2017

Rural women's voices

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October 2017

Rural women's voices: perceptions and experiences of rural risks

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This report was prepared for rural women in New Zealand by Dr Maxine Campbell and Dr Jo Barnes. We are indebted to Fiona Gower and *Rural Women New Zealand* (RWNZ) for their assistance in preparing the survey instrument and distributing it to the rural community. We also extend our sincere thanks to the rural women who apportioned their precious time and energy to take part in this research.

Sociology and Social Policy

Faculty of Arts and Social Sciences

The University of Waikato

2017

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Executive Summary

This project was initiated in response to anecdotal evidence suggesting a tendency for rural women to be more proactive than men in matters of safety on the farm. If so, it is imperative that we learn more about the experiences, perceptions and aspirations of rural women in order to support and empower them in their efforts to reduce risks and enhance safety. This survey is an initial step in achieving that and it is hoped that it will be part of a larger, more comprehensive accounting of the perspectives and experiences of rural women.

Utilising an online survey tool, rural women were surveyed to establish their primary concerns in regard to farm safety, canvassing their opinions and experiences of the most common or intractable problems and who was considered to be at the highest risk. It also sought indications of prevailing practices and attitudes to safety. The survey was distributed through the Rural Women New Zealand's newsletter, along with allied women's groups on social media. In total, one hundred and sixty women responded to the survey. While we may note whether the data are consistent (or not) with common perceptions, we can make no claims beyond that. We present the results here as a record of the experiences, reflections and voices of the women who responded.

The survey data indicated that a full age range (18-75+) participated in the survey, though most respondents fell into the middle age ranges (25-55). All but twelve percent of respondents had at least one other adult in residence, indicating that most respondents had a partner or other significant adult for support. In total, 121 children were spread amongst thirty-eight percent of the participants. The largest group (23%) contained school-aged children (5-14 years), followed by pre-school children (19%), and young adults (15-17 years: 9%). Respondents came from throughout the country, with Waikato in the north (38%) and Canterbury in the south (40%) having the highest levels of participation. Similarly, there was a broad mix of land contours reported, with half (49%) describing it as rolling and thirty-one percent describing it as hilly. The three most common types of farm were dairy (45%), cattle (36%) and sheep (35%).

Risks were initially divided into broad categories, some of which were almost universal: vehicles (95%); machinery (90%); chemicals (85%); animals (86%). Water hazards were reported by seventy-four percent of the women and workshop hazards by sixty percent. The most commonly reported risks within the vehicle category were associated with tractors (90%), light vehicles (89%) and quad bikes (85%). For animals, dogs (75%) and pests (74%) were the most common, though cattle, sheep and dairy cows each featured in more than half of the responses.

Vehicles caused the women the most concern (46%). Chemicals and infectious diseases were seldom cited, while water (10%), animals (12%) and machinery (16%) were of concern to a moderate number of women. The most commonly cited vehicle was the quad bike, though tractors were also mentioned frequently. The level of risk of serious injury or death in relation to the broad categories was considered to be either medium (43%) or low (32%) by the women. Adult males were overwhelmingly considered to be the group most at risk of injury on the farm and males were considered to be more at risk in every age group except pre-school. Almost half the women (46%) thought that adult females were also at risk.

Water was regarded as a risk for young children (36% for female preschoolers), but did not feature at all for young adults. School-aged males were thought to be most at risk from quad bikes (21%), slightly ahead of their female counterparts (19%).

The most frequently occurring broad category of risk was vehicles, cited by 44% of the women; the second largest category was animals. Of those who thought animals presented the most frequent risk, cows were the subcategory mentioned most often. Adult males were again considered to be most at risk (83%), followed by adult females (49%). Vehicles were considered one of the most difficult hazards to overcome, at thirty-two percent. Slightly more women (34%) however, regarded animals as the hardest risk to overcome.

Forty-six women had dealt with injury on the farm in the previous five years. Twenty-two reported injuries from animals, which is contrary to their views on the most frequent risk (vehicles) but consistent with their assessment of the most intractable risk (animals). Next most common were vehicles (9) and machinery (7). Most incidents required a visit to the local doctor (53%), and twenty-eight percent required hospital care. Eight people required specialist care and long term rehabilitation and one person needed ongoing full time care. Injury prevention measures in place included physical barriers such as roll bars (34%) and seat belts (57%). Contrary to the women's perceptions, the injury data indicated that adult females (rather than males) comprised the single biggest group by main category (animals, rather than vehicles), though males were injured more frequently overall. Vehicles were regarded as high risk and hard to mitigate, but played a lesser role than expected. Animals were regarded as lower risk, but harder to mitigate due to their unpredictability.

Forty-three percent of the women thought that attitudes to risk were shared on some risks but not others. Adult males (45%) and teen-aged males (39%) were overwhelmingly considered to be the greatest risk takers when the highest propensity to take risk (rank 1) was considered. The largest group recording the lowest propensity to take risks (rank 8) was adult females (18%). By comparison, just four percent thought that adult males ranked at that level. The data here suggest there may be some truth underlying the anecdotal evidence that women are more proactive in matters of safety. Some of the women expressed frustration at other adults' lack of compliance with safety measures.

Twenty-six women indicated that their children were present in areas of the farm where work was taking place and twenty of the twenty-eight women for whom it was relevant indicated that they did not have daytime childcare available at all. The paucity of childcare options makes it inevitable that some children will be present in working areas of the farm at least some of the time. We consider the provision of childcare options to be one of the elements that is more amenable to solutions (as it has been for urban women), subject to political will.

A small number of women were opposed to the survey's focus on risks and safety, advocating common sense and personal responsibility. We contend that individual responsibility and harm minimisation are not mutually exclusive. If there are practical ways of minimising risks or changing cavalier attitudes, it is illogical to ignore them. We acknowledge the frustration expressed by the women, but note that the point of balance between safety and operational efficiency has shifted over the years and will continue to do so. Rural women's voices need to be part of the conversations that determine that point.

Rural Women's Voices

Introduction

This project is an extension of previous work undertaken periodically over the past decade in the field of child safety, particularly in relation to All-Terrain Vehicles (ATVs). In 2006, a summer research project with two Waikato graduate students (Basham, Nicholls & Campbell) documented a troubling record of child deaths and injuries involving ATVs in rural New Zealand. A later article (Campbell, 2009) updating the statistics indicated that, despite continuing publicity surrounding each major incident and increasing calls to restrict children's access to ATVs, the situation was not improving.

Researchers, health workers and Injury Prevention specialists here and abroad continued to document the risks and their repercussions through to the present day. In 2014, the Child and Youth Mortality Review Committee (CYMRC) initiated the most concerted effort to date in New Zealand to make some progress towards alleviating the problem. By then, motorised farm vehicles more generally (2, 3 and 4-wheeled) were the focus of study and a workshop convened by CYMRC in conjunction with the Health Quality and Safety Commission, on August 20th brought together an array of stakeholders for the purposes of gathering feedback and identifying potential avenues for developing policy and prevention strategies.

The complexity of the problem was evident even in the diversity of stakeholders present – from health practitioners, academics, safety experts and agricultural sector representatives to Coronial services, educators, motor industry, government departments (ACC, Police) and Plunket. CYMRC published a report in December 2014 which describes, analyses and responds to the many facets of the issue. During the course of the workshop there was an explicit appreciation and acknowledgement of the role of mothers in reducing the levels of risk faced by rural children. This had been noted in the 2006 research (Basham et al) and was further supported by anecdotal evidence in the ensuing years.

This tendency for rural women to be more proactive in matters of safety was noted not only in the CYMRC workshop but was further reinforced in an ACC sponsored workshop (focussed on children and quad bikes) held in Wellington in September 2015. The summary notes from the workshop present a range of strategies intended to reduce the risks via a multi-pronged approach, along with recommendations falling into five categories: parents and caregivers; manufacturers and retailers; government; rural communities and schools. Rural communities and parents/caregivers are the essential elements in the project on which this report is based.

From its inception, this project has been assisted by Rural Women New Zealand (RWNZ), facilitated by Fiona Gower. We met at the 2015 ACC workshop and briefly discussed the role of rural women, as well as the possibility of working together to discover the roles, experiences, successes and frustrations of rural women in regard to farm safety at the general level, but also including ATV safety. The ACC workshop had identified the need to

support and empower rural women in their leadership of the community in terms of reducing risks and enhancing safety. Such support required that we learn more about what rural women think and do and wish for.

This survey is the first step towards understanding how we can best support rural women. It aims to establish the primary concerns of rural women in regard to farm safety. We sought their opinions and experiences on matters such as what hazards caused them most concern? Which risks are hardest to mitigate? Which are most common? Who is most frequently at risk? We wanted an idea of not simply the most common or intractable problems or the highest risks, but also those that produce the most frustration. We therefore asked about barriers to overcoming risks. These might be practical matters, such as access to child care, or less tangible barriers such as culture or attitudes to safety.

We note the historical tendency for a 'them and us' situation to exist between town and country. We take the position that not only is this unhelpful, more often than not, it is inaccurate. Rural and urban women have more commonalities than differences. We share many of the same experiences, frustrations, joys and hopes. One difference that may be significant to the present project is the opportunity that city women have had to overcome some of the problems currently faced by their rural counterparts – access to appropriate, good quality child care for example. It may be possible therefore to use the advantages already available to city women to argue for improvements in the lot of rural women.

It is not our intention to revisit the literature on farm safety in general, or ATV safety in particular for this project. We do, however, offer a selection of resources on the topics at the end of this report for those who may wish to investigate further. Our intention is to allow the voices of the women who responded to the survey to be heard. The project therefore aims to support and empower rural women and rural communities in their efforts to improve farm safety. By documenting the problems they face, we seek to develop both practical and policy responses to their concerns. This survey is a starting point, intended to provide an initial profile of key concerns which can be fleshed out further in future interviews and focus group discussions.

Methodology

The survey utilised the Qualtrics online survey tool (https://www.qualtrics.com/about/) and the link was distributed through the RWNZ newsletter, along with the Farming Mums' Facebook page. The Dairy Women's Network was also asked to circulate it. In total, one hundred and sixty women responded to the survey. We make no claim as to the representativeness of the data, but present the results here as a record of the experiences, thoughts and wishes of the women who responded. While we value the survey results in themselves, we also value them as a basis from which to generate further discussions with rural women. It is in these discussions that we hope to gain further, deeper insights into how rural women negotiate safety issues on the farm and to learn about strategies that they employ to minimise risk.

The survey began by collecting data describing who lived on the farm or lifestyle block. It asked about the age of the participant and whether there were other adults (over 18 years of age) in the household. Children in the household were divided according to sex and age group (under 5; 5-14 years; 15-17 years). The distinctions were made because the existing research suggests that children are susceptible to different risks at different ages and adults face a greater range of risks overall, by virtue of their work activities.

The next section of the survey sought information about the farm itself, initially requiring an indication of the type of farm – dairy, cattle, sheep, deer, poultry, crops etc. – and what part of the country it was in, usually by province. The women responding to the survey were then asked to specify the typical land contours of the farm, which might include multiple categories, such as flat to rolling. An "other" option was available in questions where it was appropriate and space was provided to specify the particular "other" answer. Question sixteen introduced the notion of risk by asking which of a list of broad risks were present on the farm. The broad categories and subsequent sub-categories were developed in conjunction with RWNZ with a view to being as comprehensive as possible, but without belabouring the point. The broad categories incorporated vehicles, machinery, workshops, water hazards, chemicals, animals and infectious diseases. Each of the broad categories was broken down into specific examples, which are best represented in the following table. A question containing sub-categories for infectious diseases was not pursued in the survey since our focus is on accidental injuries, rather than illness. We note however, that thirty-one percent of respondents confirmed the risk as being present on their farm.

Table 1

Type of Risk	Examples
Vehicles	Tractors, quad bikes, two-wheelers, three-wheelers, trucks, aircraft, light vehicles, forklifts
Machinery	Harvesters, milking machinery, cultivators, presses, shearing plant, sorting/grading machinery, jacks, welders, power tools, post thumpers
Water	Rivers or streams, lakes, ponds, pools, ditches, troughs, dams, oceans, effluent ponds
Chemicals	Top dressing, animal health products, weed sprays, insecticides, pest control, cleaning chemicals, machinery fuel, lubricants etc
Animals	Dairy cows, cattle, sheep, horses, pigs, deer, poultry, dogs, cats, pests

Question twenty-three asked which of the broad categories caused the participants most concern, with the following question asking them to specify they type of risk within that category that was concerning them. The survey then moved to investigating who was most at risk by gender and age group, along with their estimation of the level of risk of serious injury or death on a simple low-medium-high ranking. The most frequently occurring category of risk and the risk that was most difficult to overcome were similarly explored.

Participants were then asked to provide information on their experiences in the previous five years of injuries to themselves, family or visitors on the farm, covering the same broad categories and sub-categories of risk. Accidents within the family home were excluded from the survey. The women were asked who was involved in the accident by sex and age, the level of medical treatment required (local doctor, specialist, hospital, rehabilitation and full-time care) and whether there were other accidents that required more than a trip to the local doctor. The survey goes on to canvas the participants about whether there are risk reduction measures and strategies in place on the farm and what they are. These range from mechanical, technical and communication equipment to physical barriers and education and/or training for family or visitors, both invited and uninvited, through signage, for example. There are then two questions on attitudes to risk amongst the household.

The last substantive section focuses on children in particular, with questions relating to play areas, and engaging in farm work, again separated according to age and sex. The presence of children in areas where farm work is taking place is the subject of question 57 and the final two questions relate to the accessibility of childcare. The next questions asked the women if they would like to participate in future discussions about farm safety, either in an individual interview or as part of a focus group. This was limited to women living in the greater Waikato/Bay of Plenty/King Country districts. The final question provided an opportunity for any further comments the women might wish to make.

Results

In total, there were 160 individual attempts at the survey, though not all respondents answered all questions. Most questions elicited about 120 responses, with the response rate diminishing as more specific territory was canvassed. We recognise that the survey was longer (taking approximately 20 minutes) than most people's tolerance would welcome given the increasingly frequent requests for participation in all manner of surveys. The numbers were lower than we had hoped for, but understandably so, and we make no claims to representativeness. We do, however, appreciate the time and effort of those who participated and see merit in evaluating and reporting on their responses. Some of the data confirm widely held beliefs, others not. More importantly, we value the opportunity to allow the voices of those who participated to be documented and their concerns, reflections and experiences to be presented. We present an edited selection of the data, with selection premised on responses that we consider to be most relevant, useful, surprising or noteworthy. All percentages are rounded to the nearest whole number. Our aim is to provide a descriptive account of the circumstances and experiences of the women, though we also hope to provide a useful discussion of the implications that can be drawn from their accounts.

Participants

To the best of our knowledge, all the participants were women, since the purpose of the project was explicitly described as seeking to hear women's voices and recruitment was

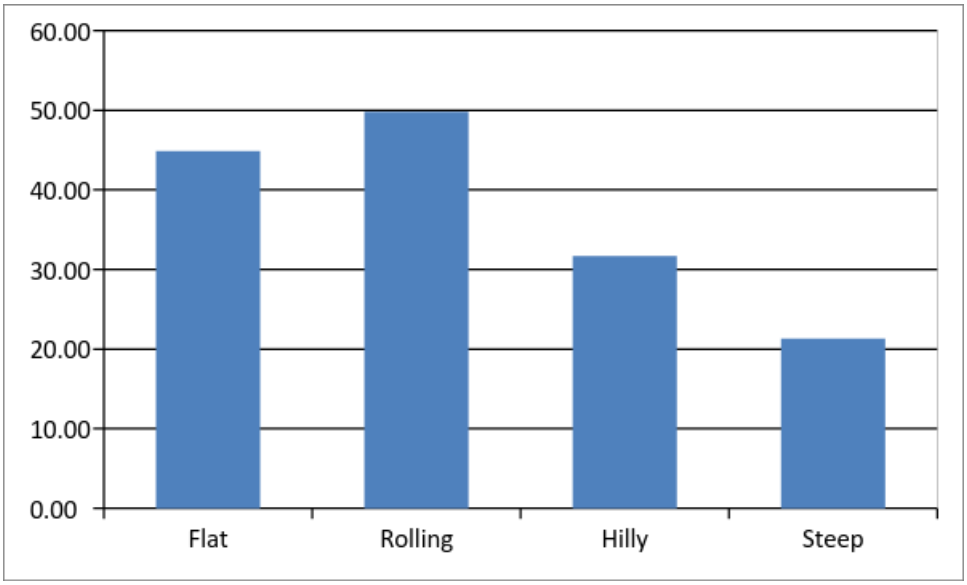
facilitated through RWNZ and online women's networks. A full range of ages participated from six women in the 18-24 age group right through to two women over 75 years of age. The largest age group (24%) were those aged from 45 to 54 years, though most categories were well represented: 25-34 (17%); 35-44 (21%); 55-64 (19%); 65-74 (13%). The vast majority of households (77%) included two people over the age of eighteen. We take this as a proxy for most respondents having a partner in the household. Just over twelve percent did not have another adult in residence and ten percent had three or more adults in the household.

The majority (62%) did not have children present in the household, though there were 121 children in total in the remaining households. Amongst all the households, nineteen percent contained pre-school children, twenty-three percent contained children aged 5-14 years and just nine percent reported young adults (15-17 years) were present. There was, of course some overlap amongst these figures, with one household having children in all three categories, eight having only young adults and nine with children spanning the years 0 – 14. Eighteen women reported having only pre-schoolers in the household and twelve had children concentrated in the 5-14 year age bracket. The largest household contained eight children, while nine households reported only one child; three of these were young adults. Together, the higher numbers of younger children and relatively low numbers of young adults have implications for childcare during non-standard operating hours.

Types of farm

Respondents could tick multiple categories for farm type, resulting in the three most common categories being dairy (45%), cattle (36%) and sheep (35%). The next largest response was in the 'other' category (18%). Most were women on lifestyle blocks, along with two rurally located businesses, several involved in grazing (beef and dairy), one flower grower and one grape grower.

Figure 1: Contours of land

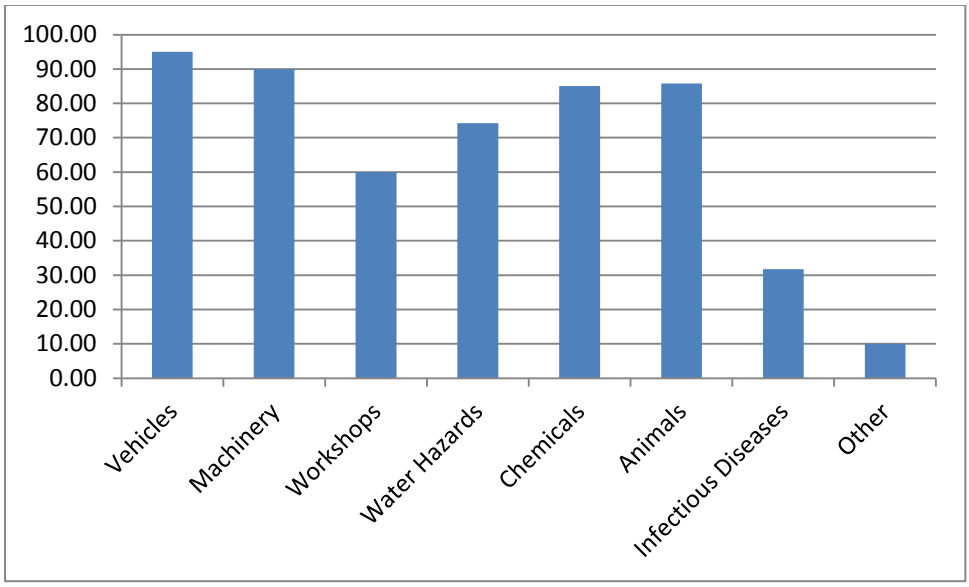


A good proportion of the women who lived in the North Island (38%) came from the Waikato district, with a similar proportion responding from Canterbury (40%) in the South Island. Stewart Island and Fiordland in the south, and Auckland/Coromandel and Wellington in the north were the only areas that did not have any respondents in the survey. All other areas had at least three women who engaged with it. In describing the contours of their farms (Figure 1), half (49%) described it as rolling and forty-four percent described it as flat. Multiple categories could be chosen and it is clear that many farms were comprised of a mix of contours. Almost a third (31%) included hilly contours, with just over a fifth describing their land as including steep contours.

Types of risks

Some types of risks (Figure 2) were almost universal: vehicles (95%); machinery (90%); chemicals (85%); animals (86%). It is most likely that the women who did not report these common hazards were involved with non-farming rural activities, such as those with small rural businesses. Others may simply not regard the presence of, for example, pet animals on a lifestyle block, as a risk. Water hazards were reported by seventy-four percent of the women and workshop hazards by sixty percent. Just thirty-two percent indicated the presence of a risk of infectious disease. For this question ten percent answered "other". Included among the responses here were terrain related elements, such as bluffs and steep coastlines, bees, electric fences, bridges, tomos (sinkholes), guns, hunters and public roads. While, with the exception of terrain, these tend to be subcategories, we note their omission from our lists and are grateful for having them drawn to our attention. In the "other" option, one woman reported that none of the categories of risk existed on her property, or she perhaps did not regard them as risks if they did. It is our view that even the rural businesses could be subject to at least one of the risk categories.

Figure 2: Broad risk (percentage)



These broad categories were then examined separately, the first question seeking information on the specific types of vehicles on the property.

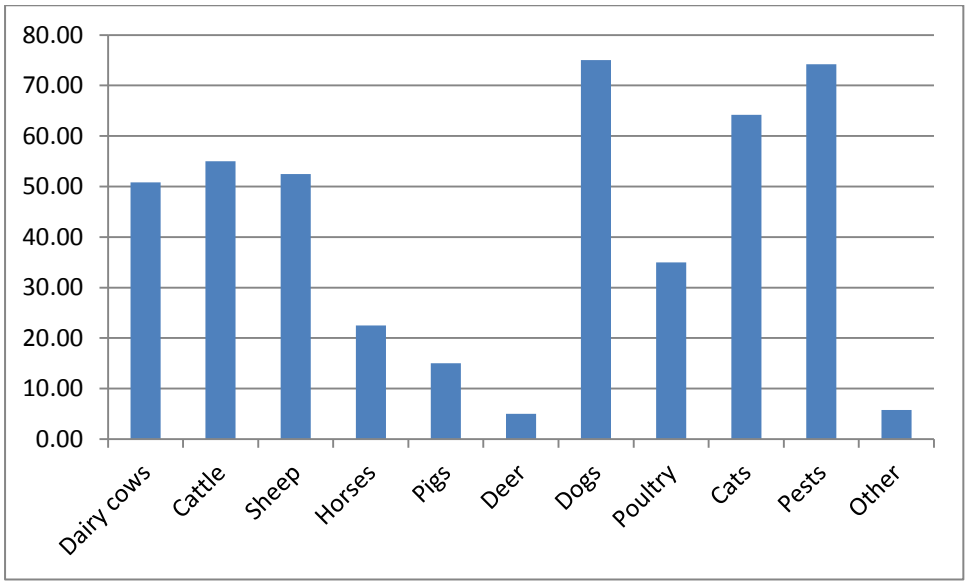
Vehicles

Unsurprisingly, the vehicles most commonly reported were tractors (90%), light vehicles (89%) and quad bikes (85%). None of the women indicated the presence of three-wheeled bikes (precursors of quad bikes) and just three percent reported air transport (planes/helicopters). Two-wheeled motorbikes were relatively common (59%) and a little over a third of the properties included trucks (36%). Of those who answered "other", four cited side-by-side bikes, a variation on quad bikes, and a similar number referred to ride-on mowers and diggers. We consider these sit better under the broad category of machinery.

Machinery

General tools (94%) and workshop tools (77%) were the most frequently reported subcategories here. The least common were packing shed tools (3%), with a good spread amongst the remaining subcategories. Milking machinery featured in forty-three percent of responses, while wool shed equipment (36%), presses (32%) and cultivators (33%) were all relatively common. Close to a quarter of the women (24%) indicated that some type of harvester was on their property.

Figure 3: Type of animals (percentage)



Animals

Dogs (75%) and pests (74%) were the most frequently reported animals, but a good range of 'the usual suspects" was also reported. Cattle, sheep and dairy cows each featured in more than half of the responses, as indicated by Figure 3 above. None of these rose above sixty percent however. A small number (5%) indicated that there were deer on the farm and many had cats (64%). Almost six percent of the women mentioned other animals, including alpaca, donkeys, wild animals such as goats, pigs and deer, and birds such as ducks,

peacocks, turkeys and pukeko. We expect that the vast majority of properties incorporated a range of animals, perhaps with the exception of the rural businesses.

Water hazards

The three most frequently cited water hazards were troughs (83%), rivers/streams (68%) and ditches (59%). A small number (5%) had an ocean border and just sixteen percent reported pools. Lakes/ponds (40%) and effluent ponds (38%) were more common than dams (26%). Canals and drains were cited in the "other" category and might usefully be added to "ditches". One woman indicated in the "other" category that bodies of water were not hazards. Two women reported that their properties contained no water hazards and this is possibly related to the rural businesses or lifestyle blocks.

Chemicals

One category – weed sprays – was reported by almost all the women (97%). Close behind were machinery fuels and lubricants (93%), animal health treatments (92%) and fertilisers (82%). Just over half used insecticides (52%) and more than two thirds used pest control chemicals (72%). Cleaning chemicals were cited by sixty-three percent of respondents. One person indicated that there were no chemical hazards present, though no women added any "other" options to this question.

Concerns about risk

The broad category of risk that caused the women the most concern was "vehicles" (46%). Chemicals and infectious diseases were seldom cited, while water (10%), animals (12%) and machinery (16%) were of concern to a moderate number of women. Eight percent of respondents used the "other" option to indicate various positions. Two women thought all the categories should have the same risk assessment, while another was not concerned about any of them since "we are careful farmers". One specified sheep yards, another was concerned about the criminal activities of her neighbours, and another cited guard dogs with small children.

When asked to specify the relevant subcategory, many respondents cited multiple examples, such as quad bikes *and* mowers *and* tractors. The most commonly cited vehicle was the quad bike, though tractors were also feature and both were often mentioned in conjunction with steep terrain. One woman was concerned about logging trucks using a shared driveway which was narrow and in poor condition. Similarly, multiple water hazards were cited – troughs, effluent pond and creek, for example. Cattle, cows and young cattle were the most common animals causing concern, though stags and pigs were also specified, along with the guard dogs mentioned above.

Some options were not anticipated by the survey and trouble with neighbours is such an instance. One woman reported having shots fired over her and at her car, while two mentioned problems with trees. Anomalies also arise in terms of broad categories for injuries such as de-gloving a finger with baling twine while on a quad bike. It would be

misleading to attribute this particular injury to the quad bike. The bike might be implicated, but a number of scenarios are possible and without further information on exactly how it happened, no conclusions can be drawn. Returning home after dark was also a cause of concern for the women, which may well be reflected in the women's assessment of who is most at risk. Most often, these concerns were made in relation to men. The level of risk of serious injury or death in relation to the broad categories was considered to be either medium (43%) or low (32%) by most of the women (Figure 4).

Figure 4: Broad category of risk causing most concern/level of risk

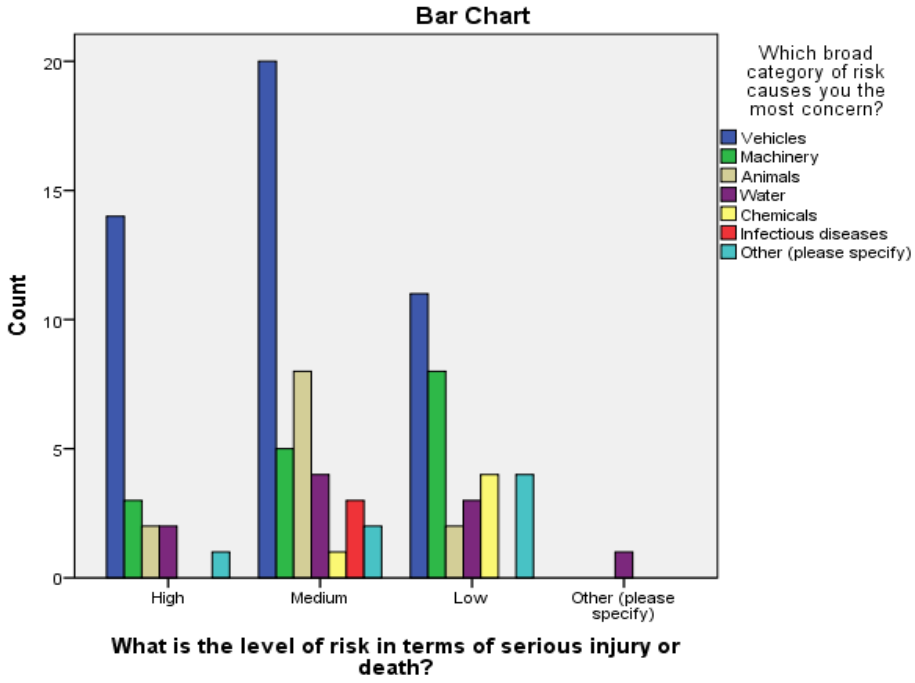
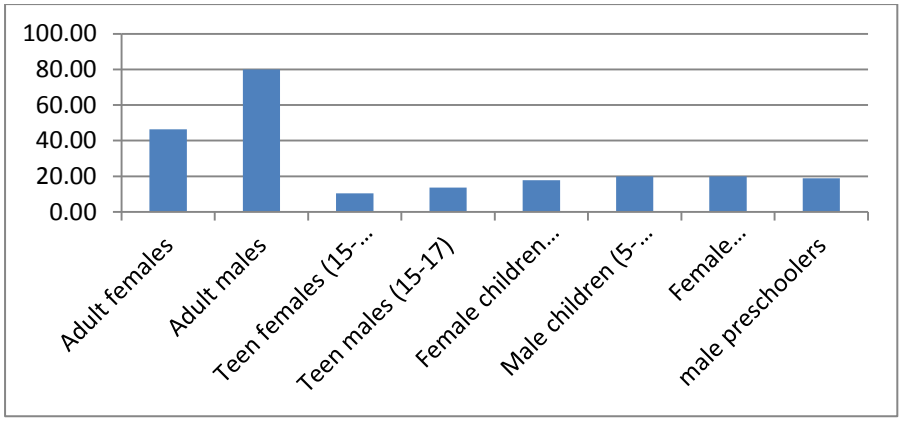


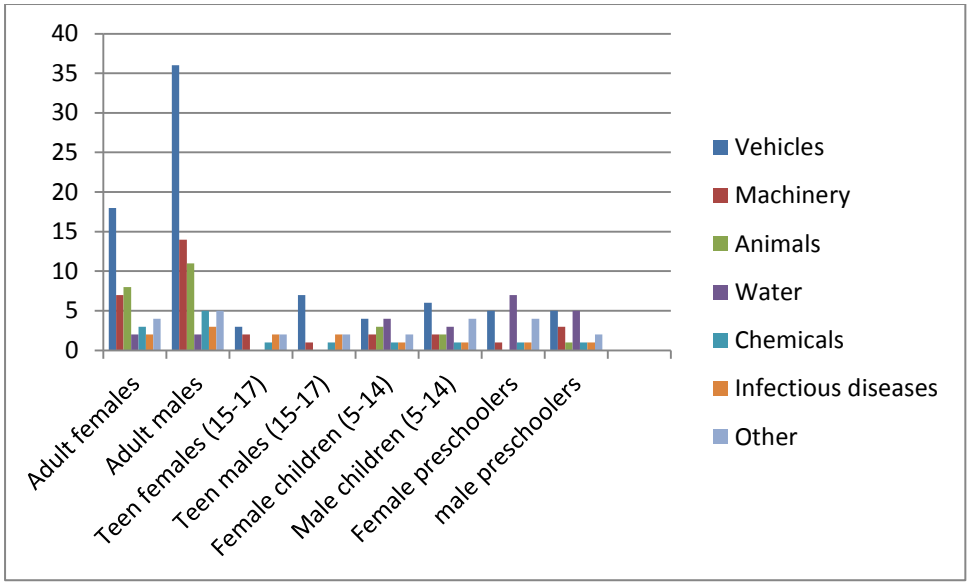
Figure 5 tells a very stark story. Respondents could tick multiple boxes in responding to this question. Adult males are overwhelmingly considered to be the group most at risk of injury on the farm. In fact males are considered to be more at risk in every age group except pre-school.

Figure 5: Most at risk (percentage) (related to broad category of risk)



Almost half the women (46%) thought that adult females were also at risk. The figures no doubt reflect the higher levels of engagement with farm work undertaken by adult males and females, as opposed to younger age groups. We note that younger children are considered more at risk than teens. Intuitively, teens are more likely to be assisting with duties on the farm and therefore at higher risk. The anomaly is perhaps explained by the lower number of teens in the households captured by the survey. Alternatively, it may reflect the difficulties experienced with accessing childcare for younger children (discussed below), resulting in their presence in working areas of the farm.

Figure 6: Most at risk by broad category of risk (number)

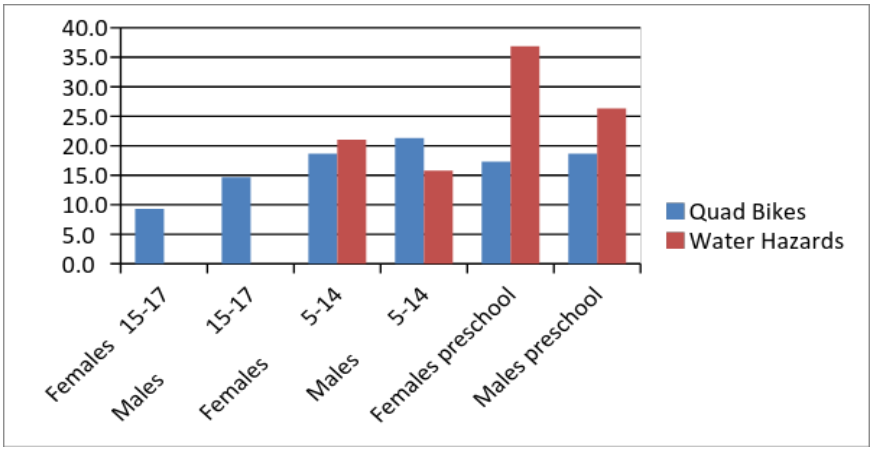


While smaller percentages of children and young adults are involved overall, there is a clear acknowledgement of the risks to children. It is worth reiterating that the presence of children was limited to just thirty-eight percent of the properties/households covered by the survey. When the data are limited to just those households with children, the percentages of children considered to be most at risk increases significantly. When mapped against the broad categories of risk (Figure 6), it is clear that vehicles are the biggest concern by age and sex, with machinery and animals next most problematic for adults, but less consistently so for children. Conversely, water is regarded as a risk for young children, but does not feature at all for young adults and is a minor concern for adults.

We also note that if perceived risks to children are mapped solely in regard to those households containing children, the proportions are significantly higher, though they retain their relative differences amongst the age groups and genders. In comparison to young adult females, young adult males are considered to have levels of risk for vehicles that reflect the disparity between male and female adults, though the numbers represented in the survey data are small. The risks to younger children are evident in Figure 7, which depicts the perceived risks associated with quad bikes and water by age and gender. School-aged males are most at risk from quad bikes (21%), but only slightly ahead of their female

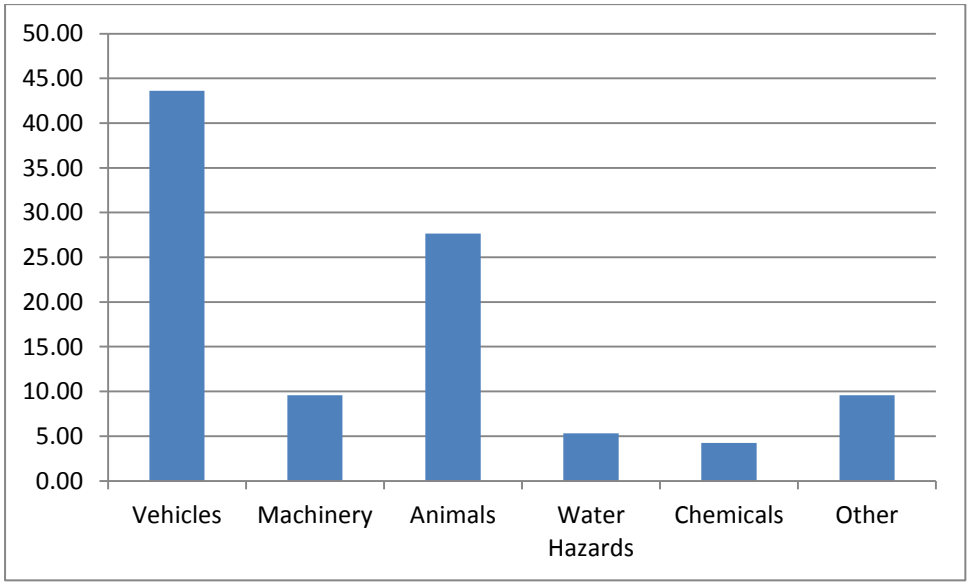
counterparts (19%). Most startling is the risk associated with water for preschool females (36%), which is ten percentage points higher than for preschool males. One woman commented that the risk was decreasing as the children got older and this is generally borne out by the data, though visitors were a continuing cause of concern.

Figure 7: Most at risk (percentage) (quad bikes and water hazards by age and sex)



The most frequently occurring broad category of risk (Figure 8) was that of vehicles, cited by 44% of the women; the second largest category was animals. All other categories fell below ten percent. The "other" category (10%) was used to make comments by some of the respondents. One woman pointed out that risk was always present, another two said that there was no risk and a third commented that "Life is a risk. Farming is no different than crossing the road. Studies such as this are unhelpful. Encouraging common sense and self-responsibility is far more important."

Figure 8: Broad category of risk occurring most frequently (percentage)

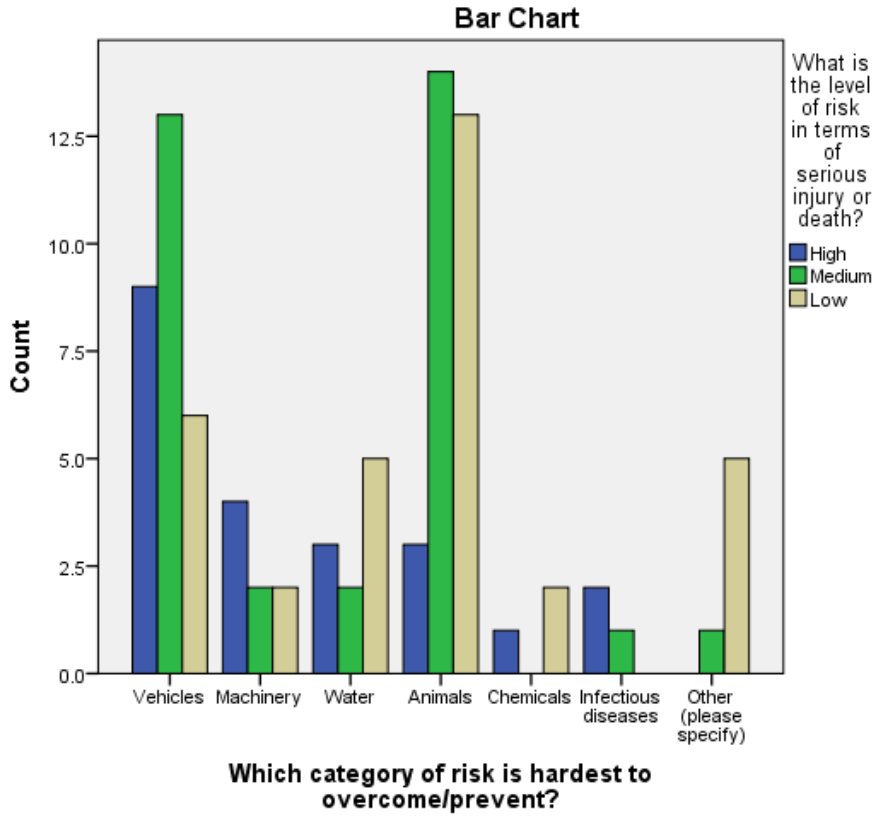


As with the previous section, the subcategories cited by the women indicated that quad bikes were a major concern, as were two-wheeled motor bikes. Of those who thought

animals presented the most frequent risk, cows were the subcategory mentioned most often. Adult males were again considered to be most at risk (83%), followed by adult females (49%). The levels of risk of serious injury or death were consistent with the previous section, though one woman noted that "accidents can still happen, but children are well supervised, and with the horses have lots of help and training, age and training appropriate tasks are given".

It is unsurprising that vehicles were also considered one of the most difficult hazards to overcome (32%), given that they are essential to the operation of most farms. Slightly more women (34%), however regarded animals as the hardest risk to overcome. There was then a large drop to twelve percent of women citing water. Within the "other" option, two respondents thought people were the hardest risk to overcome and another thought that dogs were problematic. Another woman said that "mostly nothing goes wrong. The men arriving in late from being out on the hill or coming in from fishing sets the worry going."

Figure 9: Risk that is hardest to overcome or prevent/level of risk



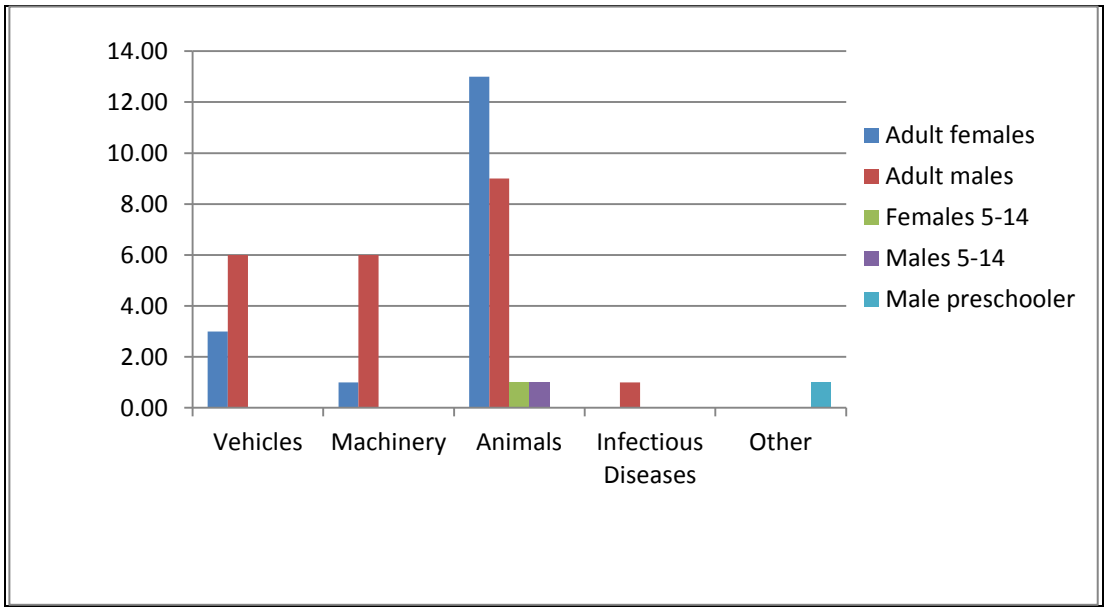
When mapped against "level of risk", animals are the hardest to overcome at medium and low levels of risk (Figure 9), with vehicles second overall, but dominating in the highest risk category. Cows and cattle featured amongst the subcategories and many noted the unpredictability of the animals. A good spread of vehicles was mentioned, but once again quad bikes were to the fore. Less expected were references to delivery trucks and logging

trucks. Beyond the two main categories, there was concern about zoonotic diseases and the difficulty of recognising some diseases. The human factor featured in a number of responses, such as consequences of inattention, working alone, making poor decisions and feeling bullet proof. As before, most at risk were adult males (79%) and adult females (47%). Amongst the younger age groups, those considered most at risk were male pre-schoolers (21%) and female pre-schoolers (19%). Older children of both sexes were at seventeen percent, followed by young adult males (14%) and young adult females (9%).

Experiences of injuries

Forty-six women indicated that they had dealt with injury amongst their family or friends/visitors to the farm. Of these, 18 had experienced more than one incident. Injuries from animals were reported by twenty-two of the forty-six women. Next most common were vehicles (9) and machinery (7). Other women cited infectious disease, barbed wire and electric fences, and in the "other" option incidents involving walking or working on steep or uneven terrain were mentioned several times. The inclusion of terrain as a broad category in future projects may be useful, but will need to be clearly distinguished from working with vehicles or animals on troublesome terrain. There were again references to human error and "stupidity by the worker".

Figure 10: Age & gender involved in serious incident (number) by category of broad risk.



Some incidents involved multiple people, resulting in percentages summing to more than one hundred percent when determining who was involved in the accidents. The results were adult males (53%), adult females (49%), female children (2%), male children (4%) and male preschoolers (2%). No injuries were reported amongst young adults or female preschoolers. Perhaps the biggest surprise (for us at least) was revealed by mapping broad categories by age and gender (Figure 10). Men appear in all categories and predominate in

most, but adult women record a significantly higher incidence of injury from animals. The preschool male appearing in the "other" category was injured by an electric fence. Like the respondent, we are unsure which broad category this might fall into.

Most incidents required a visit to the local doctor (53%), and twenty-eight percent required hospital care. Eight people required specialist care and long term rehabilitation and one person needed ongoing full time care. The women were then asked to specify any further accidents over a five year period that required more than a local doctor's visit. Twenty-one incidents were reported, with the most being attributed to machinery (7), followed by vehicles (5). Animals accounted for four injuries and workshop accidents for three. Infectious disease and a water hazard were responsible for the remaining two incidents.

Mitigating risks

The survey then sought information on the existence of any equipment or strategies designed to prevent injuries or lower the risks. Some common factors were listed: Roll bars (34%); seat belts (57%); automatic cut out devices (25%); Isolation switches (34%); and building/yard design (45%). The women added some further elements, including physical barriers such as kick bars in the dairy shed and helmets, chainsaw chaps, safety glasses and guards on machinery. Many of these were covered in a following question on physical barriers (Q.45). One respondent wrote, "A HEALTH AND SAFETY CULTURE" in large block capitals. Her frustration is acknowledged, though it is evident that the women generally have a deep appreciation of the risks present on their properties.

Communication on farms has been a longstanding problem, though one which has improved in recent years. Eighty percent of the women indicated that cell phones helped to reduce risks, though coverage is not yet universal. Radio telephones were utilised by sixteen percent and locator beacons by eight percent. A larger proportion (21%) used location logs and two women used handheld radios or "walkie talkies". Another noted, "I bought him a PLB (personal locator beacon) but he won't use it!!!"

The most commonly used physical barriers were small scale items such as protective clothing (93%) – chaps, safety glasses, helmets and safety boots; more than half of the properties (58%) had fenced off specific hazards, such as waterways and three-quarters utilised locked storage (75%) and locked vehicles (51%). One woman did not consider waterways to be a hazard, while another stated that there was a health and safety plan for the farm. This aspect was explored in the next question, which asked about education and training to reduce risks on the farm. Sixty-six percent reported general health and safety training and fifty-seven percent provided or engaged in first aid training. A significant proportion had specific programmes or strategies for vehicles (47%); animal handling (45%); machinery (43%) and hygiene (40%). The need for education/training in respect of specific hazards is dependent on the type of property, as reflected by the relatively low numbers

reporting training for hazmat handling and storage (26%). One woman mentioned that "all staff have access to Orange Cross[1] to record incidents." While not a preventative strategy *per se*, it most likely indicates an appreciation of the risks and a commitment to a health and safety culture and is one of a number of safety enterprises currently available.

Risks also pertain to visitors to the farm, both invited and uninvited. In regard to invited visitors, information was provided about what areas of the farm they could access (69%); what hazards exist (75%); necessary safety equipment (54%) and which vehicles could be used (52%). Comments in the "other" option included constant supervision, excluding visitors from using vehicles or machinery, with one specifically mentioning quad bikes. Uninvited visitors were provided information about risks in person by twenty percent of respondents and forty-seven percent used signage as a means of communicating risks. Thirty-seven percent did not provide information for uninvited visitors.

Attitudes to risk

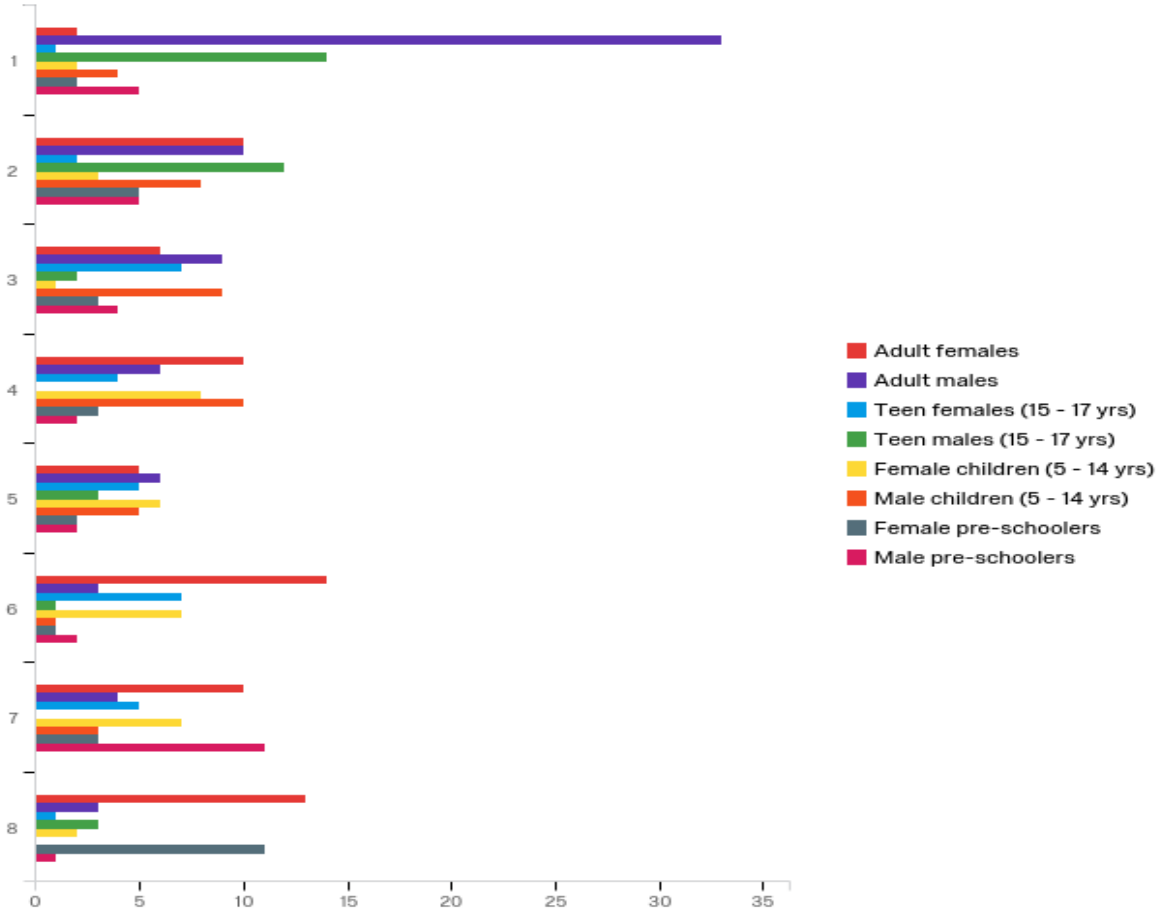
As noted earlier, part of the motivation for this research rested on anecdotal evidence that women were leading the charge in respect of enhancing safety in the rural community. This section of the survey asked the women about their own experiences of attitudes to risk amongst all adults on their properties.

Just under half (49%) thought that all the adults present shared similar views. A further forty-three percent thought that attitudes were shared on some risks but not others, while seven percent thought that attitudes to risk were not shared at all. When asked to rank people according to who was most likely to take risks, adult males were overwhelmingly considered to be the greatest risk takers. Ranked from 1 (most likely) to 8 (least likely), adult males were ranked at 1 by forty-five percent of the women. Teen-aged males ranked next highest at thirty-nine percent, while adult females were ranked at 1 by just three percent of respondents.

This changed at the number 2 ranking, however, with adult males and females both regarded as likely to take risks by fourteen percent of the women. As expected, the predominance of adult males abates as the ranking number rises and the group recording the lowest propensity to take risks (ranked at 8) is adult females (18%). By comparison, just four percent thought that adult males ranked at that level. School aged children peaked in the mid ranges (rankings 4-7), while males of the same age peaked over higher ranges (rankings 2-5). The highest ranking for females was twenty-two percent (ranking 4) and for males was twenty-five percent (also ranking 4). Male and female preschoolers peaked at ranking 2, with both recording fourteen percent. We note that preschool males recorded the same percentage at ranking 1 however, whereas females were significantly lower (6%).

[1] The brainchild of Waikato dairy farmers, this app allows the sharing of health and safety information, access to a farm's risk register and helps farmers meet their health and safety obligations (www.orangecross.co.nz).

Figure 11: Propensity for taking risks (ranking)



The final section of the survey focuses on children, beginning with preschoolers. Of the fifty-two women who answered Q 53, the majority (63%) indicated that they had safe and secure designated play areas for their preschoolers. A similar question about school-aged children was answered by fifty women and elicited a similar response (64%). Within this group, six women reported that their children had set chores, and a further fifteen confirmed that children worked when extra help was needed. Eleven women's school-aged children did not work on the farm. The corresponding responses for preschool children were: set chores (4); extra help (3); no work (17). Of the forty-eight women responding to the question about the presence of their children in areas of the farm where work is taking place, 26 women confirmed that they were. The availability of childcare is a key determinant of children's presence in working areas of the farm and twenty of the twenty-eight women for whom it was relevant indicated that they did not have daytime childcare available at all, three had on-farm childcare and five could access childcare off the farm. Seven had childcare available off the farm at night if it was needed, and two had it available on the farm. Again, twenty women could not access childcare at all at night.

The last question provided the opportunity for participants to say anything further that they thought important. Some reiterated that safety was their biggest concern, while one reiterated their opposition to the survey and another felt that "health and safety was a

cover-up for lack of use of common sense". Others made some perceptive observations. One noted the relatively low incidence of bike accidents, given that she spent six hours on her bike every day, but had experienced just one accident in eleven years. The availability of child care nearby was acknowledged, but its cost was prohibitive. Others who had minimal risks at present were deeply aware that it would change significantly if children came on to the property. One farm had a "no children" policy where any child had to be supervised by an adult and was not permitted on any vehicles.

While some clearly acknowledged the importance of health and safety measures and thought the farmers' attitudes were improving, there were comments about unsafe workers, the possibility of health and safety measures becoming counter-productive and a concern about grandparents being oblivious to the risks for children.

Discussion

From the outset, this project was intended to be primarily descriptive. It aimed to say something about the women and their families and farms, along with giving voice to their assessments of the various risks and their experiences with accidents in recent years. The demographic questions allow us to be sure that we are not confined to responses from, for example, dairy farmers in their thirties on flat land. There is a broad range of ages, farm types, locations and categories of risk represented amongst the women who participated in the survey. Much of what they told us was unsurprising – for example, vehicles were the most worrying category of risk and adult males were considered to be most at risk in almost all categories, water being the exception. Both these characteristics can be explained in terms of the operation of most farms in as much as vehicles are essential to the operation of the farm and farms are still primarily a male domain. Such observations belie the complexity of farm safety issues however.

We imagine that the women's responses in regard to perceived risks present an overall impression that very much fits with the general perceptions of risks on the farm. News media reports regularly remind us that the farm is a dangerous workplace and accidents (especially those involving quad bikes) are reported (too) frequently. Again, these sorts of accounts understate the complex reality of the women's lives and undermine public perceptions of the time and energy expended in reducing risks and minimising harm. While public perceptions are subject to media forces, it is not necessarily the case that the women's perceptions of risk and their experiences of risk will align. This is evident on two counts in the women's responses. There are anomalies in regard to both gender and category of risk.

The women's responses in regard to serious incidents on the farm show that while adult males have experienced more injuries than women in vehicles (6:3), the highest number of injuries by category relates to women and animals (13:9). Thus animals, rather than vehicles accounted for more injuries. We note that at medium and low levels of risk, this is the risk category the women saw as hardest to mitigate, indicating that there was a keen awareness

of the ongoing potential for harm from animals, even if this did not translate into them being considered the most risky element of the farm. Clearly, predictability is not an issue with vehicles in the way that it is for animals and the women's responses reflect this. Because vehicles are regarded as a high risk and males are regarded as most at risk (and overall, more adult males were injured than any other group), it is possible that more attention is given to minimising the harm of this risk category. Certainly, modifying the behaviour of vehicles would seem much more easily achieved than modifying the predictability of animals. It warrants further investigation.

Attitudes to risk are a key indicator of the potential differences between males and females and, if confirmed, provide possible confirmation of the notion that women are more proactive in regard to farm safety. Almost half the women thought that all the adults on the property shared similar views, but a significant minority (43%) thought it depended on the particular category of risk and a further seven percent thought attitudes were entirely different. Invariably, males (both adult and young adult) were seen as having a higher propensity for taking risks, which suggests that the original motivation for this research (women's more proactive approach to farm safety) may indeed be based on a solid foundation. Our project however, provides insufficient evidence on its own. Further investigation on a wider scale is needed. It was clear that significant efforts are made to enhance safety on the farm. Despite this, there was frustration from some women that their efforts sometimes were ineffective in as much as partners, workers or visitors ignored advice and/or devices such as PLBs. Again, further research is needed. There is also good reason to explore further the circumstances and experiences of women and men who have no other adults on the property, as was the case with a significant proportion (12%) of the women in the survey.

The presence of children on the farm is another complication that the women have to contend with. There is a clear indication that the women are conscious of the risks and take steps to minimise them, but access to childcare presents particular difficulties. Very few of the women had older children available to look after younger children and formal childcare was inadequate in terms of both affordability and accessibility. Under these circumstances it is inevitable that some children will be present in working areas of the farm, either from time to time, or more routinely for periods of the child's life. This element seems to be more open to remedies than, say, animal behaviour. Urban women benefit daily from an extensive network of childcare options. The current services arose out of pressure from working mothers, employers, educators and – eventually – recognition by the state that the services were *essential.* There is an ongoing cost to the state that is now accepted as not simply normal, but as a good investment in the long term. The same reasoning can and should apply to rural women and their families.

A further complication affecting this project is the notion that focussing on risks, safety and harm minimisation serves to undermine individual responsibility. Indeed, one of our

respondents noted that, “Life is a risk. Farming is no different than crossing the road. Studies such as this are not helpful. Encouraging common sense and self-responsibility is far more important.” We agree with most of this statement, though, of course, we take issue with the objection to the study. More importantly, we argue that individual responsibility and harm minimisation are not mutually exclusive. If there are practical ways of minimising risks or changing cavalier attitudes, it is illogical to ignore them. Some may be inconvenient and we acknowledge that there are limits to practical interventions, but a degree of inconvenience is a small price in comparison to what might be the ultimate cost.

A small number of the women who participated in the survey objected to labelling water, or vehicles etc. as risks and in the latter parts of the survey, the contribution of the human element in accidents was evident. Two participants were particularly opposed to the subject matter of the survey and one was frustrated by what she saw as our intention to “create drama”. A recurring argument throughout their responses involved the importance of common sense and self-responsibility. We agree. We can also agree that sometimes people make stupid decisions or engage in stupid behaviours. Similarly, we accept that it is not possible to prevent some events without severely restricting the operation of the farm. There is a point of balance at which further health and safety restrictions can make an enterprise unviable. That point of balance has shifted over the years, however, and we contend that it will continue to shift. It was common practice two or three decades ago, for example, to feed out hay bales from the tractor and trailer alone. The bales were smaller, but the risks of working alone were substantial. Farmers today regard avoiding solitary feeding out as simple common sense. The results of this survey are further testament to the changing norms and practices on farms and other rural properties.

Conclusion

As part of a larger project, it was never intended that this survey would provide definitive answers to safety problems for rural women. Instead, it describes their views, attitudes and experiences. At times they reinforce prevailing ideas about risks and occasionally they provide reason to question what has been taken for granted. We cannot extrapolate from the data, but we can identify elements that we need to know more about. We know that rural women should be included in discussions, debates, strategies and policy decisions about risks and safety on the farm and that they will achieve more if they are supported. If this research exercise tells us anything at all, it tells us that there is much more to uncover, many more women’s voices to listen to, many more experiences and aspirations to draw on.

References

Alatini, M. (2009) *Analysis of child injury data in New Zealand: Mortality (2001-2005) and morbidity (2003-2007)*. Auckland: Safekids New Zealand.

Basham, M., Nicholls, M., and Campbell, M. (2006) *The ABCs of ATVs: factors implicated in child deaths and injuries involving All Terrain Vehicles on New Zealand farms.* Report prepared for the Child Accident Prevention Foundation of New Zealand. Hamilton: University of Waikato.

Beck, U. (1992). *Risk Society: Towards a new modernity*. London: Sage.

Bergman, A.B., & Rivara, F.P. (2001). Sweden's experience in reducing childhood injuries. *Pediatrics, 88* (1), 69-74.

Campbell, M. Kids on quads: Responding to rural risks. Social Policy Journal of New Zealand. v34, July. Ministry of Social Development, 2009. p.124-135

Child and Youth Mortality Review Committee, Te Ro-pu- Arotake Auau Mate o te Hunga Tamariki, Taiohi. (2014). *Child and youth mortality from motorcycle, quad bike and motorised agricultural vehicle use with a focus on deaths under age 15 years: Special Report – December 2014*. Wellington: Child and Youth Mortality Review Committee.

Clarke, J.N. & Van Amerom, G.G.P. (2007). When bad things happen to good people: The portrayal of accidents in mass print magazines. *Health, Risk & Society*, *9* (4), 425-439. http://dx.doi.org/10.1080/13698570701612279

Dyson, R. (2004) *Workplace health and safety strategy for New Zealand to 2015.* Wellington: Department of Labour.

Farmers Weekly. (2005). "ATV pragmatism is verging on stupidity". *Editorial*, 24 October, p.12.

Franklin, R. C., McBain-Rigg, K. E. & Knight, S. M. (2015) Factors to be Considered in Developing Occupational Regulations for Quad Bikes in Australia, Journal of Agromedicine, 20:3, 370-380, DOI:10.1080/1059924X.2015.1047108

Green, J. (1997). Risk and the construction of social identity: Children's talk about accidents. *Sociology of Health and Illness, 19* (4), 457-479.

Green, J. (1999). From accidents to risk: Public health and preventable injury. *Health, Risk & Society*, 1 (1) 25-39.

Jansson, B., De Leon, A.P., Ahmed, N., & Jansson, V. (2006). Why does Sweden have the lowest childhood injury mortality in the world? The roles of architecture and public pre-school services. *Journal of Public Health Policy, 27* (2), 146-165.

Kelleher, C.M., Metze, S.L., Dillon, P.A., Mychaliska, G.B., Keshen, T.H., and Fogila, R.P. (2005). "Unsafe at any speed – kids riding all terrain vehicles" in *Journal of Pediatric Surgery, 40*, pp.929-935.

Matthewman, S. (2012). Accidentology: Towards a sociology of accidents and disasters. *International and Multidisciplinary Journal of Social Sciences*, *1* (2), 193215. doi: 10.4471/rimcis.2012.09

National Centre for Injury Prevention and Control of the Centers for Disease Control and Prevention. (2012). *National action plan for child injury prevention: An agenda to prevent injuries and promote the safety of children and adolescents in the United States*. Atlanta: Author.

Nielsen. (2015). Health and safety attitudes and behaviours in the New Zealand workforce: A study of workers and employers. 2014 Qualitative Research. Agriculture report. (A report to WorkSafe New Zealand). Wellington, New Zealand: Author.

Nilsson K (2016) Parents' Attitudes to Risk and Injury to Children and Young People on Farms. *PLoS ONE* 11(6): e0158368. doi:10.1371/journal.pone.0158368

Occupational Safety and Health Service. (2002a) "ATVs in agriculture" in *Farming Bulletin,* January, no.2. Wellington: Department of Labour

Occupational Safety and Health Service. (2002b) *Safe use of ATVs on New Zealand farms: Agricultural guideline*. Wellington: Department of Labour.

Royal Society for the Prevention of Accidents. (2013). *The big book of accident prevention* . Birmingham: Author.

Zentner, J., Berg, R.L., Pickett, W., & Marlenga, B. (2005). "Do parents' perceptions of risks protect children engaged in farm work?" in *Preventive Medicine, 40*, pp.860-866.

For a range of guidelines, fact sheets, legislation, policies and reports, also see:

Accident Compensation Commission: https://www.acc.co.nz

Federated Farmers of New Zealand: http://www.fedfarm.org.nz/

Ministry of Business, Innovation and Employment: http://www.mbie.govt.nz/

Rural Women New Zealand: https://www.ruralwomen.org.nz/

Safekids: http://www.safekids.nz/

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This report was printed by Waikato Print, University of Waikato, Hamilton, New Zealand.

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