaison with the academic has formed with a view to initially complete a literature review on psychological wellbeing in farming communities. Similar concerns have been voiced all around the world since the early 1990's. A second impetus for focussing on the farming sector lies in the way that the concept of workplace tends to be viewed in terms of offices, factories, workshops and merchant's premises. There is a tendency to neglect thinking of the farm as a workplace in the same way.

Relevant literature gathered tended to fall within three broad categories: 1, mental health and wellbeing in the farming sector, 2, suicide in the farming sector and 3, issues surrounding the provision of mental health services in rural communities. The current paper represents a review of international literature of 1, above only. Suicide and provision of mental health services form separate potential reviews for the future.

Having said that, however, much of the general literature on rural mental health also discusses suicide. What has been excluded from this review are articles dedicated to suicide issues only.

This was intended as a review of the literature internationally. However, a quick scan of the reference section of this paper will reveal that very few recent articles on stress and wellbeing of farmers could be found. As a result the following review tends to focus on the United Kingdom (UK), Western Europe, Scandinavia, the United States of America (USA) and Australia. Had the review included the articles dedicated to suicide a broader range of regions would have been covered including India, South America and a broader range of European nations. It should be noted that some of the articles reviewed are themselves reviews of the literature from a variety of countries (for example Wilhelm, Kovess, Rios-Seidel & Finch 2004, and Gregoire (2002). Other empirical studies include international literature reviews as part of their introductions.

The paper covers definitional issues concerning farmers and stress, the prevalence of stress and psychological disorder in the rural workplace, and some of the speculated reasons for mental ill health in the rural workplace.

Definitional issues.

Defining “Farmer.”

Much of the research to date has been occupationally based and focussed on farmers as a group of workers. However there has been some recent debate as to whether this is too narrow a focus along with a call for research to include rural communities (Lobely, Johnson, Reed, Winter & Little, 2004). Lobely et al. report for instance that just as there is a high prevalence of suicide among farmers there is also a disproportionately high risk of suicide among rural veterinarians in the UK.

There are also definitional issues surrounding just who is a “farmer.” Where are the definitional boundaries between (a) individuals as farmers compared to families as farmers, (b) farm owners who work the land, (d) non-farm owners who manage or work the land (such as shepherds or share-milkers), (e) farm owners who do not work the land but who bear the financial burden and (f) members of farm working families such as sons and daughters. Most of the literature reviewed remained silent on this definitional ambiguity.

Defining rural.

Another definitional concern relates to the boundary between rural and urban (Judd et al. 2002; Lobely et al, 2004). From the perspective of providing services to the rural sector, Lobely et al. (2004) ask at what point in distance from an urban centre does an area suddenly become rural? Their claims imply that although there may be a definite transition from dense urban housing to farmland and dispersed housing, those near urban boundaries have the same ready access to services as do town dwellers. There is something different too about the context of those rural dwellers who reside 20 or 30 kilometres from an urban centre and those who reside just 2 or 3 kilometres away.

Defining stress and wellbeing

The literature also presents different definitions of “stress” and some articles provide a comprehensive if “textbook-like” introduction to the concept of occupational stress (for example Stepanyan and Blasoni , 2005, pages 6 to 15). Lobely et al. (2004) assert that different countries have different definitions of terms such as “stress” and “anxiety” and use different mental health classification systems. They report also that different concepts of stress have developed in the social sciences compared to the medical sciences. The former focuses on sources of stressful life while the latter focuses on illness as a consequence of stress.

Additionally Lobely et al. (2004) question the way stress has been defined in use in empirical studies. They state that common transactional definitions of stress emphasise stressors as life events and ability to cope. They note, however, that other social scientists call attention to the role of deeper systemic structural factors such as “social and economic class, race and ethnicity, gender and age” (Lobely et al. 2004, pg. 8).

Summary

This lack of uniform definition of “farmer,” “rural” and “stress” in the research has made it difficult to compare studies. Combining all the definitional problems above, there arises a lack of agreement about terms such as “rural stress” (Lobely et al. (2004). Also differences in types of farming and their prevalence in different countries adds difficulty to comparing studies. For instance Stepanyan and Blasoni (2005) mention a variety of forms of agriculture prevalent in Europe compared to various forms of horticulture more dominant in South America. Within agriculture farming varies as dairy, beef, sheep, pork and poultry. Horticulture varies from vegetable production, fruit orchards, nuts and crops such as corn, wheat, coffee, cocoa, sugar cane, soya bean, rice and tobacco, through to flowers and vineyards.

Prevalence of Stress.

Occupational stress in the general population.

Lobely et al. (2004) report that in the UK stress is now the second largest occupational health problem. They report an estimated 45 million working days per year are lost in the UK due to workplace stress. This has been re-iterated by other authors. For example Stepanyan & Blasoni (2005, p. 13) cite a 2001 study by the International Stress Management Association which claimed that over half the people who work suffer stress. They cite a survey by the UK Health and Safety Executive (UKHSE) which claims that half a million workers in the UK suffer work related stress and that the UK was in a stress epidemic which cost industry £370 million per annum. Stepanyan & Blasoni (2005) also cite a study called the Rescue Remedy Stress Survey which confirmed that work was the number one reason for stress, followed by financial difficulties and family issues.

Stepanyan and Blasoni (2005) go on to say that the investigation of occupational stress gained impetus in the face of billions of dollars and euros lost in stress related disability claims. They cite a report of Statistics Canada that revealed workplace

stress costs Canadian businesses more than \$13 billion annually and that 70% of all employees experience performance decrement due to stress at some time. Stepanyan and Blasoni continue that in the USA occupational stress costs businesses over \$15 billion per annum. It is interesting that these authors cite the cost to business only, as if due to absenteeism, decreased performance and replacement costs. These figures appear not to include the added costs of dealing with stress in the health and social support sectors.

The UKHSE report states that in 2003 physicians reported 6,500 new work related mental cases in the UK, according to Stepanyan and Blasoni (2005). The same report asserted that there had been an estimated 13.4 million working days lost in the UK in 2001 due to stress related illnesses costing employers between 353-381 million pounds. This figure may seem contradictory to the 45 million working days lost, cited by Lobely et al (2004) above. The current author notes however that Stepanyan and Blasoni refer specifically to loss due to illness, where as the figure presented by Lobely et al. may have included other forms of lost time.

As a summary, Stepanyan and Blasoni (2005) contend that several other reports show that work-related stress is prevalent and costly. They conclude (pg. 15) that “stress at work will be one of the greatest challenges facing governments, employers and trade unions in the years ahead. The incidence of job stress in some countries has at least doubled in the past ten years. This is an issue that effects every single individual in modern societies and has significant impact on economic performance through its effects on health and productivity.”

Wilmhelm et al. (2004) report that their review revealed that the highest rates of depression, substance abuse and suicide occurred in the helping professions where incumbents worked in an institutional structure. This included doctors, nurses, counsellors, psychologists, psychiatrists, social workers and teachers. In relation to teachers they claimed that high prevalence of disorder seemed to be among those who worked in specialised settings and/or in adult education. In addition to these lawyers and secretaries were identified as high risk groups for depression; company directors, entertainers, salespeople, military personnel and those working in the alcohol industry had high prevalence of substance abuse; and veterinarians had higher than normal rates of suicide.

Prevalence of stress among farmers.

There appears to be contradictory evidence whether or not farmers have a high prevalence of stress. However loss of wellbeing among farmers seems to be increasing. Simkin, Hawton, Fagg & Malmberg (1998) report growing concerns in the 1990's regarding levels of stress in farming communities and evidence of heightened risk of suicide in farmers in England and Wales.

A number of authors claim that farmers are a high risk group for psychological disorders (for example Lobely et al., 2004; Stepanyan and Blasoni 2005; Gregoire 2002). According to Lobely et al. (2004) there is evidence of high levels of stress among farmers which may have been under-estimated. Lobely et al. continue that farmers are a high risk suicide group, but that this is unlikely to be a function of their

occupation alone. Instead they suggest it is due to an interaction of work related stress and deeper social factors associated with living in fragmented rural areas.

Stepanyan & Blasoni (2005) state that farm living is often seen as idyllic and stress free. The rural environment is often viewed as healthy, a great place to raise families and to maintain close relationships with neighbours and friends. However, contemporary farming has become one of the most dangerous occupations “in terms of injuries, diseases due to hazardous situations and different physical, biological, chemical, psychological and sociological factors as well as death.” (Stepanyan & Blasoni, 2005, p.34). They continue that multiple studies internationally, and over a 20 year period, have recognised farming as one of the most stressful occupations. Stepanyan & Blasoni conducted an exploratory pilot study in Brittany, France to test whether the doom laden literature on farm work-stress was myth or actuality. In 2005 they interviewed two groups of people: (1) six key officials of the Regional Chamber of Agriculture and (2) six farmers practicing conventional farming in Brittany, France. The interviews with Chamber of Agriculture officials revealed that these well experienced experts in their field considered farming to be a stressful occupation in Brittany. The six farmers interviewed by Stepanyan & Blasoni (2005) considered “their life as a ‘really stressful’ one” (p. 50) and these authors concluded that their results had very high coincidence with studies elsewhere round the world.

Sutherland & Paxton (2000) surveyed 203 farmers in Northumberland using the Hospital Anxiety and Depression Scale (HADS). While they found that over 40% of farmers showed little or no indicators of anxiety and over 63% showed little or no indicators of depression, their data also revealed that over 30% of their sample exhibited severe signs of anxiety and over 12% showed severe signs of depression. Rates of morbidity were higher for women than men, which is consistent with the general population.

It appears that farmers are a high risk suicide group. Gregoire (2002) asserts that there are more suicides among farmers than any other occupational group in the UK. Among young farmers, suicide is the second most important cause of death behind accidents. It is also high among retired farmers and farmers’ wives. High rates of suicide among farmers has also been reported in the USA, Sweden, France and India. Both Gregoire (2002) and Lobely et al. (2004) state that it has become recognised that farmers have ready access to means of suicide, usually firearms, that are different from the rest of the population. Gregoire contends that this may contribute to the higher rate of death by suicide among farmers since their readily available means (firearms) tend to be more successful and fatal than other methods such as drug overdoses. This may inflate the suicide figures among farmers compared to the rest of the population.

The following studies were cited in Stepanyan & Blasoni (2005), compared the prevalence of mental ill health between urban and rural dwellers. They cite Smith, Colligan & Hurrell (1977) who found higher levels of depression among rural versus urban samples of people. Dottl & Greenley (1995) found more depression, belligerence, bizarre behaviour, nervous disorders and levels of general pathology among rural adults than in urban adults. They go onto cite a string of studies demonstrating higher occurrences of mental disorder and/or risk of suicide among rural than urban residences (Rost, Zhang, Fortney, Smith & Smith, 1998; Hoyt,

Conger, Valde & Weihs, 1997; Amato & Zuo, 1992; Molinari, Boeve, Kunik & Snow-Turek, 1999; Blazer et al., 1985; Kposowa, Breault & Singh 1995).

Sanne et al. (2004) report statistically significant findings that farmers produced higher anxiety scores than non-farmers and that this was the case for both males and females. Male farmers produced higher depression scores than male non-farmers. The highest depression scores were produced by farmers who were animal producers, predominantly dairy and livestock producers.

Carruth & Logan (2002) surveyed 657 farming **women** in southeast Louisiana, USA, for prevalence of “sadness” and depressive symptoms. 24% of the farm women reported depressive symptoms with the highest prevalence among older women. They report that this rate of prevalence of depressive symptoms exceeds previous studies among farm women and a national health survey. Carruth and Logan used self-reported interview survey method and state that this method results in unwillingness to admit symptoms to an interviewer. Hence the 24% prevalence rate among these women may be the tip of the iceberg.

The tip of the iceberg was also mentioned by Lobely et al (2004). They referred to the way suicide was used as a measure of poor mental wellbeing and as such was seen as the tip of the “stress iceberg.” They cite Jones, Hawton, Malmberg and Jones (1994) who estimated that for every suicide there are (a) a larger number of attempted suicides, (b) 100 people who are depressed and consulting a doctor and (c) 400 people who are depressed and not consulting a doctor. “Therefore, for any clearly defined group within society (such as farmers), a high incidence of suicide indicates widespread but hidden stress.” (Lobely et al. 2004 p. 9).

By contrast some authors report that farmers are not a particularly high risk group compared to other occupations, but in nearly all cases they refer to concern that poor mental health among farmers is increasing and beginning to resemble that of other occupations (Sanne et al. 2004, Wilhelm et al 2004, and Thelin 1998). Gregoire (2002) states that although the prevalence of mental health problems appears to be lower in rural UK than in inner city areas, the help seeking behaviour of rural dwellers is low because of both a more limited access to social services and “sensitivity to the stigma of mental health problems and greater concerns about confidentiality in small rural communities.” (p. 471).

Gregoire (2002) continues that there is an assumption that farmers are at higher risk of alcohol problems but that several studies in a number of countries found that not to be the case. It should be noted however, that all but one of these studies was published over 15 years ago and may not be indicative of the current state. Gregoire also cautions that the studies did not include those who had left farming and that this could include those who had to give up because of alcohol problems. Notwithstanding that Gregoire cites Penttinen (2001) who found that in the rural setting alcohol abuse was associated with “greatly increased risk of accidental death” and “an even greater increase in the risk of suicide.” (p. 473).

Summary.

There is some conflicting evidence as to whether or not the prevalence of mental ill health is high among farmers. However the rate of increase in mental ill health has sparked concern and attention directed towards the plight of farmers. Wilhelm et al. (2004) and Lobely et al. (2004) raise the issue as to whether the concern should be directed towards farmers as an occupational group or rural residents in a more general sense. Wilhelm et al. (2004, p. 869) reported that “living in a completely rural area is a risk factor for men and women alike, with an increased risk for older men.”

Sources of stress.

While the interest of the current author is workplace and occupational wellbeing it appears that among farmers the sources of stress have deeper societal and systemic components than just work stress. Three main themes emerged from the literature: the changing face of farming; stressors; and systemic forces. The data is further broken down into sub themes under these titles. However there was often a fine line determining which main theme a particular factor should be categorised with.

Vast change and accumulative effects.

Stepanyan and Blasoni (2005) report that in the French context the main source of stress for farmers has been the vast volume of recent changes. They list these as unification of the European Economic Community, the switch to more organic production, a variety of stressors reported below (such as increased paperwork), increased competition and loss of control over parts of their operation. To this list Sanne et al (2004) add the rationalisation of farming in Europe. Stepanyan and Blasoni (2005) also state that farm hassles (listed in more detail below) could include a long list of demands and pressures from farming and rural life. Indeed the farm hassles category represents the most heavily reported sources of stress in the literature and does result in a long list. Stepanyan and Blasoni (2005) state that studies they reviewed indicated that each day on a farm provides a new list of “challenges, demands or problems” (pg. 39). They continued that some researchers conjecture that the accumulation of these little hassles may be more stressful than major life events – in a “straw that broke the camel’s back” sort of way (pg. 39).

Stressors

This section on stressors is modelled on categories presented by Stepanyan and Blasoni 2005.

Financial worries.

Financial concerns are the most heavily reported single source of stress in the literature (Lobely et al. 2004, Morgan 1996, Stepanyan and Blasoni 2005, Sanne et al. 2004, Gregoire 2002).

Probably the most dramatic report of farmers’ financial plight comes from Gregoire (2002) who cites British figures produced by Accounting firm Deloitte and Touche in 2001. These figures showed that in the United Kingdom average income from a 500 hectare farm fell from £80,000 in 1995/1996 to just £2,500 in 2000/2001. This decrease has been due to falling prices for farm products and some poor harvests. Gregoire contends that such dramatic changes “represent a highly relevant increase in

the economic stressor which has consistently emerged as one of the important predictors of psychiatric morbidity and even suicide. “ (Pg. 471).

Lobely et al (2004) report that surveys in Great Britain place economic factors including debt, market prices and economic policy among the five main stressor domains. Morgan (1996) reported that in New Zealand economic anxieties about economic viability were specifically prevalent among aging farmers who did not have as much money to retire on as they had hoped for and who consequently were neither able to hire hands to work for them nor maintain their facilities.

For farmers in Brittany, France, Stepanyan and Blasoni (2005) report that sources of stress among farmers emerged in the early 1990's which was a time of global changes in the market that led to financial constraints. They continue that more recently most farmers are caught in a price-cost squeeze and financial viability of the farm is constantly threatened. Farmers reported that the financial stressors included “low commodity prices, rising expenses, high debt loads, lack of regular cash flow, and not enough money for necessities and vacations.” (Stepanyan and Blasoni, 2005, pg. 37).

Farm hassles.

As stated above, a category that Stepanyan and Blasoni, (2005) labelled “farm hassles” constitutes the longest list of potential sources of stress among farmers. One of the most frequently cited of these is increases in rules and regulation (Lobely et al. 2004) coupled with increased bureaucracy (Lobely et al. 2004, Stepanyan and Blasoni, 2005) and subsequent difficulty dealing with paperwork (Stepanyan and Blasoni, 2005).

Another commonly reported farm hassle threat to wellbeing was exposure to hazards and toxins (Lobely et al. 2004, Simkin et al. 1998, Stepanyan and Blasoni, 2005, Carruth and Logan 2002). Hazardous working conditions was reported by Lobely et al (2004) to be one of the top five stressors for British farmers. Carruth and Logan's (2002) study of farming women in Louisiana, USA stated that hazards represent an “ever present threat to harm to self and family members” that “is one of the burdens farm women face while balancing multiple family roles and responsibilities.” (Pg. 226).

A specific stressor emerging in the literature is exposure to toxins, particularly toxicity from organophosphates found in sheep dips, seed dressings and crop sprays. In a British study by Simkin et al. (1998) 16% of farmers in their sample believed their health had been affected by organophosphates. Gregoire (2002) indicates that those suffering symptoms of organophosphate poisoning also often experience distress since they feel their plight is not being taken seriously. Gregoire states that as at 2002 there was still not clear evidence that organophosphates were linked to cognitive disturbance, morbidity or suicide.

Other farm hassles reported as common included threats to stock and crops due to disasters, diseases or pests (Lobely et al. 2004, Stepanyan and Blasoni, 2005,) inopportune equipment failure (Lobely et al. 2004, Stepanyan and Blasoni, 2005), the

need to keep up with technology and learn new things, inopportune loss of farm help and the need to travel to town and back (Stepanyan and Blasoni, 2005).

People and family problems.

Stepanyan and Blasoni (2005) state that many surveys have identified interaction with other people as a major stressor, and along with Lobely et al. (2004) assert that much of this involves managing family issues. According to Stepanyan and Blasoni stressors in this category include problems agreeing with relatives, conflicts with or lack of time with spouse and family, decisions being made without consultation and not being considered as an important member of the farm business by other family members.

People stressors also include not seeing enough other people (Stepanyan and Blasoni, 2005) and debate has developed over the role of isolation as a stressor for farmers. Lobely et al. (2004) state that the literature was conflicting as to whether or not isolation was a source of stress for farmers.

Lobely et al. (2004) cite a useful framework for considering isolation as a stressor developed by Monk (undated), which identifies four types of isolation experienced by farmers. These are (1) physical isolation which was linked to declining numbers of farm workers, meaning the farmer is now more alone on the land, and the gradual withdrawal of services, (2) social isolation, linked to a change of constituency in the rural sector and the closure of social venues (meeting places) such as sale yards, the local store or local petrol station, (3) cultural isolation, linked to social isolation as farmers become marginalised on the land while urban incomers inhabit their surrounds and as technology such as email makes social networks less necessary and (4) psychological isolation which is self imposed based on social conditioning that suggests farmers be strong, self-reliant and stoical.

Lobely et al. (2004) go on to state that of these, social isolation and tendencies of farmers to self-isolate was a more important stressor than physical or geographical isolation. However they conjecture that studies in the UK may over state the case since the typical method has involved surveying individuals while attending agricultural shows and hence a biased sample. Geographical isolation may have scored lowly as a stressor as a function of these respondents being self-selecting attendees at agricultural shows, meaning they may be less inclined to withdraw (as occurs with depression) and their attendance may indicate that they are more inclined to leave their farms than others. Sanne et al. (2004) also upheld social isolation as a major source of decreasing wellbeing among farmers. By contrast Lobely et al (2004) cite a major US study by Eberhardt and Pooyan (1990) who surveyed stress among 1400 farmers. Their results included geographical isolation, (defined as distance from services – a definition also used by Caruth and Logan, 2002), among the 5 main domains of stress.

Stepanyan and Blasoni (2005) state that farming may be stressful since it can be a very isolating profession in the sense that farmers work long hours, outdoors and alone.

Workload.

Eberhardt and Pooyan (1990), reported time pressure as one of the five main stressors in their study of US farmers. Stepanyan and Blasoni (2005) identified workload as one of the most common stressors in their review of the literature. They state that this takes the form of work role overload as much as heavy workload. Farmers must wear many hats and master dozens of trades. Farming requires the skills of business person, manager, agronomist, meteorologist, mechanic, labourer and veterinarian, according to Stepanyan and Blasoni. They continue that this is even more complex when considering that farmers manage their land and households simultaneously incorporating additional roles such as spouse and/or parent. Many farmers reported heavy workload at peak seasonal times, difficulty balancing work and family responsibilities and too much to do in too little time. The latter is also reported by Lobely et al (2004) among the highest ranking stressors in a UK study. Sanne et al. (2004) found in the Hordaland study that both male and female farmers reported working very high hours.

Farmers themselves.

There are indications in the literature that farmers themselves may be the source of their own stress and reduced wellbeing. Stepanyan and Blasoni (2005) state that contemporary farming is complex, and because many things can go wrong farmers are prone to become worriers. “Worry is among the least productive emotions,” and “Worrying and fretting over what may never happen” creates even more stress (Stepanyan and Blasoni , 2005, pg. 39).

An important stressor, according to Lobely et al (2004) stems from farmers’ own perceptions and misperceptions of how they are, themselves, perceived by others. In the UK farmers must adjust to changing demographics in their communities as newcomers arrive and settle in their midst. They tend to perceive the newcomers as hostile to agriculture and farmers, a misperception fostered perhaps by farmers’ tendencies for self isolation. The newcomers may also be vulnerable as “farmers and other neighbours can be very difficult to know and often regard incomers as ‘townies’ in a derogatory sense.” (Lobely et al., 2004 pg v).

According to Lobely et al. (2004) rural residents may have adopted coping norms that prevent self disclosure. They may experience stress differently due to an uncomplaining outlook and rural cultural norms. This can hide some of the uncontrollable stress factors such as unemployment, homelessness, social isolation and poverty. Lobely et al (2004) report that very few rural residents seek help as they are suspicious of formal support services, wish to avoid the stigma of mental illness and confidentiality issues that occur in tight-knit, small communities. Stepanyan and Blasoni (2005) concur that stigma appears an important barrier to seeking mental health care in rural settings adding that isolation from mainstream services has led farming communities to develop a “culture of self-sufficiency and stoicism.” (pg. 36).

Another reported stressor is emotional attachments farmers have to their land, which may have been nurtured and handed down through several generations (Lobely et al., 2004). Sanne et al. (2004) referred to considerable strain on farmers due to an

existential crisis whereby they face the prospect of having to abandon their way of life including the land handed down through generations.

Weather and climate.

Climate and weather were reported as stressful to farmers (Lobely et al., 2004, Stepanyan and Blasoni, 2005). Weather appears stressful on two counts: (1) the unpredictability of the weather and (2) unseasonable or crisis weather events such as flooding or drought that impact upon crop or pasture production or loss of stock.

Summary

Farmers report anxiety about financial circumstances, long working days, paperwork, legislation and also report high incidences of ill health that interferes with their work (for example see Simkin, Hawton, Fagg & Malmberg, 1998), emotional attachments with their land, effects of using toxic chemicals and traumatic events such as flood, drought or stock/crop diseases. However other sources of stress are conjectured to relate to isolation (physically, socially, culturally and psychologically), the cultural expectation that farmers should be stoical and uncomplaining and farmers' perceptions and attitudes.

The matter of farmers' perceptions and attitudes has led Sanne et al. (2004) to conjecture whether high depression and anxiety levels are due to people prone to these mental conditions self selecting into farming or due to "wear and tear" (pg. 98). They argue that working longer hours including more physical labour strengthens the wear and tear hypothesis and is consistent with several theories of stress and burnout including the Demand-Control Model (Karasek & Theorell, 1990), Effort-Reward Imbalance Model (Siegrist, 1996) and Person Within Context Burnout Model (Maslach, Schaufeli & Leiter, 2001).

Systemic forces.

Lobely et al. (2004) state that farmers are a high risk suicide group, but that this is unlikely to be a function of their occupation alone. Instead they suggest an interaction of work related stress and deeper social factors associated with living in fragmented rural areas.

A more enduring stressor, according to Lobely et al. (2004) is the place of farmers in society and according to Stepanyan and Blasoni (2005) society's attitude towards farmers, recent criticism and bad press coverage for farmers. They were "Castigated for their role in the 'theft of the countryside' in the 1970's and 1980's" (Lobely et al., 2004, pg. iv). As a result farmers feel misunderstood and undervalued which contributes to farming families being vulnerable to stress. Shouksmith (1985) reported a similar source of stress among Prison Officers in New Zealand.

Limitations

There are several potential limitations in the current review. First a number of articles that were reviewed were themselves literature reviews. This means some aspects of stress among farmers maybe over stated since the same studies may have contributed

to the data in more than one review, including this one. This limitation may also be a strength since this also meant that the net was spread beyond the available literature reviewed by the current author – although in a few instances the publications are very old and may not have contemporary relevance.

A second limitation is the way the literature is very fragmented internationally and dominated by literature from Europe and particularly the UK. This may, however, reflect a more dramatic change in farmers' wellbeing in Europe and the UK compared to elsewhere in the world. Hence the findings reported here may or may not be relevant for the Asia Pacific region or may differ in kind from the stress and stressors experienced locally. As stated earlier, despite increasing concern about farmers' wellbeing very little literature or research could be obtained. This is itself an important finding and several authors, but particularly Lobely et al. (2004) highlight the need for future research. Lobely et al. state that compared to the findings of occupational psychological research in industry, relatively little is known about stress among rural occupations such as farming.

A third limitation surrounds the definitional issues that were addressed near the beginning of this article. As other authors stated, this makes it difficult to compare studies. Fourthly much of the literature pays scant attention to the roles of moderators such as size of farm or type of farming.

Conclusion.

Despite the limitations stated, above, this review suggests that farmers are subject to a complex intertwining of multiple stressors the accumulative effect and changing nature of which may be more important than any single stressor. While there is debate whether farming is or is not a stressful occupation the literature agrees that the wellbeing of farmers is worsening. However, it might be conjectured that nearly all occupations and workplaces are becoming increasingly stressful with detrimental impacts on wellbeing. This is probably why the subject of workplace wellbeing has emerged as an increasingly talked about phenomenon. We may be overstating the case of farmers in that their plight might simply parallel the plight of a vast array of occupations.

However, that beholdens society to take notice and attempt to alleviate stressful workplace conditions and actions rather than simply dismiss it as a phenomenon of a contemporary age. As illustrated near the beginning of this review, there are staggering costs associated with workplace stress including costs that impact upon the entire economy. These include costs to businesses, costs to “the taxpayer” in the form of health and welfare services, costs to families and also those intangible, immeasurable social and psychological costs to individuals, families, communities and cultures. Considered in this light, if the plight of farmers and other occupational groups are not addressed, then indeed increases in work place stress are not sustainable.

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