

Economic Impact of January 2008 Floods on Central Highlands Regional Business & Industry

August 2009



ACKNOWLEDGMENTS

The *Economic Impact of January 2008 Floods on Central Highlands Regional Business & Industry* report was prepared by:



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The report was commissioned by Central Highlands Development Corporation (CHDC) and received funding and support from BHP Billiton Mitsubishi Alliance (BMA) and the Central Highlands Community Recovery Program.



BHP Billiton Mitsubishi Alliance



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EXECUTIVE SUMMARY

Lawrence Consulting was commissioned by the Central Highlands Development Corporation (CHDC) to undertake an assessment of the economic impact of the January 2008 floods on regional business and industry. The study was comprised of the following key tasks:

- Base assessment, or analysis of the existing industry structure and scale of the Central Highlands economy prior to the flood event, including contribution to Gross Regional Product (GRP), industry turnover and employment;
- Survey of businesses and industry in the Central Highlands to identify the scope and scale of businesses affected by the January 2008 flooding and quantify the associated direct and indirect impacts; and
- An economic impact assessments (EIA) utilising input-output modelling to measure the impact of the presumed negative economic stimulus arising from the flooding on business and industry and the wider economy of the Central Highlands.

Industry Structure

The most recent Australian Business Register indicated there were an estimated 2,991 businesses operating in the Central Highlands Regional LGA in June 2007. In terms of business numbers by industry, the Agriculture, Forestry & Fishing sector was the largest, with 39.6% of total businesses, followed by the Property & Business Services (13.9%), Construction (11.3%) and Retail Trade (8.5%) industries.

The estimated total turnover of all industry in the Central Highlands was \$2.9 billion in 2006/07, with the largest contributions made by the Mining (\$718.3 million), Agriculture, Forestry & Fishing (\$694.5 million), Construction (\$468.7 million) and Retail Trade (\$406.7 million) sectors.

Businesses by Industry, June 2007					
Industry Division	Count	% of total	Total turnover (\$m)	% of total	Avg. turnover (\$'000)
Agriculture, Forestry & Fishing	1,185	39.6	694.5	23.6	586.0
Mining	84	2.8	718.3	24.4	8,551.3
Manufacturing	123	4.1	91.2	3.1	741.5
Electricity, Gas & Water Supply	3	0.1	0.2	0.0	62.5
Construction	339	11.3	468.7	15.9	1,382.5
Wholesale Trade	81	2.7	153.6	5.2	1,895.8
Retail Trade	255	8.5	406.7	13.8	1,594.7
Accommodation, Cafes & Restaurants	96	3.2	127.5	4.3	1,327.7
Transport & Storage	132	4.4	67.7	2.3	512.5
Communication Services	30	1.0	4.2	0.1	140.0
Finance & Insurance	90	3.0	17.6	0.6	195.4
Property & Business Services	417	13.9	149.4	5.1	358.2
Education	9	0.3	3.3	0.1	370.8
Health & Community Services	57	1.9	24.0	0.8	421.1
Cultural & Recreational Services	27	0.9	3.0	0.1	111.1
Personal & Other Services	63	2.1	11.6	0.4	183.9
Total	2,991	100.0	2941.2	100.0	983.4

Note: The number of businesses in the Government Administration & Defence industry classification was not available for publication.

Source: ABS Australian Business Register – June 2007, OESR



Business Survey

As a critical element of the flood impact assessment, Lawrence Consulting completed a survey of businesses and industry in the Central Highlands to identify the scope and scale of businesses affected by the January 2008 flooding and attempt to quantify the associated direct and indirect impacts to industry in the region. Businesses were asked to complete the survey whether or not the flood directly affected their business, so that the scale of the impact could be assessed across all industry.

The survey was designed to facilitate the collection of both qualitative and quantitative data and contained 20 questions in a number of distinct sections, namely:

- Impact & Damages;
- Staffing;
- Recovery;
- Future Expectations;
- Classification; and
- Other Comments.

Survey research was undertaken via mail surveys with a response timeframe of approximately 2 weeks. The sampling frame was 1,400 businesses selected from CHDC's regional business database. A total of 317 businesses responded to the survey, which represented 22.6% of the total number surveyed and approximately 10.6% of the estimated total number of businesses in the Central Highlands Regional LGA (2,991). Based on this response, the results of the survey contain a confidence level of 95% with a confidence interval of $\pm 5.2\%$.

The key findings from the business survey relating to the impact of the January 2008 floods were as follows:

Impact & Damages

- Of the 317 businesses that responded to the survey, 18.9% indicated that they were physically inundated during the flood, with this ratio being consistent across the major areas affected by the flooding: Emerald (16.7%); Blackwater (19.2%); Springsure (15.0%); and region unstated (26.3%);
- The majority of businesses in the region (51.7%) were forced to close as a result of the flooding, with approximately 73.3% of flooded businesses and 46.7% of those not flooded forced to close.
- A small number of businesses (1.9%) were forced to relocate as a result of the flooding, whilst 10.7% of survey respondents had previously experienced flooding in their current location.
- Almost half of those flooded businesses forced to close (48.9%) reopened within 1 week, whilst a further 24.4% opened again within 2 weeks. A higher proportion of unflooded businesses forced to close reopened within 1 week (71.8%). Very few businesses (0.3% of total) remained closed at the time of the survey (or after 6 months).
- The average cost of direct damages to those affected businesses ranged from \$3,000 for vehicles to \$44,274 for stock / raw materials. The total estimated cost of direct damages to businesses across the Central Highlands as a result of the flooding was approximately \$27.7 million.



Estimated Cost of Direct Flood Damages		
Category	Average cost per effected business	Total cost for region (\$'000)
Buildings/fixtures	19,529	7,186.1
Stock/raw materials	44,274	15,874.2
Vehicles	12,233	1,154.3
Computers	3,000	56.6
Machinery	14,611	1,240.7
Other equipment	9,724	1,009.2
Furniture	10,430	1,180.9
Total	n.a.	27,702.0

- There was an immediate downturn in activity for businesses in the Central Highlands as a result of the flooding, with higher operating costs and expenses relating to demolition and debris removal compounded by significant declines in production levels and consumer demand. The long-term viability of businesses was also impacted by reduced expectations for future productivity and investor confidence.
- The average net change in activity was as follows: production levels (down 19.6%); consumer demand (down 10.3%); business / investor confidence (down 3.6%); future profitability (down 3.4%); operating costs (up 0.5%); and costs of demolition and debris removal (up 3.0%).
- Over one-third of businesses (34.7%) suffered financial costs / losses as direct result of the flooding that were not covered by insurance; the average cost incurred by these businesses was approximately \$64,745, although this does not include a figure of \$25 million provided by one respondent in the mining sector that would have distorted the average. A small number of businesses (2.5%) experienced a financial gain as a direct result of the flooding.
- The flooding contributed to a decrease in activity in the Central Highlands in 2007/08, with 28.1% of businesses surveyed indicating a decrease in gross revenue / sales for the year and 23.7% experiencing a fall in profit levels, whilst 19.2% of businesses reported an increase in operating costs. Across the whole survey sample, the average net change in activity was as follows: gross sales / revenue (-5.5%); profitability (-4.6%); staffing levels (-2.8%); operating costs (+2.8%); and capital expenditure / investment (+0.6%).
- Whilst there was an overall negative effect on gross revenue as a result of the flood, this impact was not uniform, with some industry sectors experiencing significantly greater declines in sales than others. The Construction industry recorded the largest decrease in turnover in 2007/08 (down 15.1%), followed by Wholesale Trade and Communication Services (both down 15.0%), whilst the Finance & Insurance industry was the only to indicate an increase in total sales (up 3.1%).

Staffing

- Approximately 3.8% of businesses indicated that they required additional staff members as a result of the flood, the average increase in employment levels for these businesses being 14.8 persons. In contrast, a higher proportion of businesses (13.2%) reported a decrease in staff numbers following the flooding at an average of 13.1 positions lost; the consequent net effect on staff was a loss of 1.3 persons across all businesses.
- Further compounding these employment losses, the term of which was unspecified, were 14.5% of businesses that reported owners of staff members requiring time away from work due to physical or emotional trauma caused by the flooding.



Recovery

- The majority of businesses surveyed (56.8%) believed they have already recovered, while a further 10.1% expect to recover within a year. Overall, 9.8% of businesses expect recovery will take greater than one year to recover, whilst few businesses deem recovery to be extremely difficult or impossible (2.5%).
- Generally, fewer businesses that were flooded had already recovered compared to those who were not inundated; consequently there were lower proportions of unflooded businesses that expected recovery to take a considerable length of time.
- Businesses overwhelmingly used internal sources to finance recovery, with the primary financial resource indicated by business being "absorbed own losses" (44.8% of all responses). Many businesses relied upon personal savings (10.1%) or bank loans (6.0%) to cover losses, whilst only 3.2% of businesses made an insurance claim.

Future Expectations

- Industry expectations for the next twelve months were generally positive, with more than one third of businesses (35.6%) responding to the survey expecting economic conditions in the Central Highlands to perform better (either moderately or substantially), whilst 16.1% thought that conditions in the region would worsen.
- Expectations for the regional economy were significantly more positive for the longer term, with the majority of businesses (52.1%) expecting conditions in the Central Highlands to perform better over the next 5 years, whilst only 11.4% of businesses expecting the regional economy to perform worse, resulting in a substantial differential of +40.7 percentage points.
- The majority of businesses expect activity over the coming twelve months to be highly positive, with the average net change in activity across a number of operational areas as follows: gross sales / revenue (+3.7%); profitability (+2.7%); staffing levels (+2.6%); operating costs (+4.4%); and capital expenditure / investment (+3.4%).

Classification

- Of the 317 businesses that responded to the survey, the majority were located in Emerald (53.3%), followed by location unstated, including rural areas (25.2), Blackwater (8.5%) and Springsure (6.3%).
- The most prominent industry sectors were Retail Trade (14.5%), Agriculture, Forestry & Fishing (11.7%), Health & Community Services (10.7%) and Accommodation, Cafes & Restaurants (8.5%).
- Survey respondents were mainly small business, with 85.2% employing less than 20 persons, whilst only one-quarter (24.9%) reported annual turnover in excess of \$1 million.

Economic Impact

As identified in the survey findings, the January 2008 floods contributed to a decrease in activity in the Central Highlands in 2007/08, with the average net change in gross sales / revenue representing a decrease of 5.5% across all businesses. This impact was not uniform, however, with some industry sectors experiencing significantly greater declines in sales than others. The average change in output and the resultant impact on total turnover / sales for each industry in the Central Highlands are outlined in the following table.



Businesses by Industry, June 2007			
Industry Division	Estimated industry turnover, 2006/07 (\$m)	Average net change in turnover, 2007/08 (%)	Estimated total change in turnover, 2007/08 (\$m)
Agriculture, Forestry & Fishing	694.5	-5.8	-40.6
Mining	718.3	-5.7	-41.2
Manufacturing	91.2	-1.6	-1.4
Electricity, Gas & Water Supply	0.2	-13.3	0.0
Construction	468.7	-15.1	-70.6
Wholesale Trade	153.6	-15.0	-23.0
Retail Trade	406.7	-7.5	-30.7
Accommodation, Cafes & Restaurants	127.5	-8.3	-10.6
Transport & Storage	67.7	-3.9	-2.6
Communication Services	4.2	-15.0	-0.6
Finance & Insurance	17.6	3.1	0.5
Property & Business Services	149.4	-8.5	-12.7
Education	3.3	-2.4	-0.1
Health & Community Services	24.0	-1.5	-0.4
Cultural & Recreational Services	3.0	0.0	0.0
Personal & Other Services	11.6	-3.4	-0.4
Total	2,941.2	-5.5	-234.4

The total change in industry turnover due to the January 2008 flood was a decrease of approximately \$234.4 million in 2007/08. The net regional economic impacts (i.e. direct, indirect and consumer-induced) of the January 2008 floods for the Central Highlands associated with the decrease in business turnover are summarised in the table below and include:

- An estimated decrease in direct output of \$234.4 million and additional flow on decreases in output of \$248.3 million through other industries, for a total net industry impact of \$482.7 million;
- An estimated decrease in direct income (wages and salaries) of \$42.8 million, with an additional decrease of \$49.0 million in income through flow on effects in other industries;
- A decrease of 1,444.5 direct full-time equivalent (FTE) employment positions, with an estimated reduction of 778.6 employment positions lost indirectly through other industries, for a total net industry employment impact of 2,223.1 FTEs; and
- An estimated contraction in GRP of \$103.1 million from direct effects, with a further flow on impact of \$101.8 million through other industries for a total decrease in net industry value added of \$204.9 million.

Net Economic Impact of January 2008 Flood					
	Direct (D)	Indirect (I)	Total Industry Impact (D + I)	Consumption Induced (C)	Total Impact (D + I + C)
Output (\$m)	-234.4	-248.3	-482.7	-372.5	-855.2
Income (\$m)	-42.8	-49.0	-91.8	-49.1	-140.9
Employment (FTE)	-1,444.5	-778.6	-2,223.1	-906.3	-3,129.4
Value Added (\$m)	-103.1	-101.8	-204.9	-108.0	-313.0

Note: (a) Figures represent annual impacts.



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INTRODUCTION

Objective

Lawrence Consulting was commissioned by the Central Highlands Development Corporation (CHDC) to undertake an assessment of the economic impact of the January 2008 floods on regional business and industry. The core objective of the study was to identify and quantify the three main types of impact stemming from a natural disaster such as the 2008 flood, specifically:

1. Direct impacts caused during the actual event;
2. Indirect impacts in terms of flows of effects that occur over time after the event; and
3. Repercussions for macroeconomic variables.

The study was comprised of the following key tasks:

- Base assessment, or analysis of the existing industry structure and scale of the Central Highlands economy prior to the flood event, including contribution to Gross Regional Product (GRP), industry turnover and employment;
- Survey of businesses and industry in the Central Highlands to identify the scope and scale of businesses affected by the January 2008 flooding and quantify the associated direct and indirect impacts; and
- An economic impact assessments (EIA) utilising input-output modelling to measure the impact of the presumed negative economic stimulus arising from the flooding on business and industry and the wider economy of the Central Highlands.

It is important to consider that disasters such as the flooding may have positive as well as negative impacts; therefore, the aim of the assessment was to determine the net effect of the flooding, including both negative and positive consequences.

Overview

Flooding can produce widespread impacts in both rural and urban areas. Any type of agricultural, commercial or residential development located in a floodplain is vulnerable to flooding. In summary, the major economic impacts from flooding include the following:

- Costs and losses to agricultural and livestock producers
 - Loss of crops
 - Loss of livestock
 - Damage to pasture land
 - Damage to houses, sheds, fences and other farm buildings
- Urban, residential and commercial impacts
 - Damage to and destruction of buildings
 - Damage to local infrastructure
 - Disruptions to local utilities and services
 - Transportation
 - Water supply
 - Wastewater treatment
 - Natural gas
 - Power
 - Emergency services



- General economic effects
 - Revenue loss from lost production in business and industry
 - Revenue loss from lost travel and tourism opportunities
 - Negative impact of economic multipliers

Generally, flood damages are categorised in two ways:

1. Direct cost: direct flood damage covers all varieties of harm which relate to the immediate physical contact of flood water to humans, property and the environment; and
2. Indirect cost: indirect flood damages are damages caused by disruption of physical and economic linkages of the economy, and the extra costs of emergency and other actions taken to prevent flood damage and other losses.

The impacts caused by a natural disaster such as the 2008 floods should be estimated by comparing the situation that develops after the disaster with the situation that would have occurred without the disaster, i.e. the 'with disaster' and 'without disaster' situations. It is therefore necessary to gather information on the situation in each sector before the disaster event, including forecasts of how the sector was likely to have developed if the disaster had not occurred. Information on the post-disaster situation is then collected so that the impact of the disaster can be accurately determined by comparing the 'with' and 'without' scenarios.

The following sections of this report present the results of the economic impact analysis.

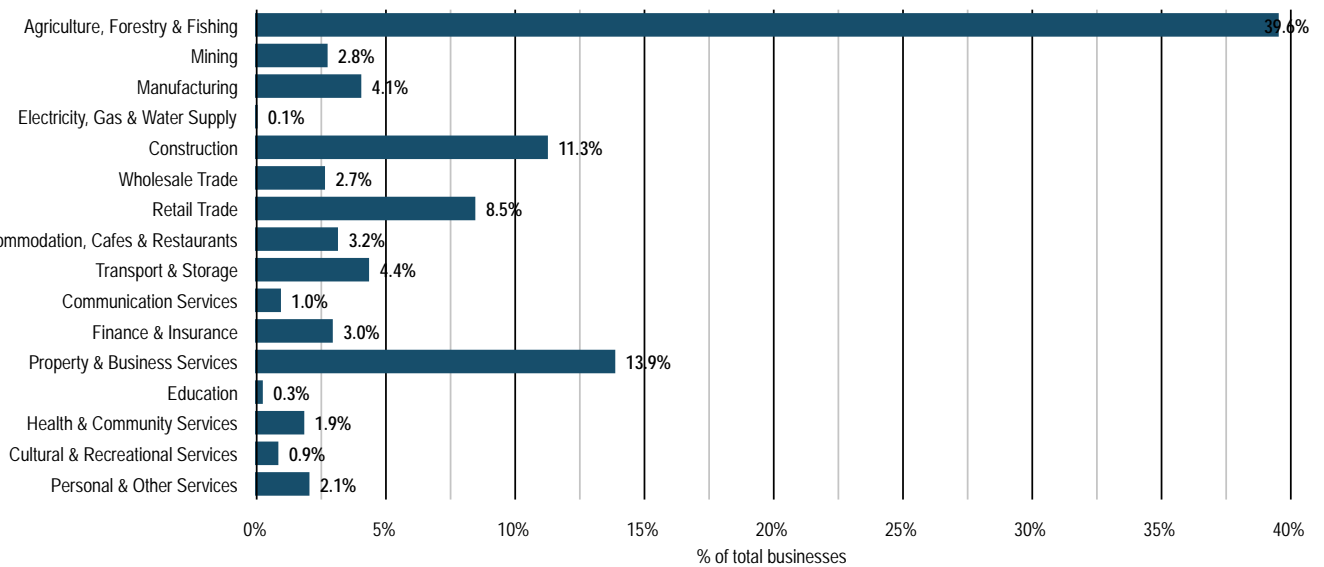


INDUSTRY STRUCTURE

Business Turnover

The most recent Australian Business Register indicated there were an estimated 2,991 businesses operating in the Central Highlands Regional LGA in June 2007. In terms of business numbers by industry, the Agriculture, Forestry & Fishing sector was the largest, with 39.6% of total businesses, followed by the Property & Business Services (13.9%), Construction (11.3%) and Retail Trade (8.5%) industries.

Number of Businesses by Industry
Central Highlands, June 2007



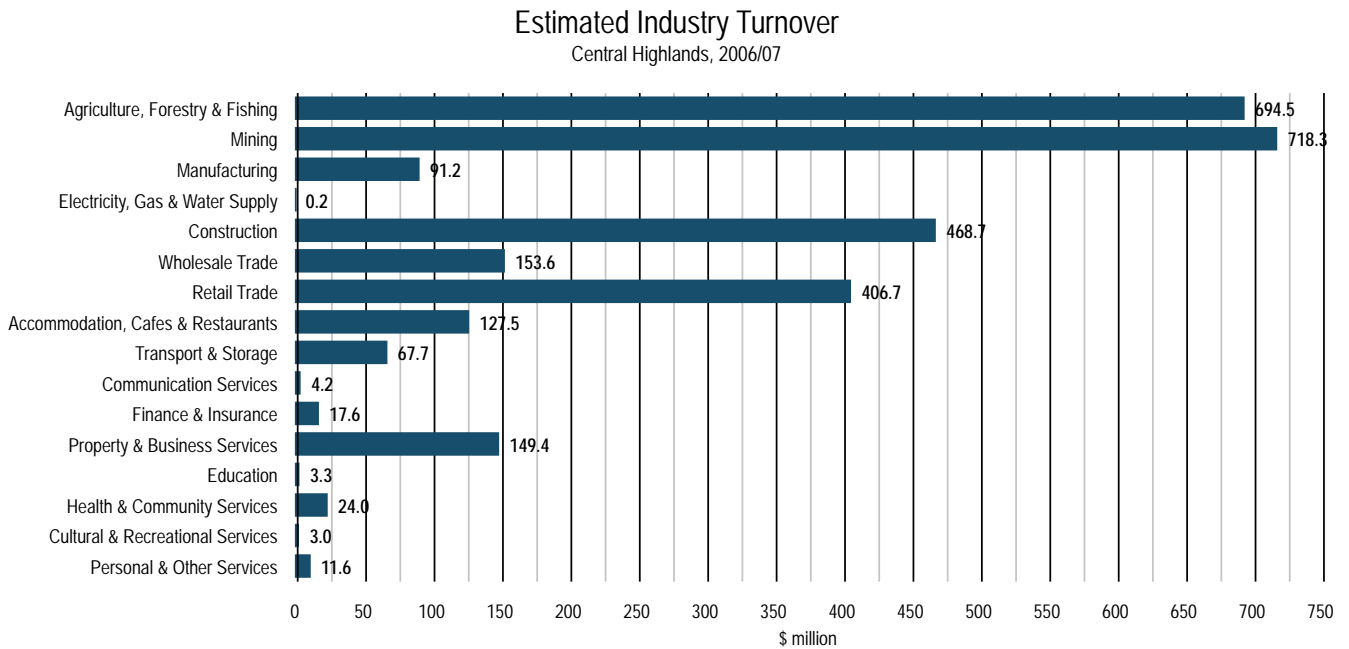
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Note: The number of businesses in the Government Administration & Defence industry classification was not available for publication.
Source: ABS Australian Business Register – June 2007

The average turnover of all businesses in the Central Highlands was approximately \$983,400 in 2006/07, with the Mining sector recording the highest average industry turnover (\$8.6 million), followed by Wholesale Trade (\$1.9 million), Retail Trade (\$1.5 million), Construction (\$1.4 million) and Accommodation, Cafes & Restaurants (\$1.3 million).

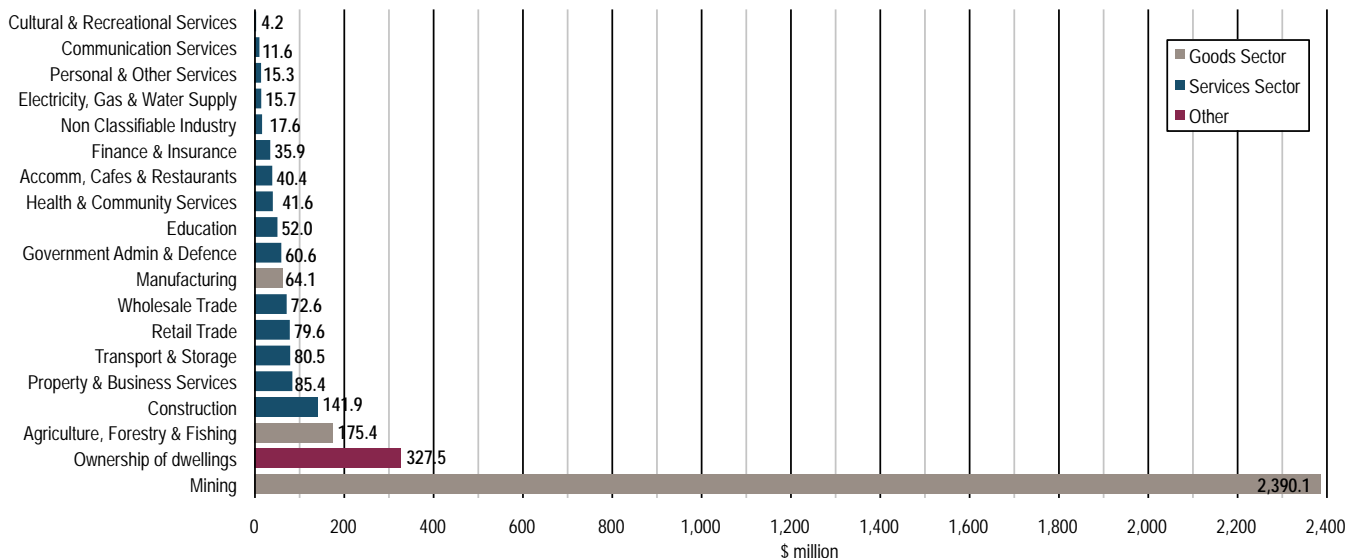


Gross Regional Product

The Gross Regional Product (GRP) of the Central Highlands Regional LGA was estimated at approximately \$4.1 billion in 2007/08, representing a marginal decrease of 0.9% from the level recorded in 2006/07 (\$4.2 billion). The Central Highlands contributed approximately 1.9% of the Gross State Product for Queensland in 2007/08 (\$216.2 billion). With regard to industry, the largest contribution was made by the Mining sector, with approximately 57.7% of the total GRP for the Central Highlands, followed by Agriculture, Forestry & Fishing (4.2%) and Construction (3.4%).

Gross Regional Product

Central Highlands, 2007/08



Source: Lawrence Consulting

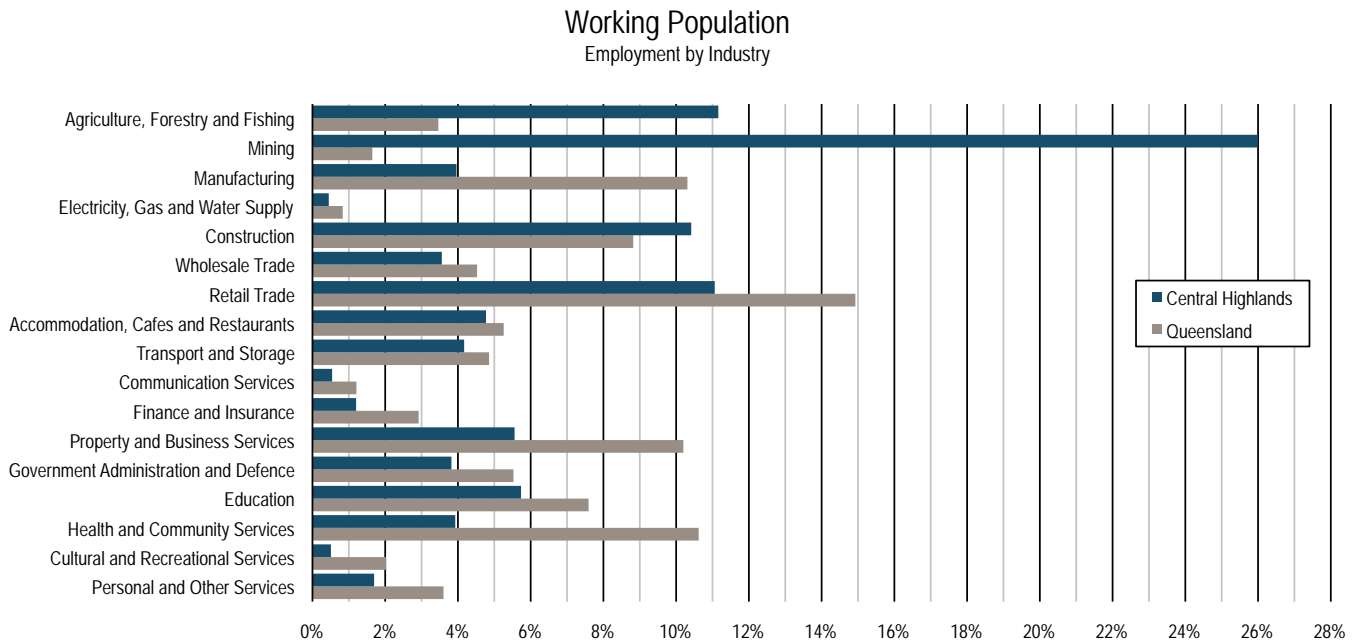
Industry	Central Highlands			Queensland		
	Level (\$m)	% of GRP	Ann % chg	Level (\$m)	% of GRP	Ann % chg
Agriculture, Forestry and Fishing	175.4	4.2	25.0	7,112	3.3	25.7
Mining	2,390.1	57.7	-6.0	19,733	9.1	-2.0
Manufacturing	64.1	1.5	3.9	18,000	8.3	6.9
Electricity, Gas and Water Supply	15.7	0.4	-6.7	3,715	1.7	15.0
Construction	141.9	3.4	11.9	17,965	8.3	15.0
Wholesale Trade	72.6	1.8	20.4	9,050	4.2	13.5
Retail Trade	79.6	1.9	6.2	13,460	6.2	8.1
Accommodation, Cafes and Restaurants	40.4	1.0	8.1	5,172	2.4	6.2
Transport and Storage	80.5	1.9	5.7	12,654	5.9	8.7
Communication Services	11.6	0.3	-3.2	3,755	1.7	-0.5
Finance and Insurance	35.9	0.9	-2.1	9,631	4.5	-0.6
Property and Business Services	85.4	2.1	14.5	21,150	9.8	12.1
Government Administration and Defence	60.6	1.5	9.0	8,571	4.0	3.6
Education	52.0	1.3	2.5	8,054	3.7	10.0
Health and Community Services	41.6	1.0	13.5	12,315	5.7	10.5
Cultural and Recreational Services	4.2	0.1	17.7	2,418	1.1	10.1
Personal and Other Services	15.3	0.4	1.1	3,966	1.8	6.8
Non Classifiable Industry	17.6	0.4	7.3			
Total Industry Factor Income	3,384.5	81.7	-1.6	176,721	81.7	8.2
Ownership of dwellings	327.5	7.9	9.5	17,100	7.9	20.3
GRP at Factor Cost (\$m)	3,711.9	89.7	-0.7	193,821	89.7	9.1
Taxes less subsidies on production and imports	427.4	10.3	-2.8	22,319	10.3	6.8
Statistical discrepancy (I)	1.1	0.0		57	0.0	
Gross Regional Product (\$m)	4,140.5	100.0	-0.9	216,197	100.0	8.9

Source: Lawrence Consulting



Employment by Industry

The total working population of the Central Highlands Regional LGA (i.e. the number of persons whose place of employment is within the area), as at the 2006 Census, was approximately 15,143 persons. In 2006, the largest industry employer in the Central Highlands was Mining with 26.0% of the total working population, followed by Agriculture, Forestry & Fishing (11.2%), Retail Trade (11.1%) and Construction (10.4%). The Central Highlands had a higher proportion of employment share in the Agriculture, Forestry & Fishing; Mining; and Construction industries than Queensland in 2006.



Source: ABS 2006 Census

Working Population, Employment by Industry				
	Central Highlands		Queensland	
	No.	% of total	No.	% of total
Agriculture, Forestry and Fishing	1,693	11.2	60,417	3.5
Mining	3,940	26.0	28,866	1.7
Manufacturing	602	4.0	179,495	10.3
Electricity, Gas and Water Supply	70	0.5	14,714	0.8
Construction	1,580	10.4	153,586	8.8
Wholesale Trade	541	3.6	78,943	4.5
Retail Trade	1,678	11.1	259,776	14.9
Accommodation, Cafes and Restaurants	725	4.8	91,663	5.3
Transport and Storage	634	4.2	84,668	4.9
Communication Services	84	0.6	21,255	1.2
Finance and Insurance	184	1.2	51,005	2.9
Property and Business Services	844	5.6	177,555	10.2
Government Administration and Defence	581	3.8	96,329	5.5
Education	871	5.8	132,248	7.6
Health and Community Services	597	3.9	184,872	10.6
Cultural and Recreational Services	79	0.5	35,473	2.0
Personal and Other Services	259	1.7	62,888	3.6
Non-Classifiable Economic Units	163	1.1	21,736	1.3
Not stated	18	0.1	2,161	0.1
Total	15,143	100.0	1,737,650	100.0

Source: ABS 2006 Census

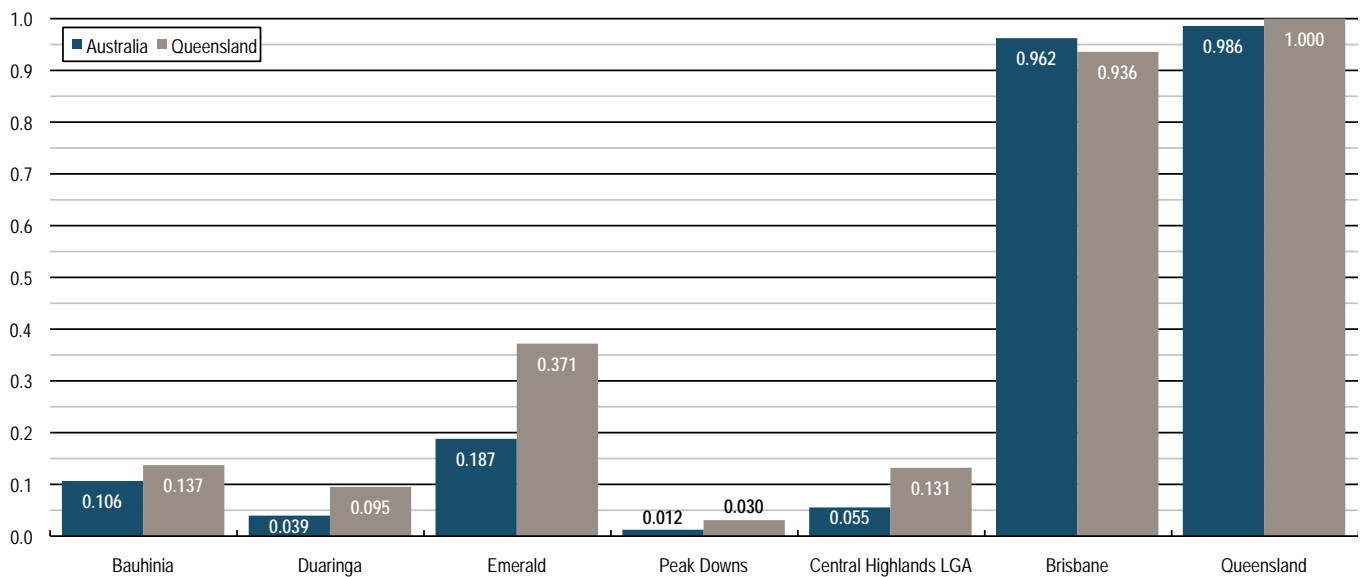


Economic Diversity

The Regional Index of Economic Diversity measures economic or industrial diversity within a region by determining the degree to which the region’s industry mix differs from that of the nation. When the index value is close to one, the industrial profile of a region mirrors that of the national economy and is considered more diverse.

The index value for the Central Highlands Regional LGA is 0.055, whilst the index values for Brisbane and Queensland are 0.962 and 0.986, respectively. When the index is calculated using the State economy as the comparative benchmark, the Central Highlands has a value of 0.131 whilst the value for Brisbane is 0.936.

Index of Economic Diversity



Source: Lawrence Consulting

Index of Economic Diversity		
LGA	Diversity Index (Australia)	Diversity Index (Queensland)
Bauhinia	0.106	0.137
Duaringa	0.039	0.095
Emerald	0.187	0.371
Peak Downs	0.012	0.030
Central Highlands	0.055	0.131
Brisbane	0.962	0.936
Queensland	0.986	-

Source: Lawrence Consulting

With regard to location quotients, the Central Highlands Regional LGA has a greater industry concentration (i.e. location quotient greater than 1) than the national economy – and is therefore considered to have net exports of goods and services – in the Mining (22.31); Agriculture, Forestry & Fishing (3.55); Construction (1.33); and Other Services (1.08) sectors.

BUSINESS & INDUSTRY SURVEY

Objective

As a critical element of the flood impact assessment, Lawrence Consulting completed a survey of businesses and industry in the Central Highlands to identify the scope and scale of businesses affected by the January 2008 flooding and attempt to quantify the associated direct and indirect impacts to industry in the region. Businesses were asked to complete the survey whether or not the flood directly affected their business, so that the scale of the impact can be assessed across all industry.

The different assets and stocks that were directly affected by the flooding in each economic sector were identified, quantified and valued through the survey assessment. Direct damage to property by type of affected physical asset was also estimated using averages based on as broad and representative a sample as possible.

Surveying also represented the most appropriate method for estimating indirect losses caused by the flooding. Some of the indirect impacts caused by the flooding, for which the business survey attempted to quantify, included:

- Production and income;
- Operating costs;
- Reduced investor confidence;
- Demolition and debris removal;
- Changes in workforce;
- Relocation costs; and
- Intangible indirect impacts.

Survey Process

The survey instrument was designed in consultation with CHDC and other stakeholders and is contained in Appendix A. The survey was designed to facilitate the collection of both qualitative and quantitative data and contained 20 questions in a number of distinct sections, namely:

- Impact & Damages;
- Staffing;
- Recovery;
- Future Expectations;
- Classification; and
- Other Comments.

The classification section allowed the survey sample to be segmented by industry, size of workforce and turnover to obtain a representative sample of the business population.

Survey research was undertaken via mail surveys with a response timeframe of approximately 2 weeks. The sampling frame was 1,400 businesses selected from CHDC's regional business database. Data entry of returned survey forms and analysis of the responses was undertaken by Lawrence Consulting, the results of which are summarised in the following section and presented in tabular and graphical form in Appendix B.

A total of 317 businesses responded to the survey, which represented 22.6% of the total number surveyed and approximately 10.6% of the estimated total number of businesses in the Central Highlands Regional LGA (2,991). Based on this response, the results of the survey contain a confidence level of 95% with a confidence interval of $\pm 5.2\%$.



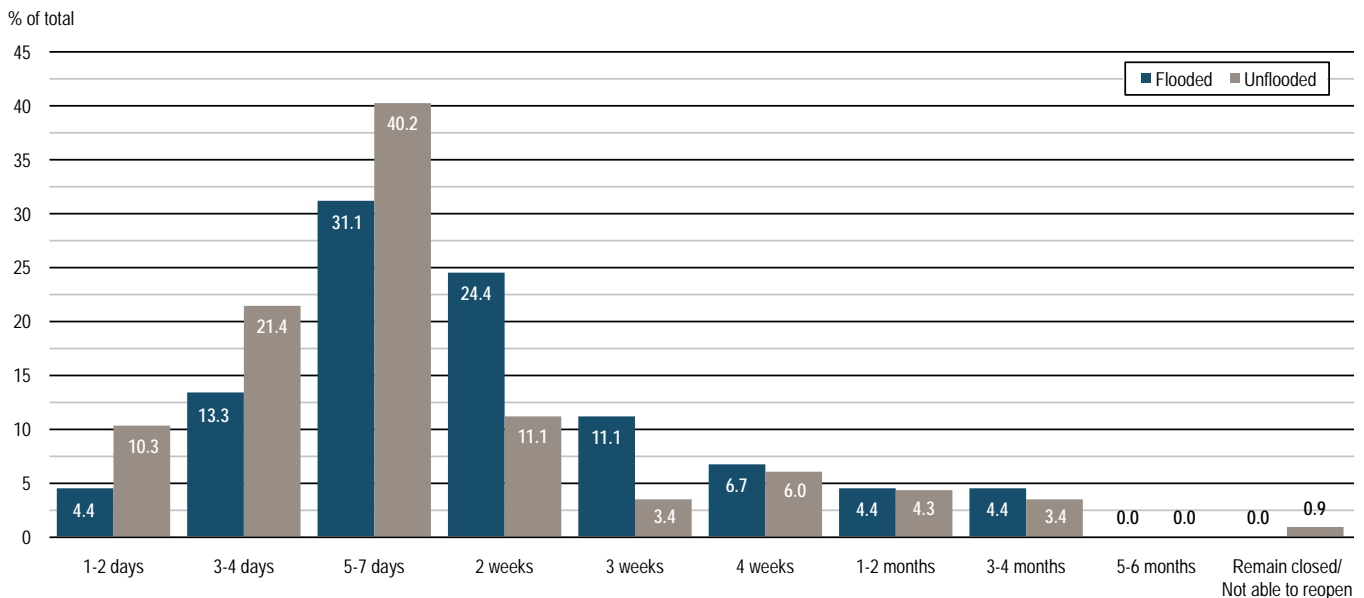
Summary of Results

Impact & Damages

Of the 317 businesses that responded to the survey, 18.9% indicated that they were physically inundated during the flood, with this ratio being consistent across the major areas affected by the flooding: Emerald (16.7%); Blackwater (19.2%); Springsure (15.0%); and region unstated (26.3%). The majority of businesses in the region (51.7%) were forced to close as a result of the flooding, with approximately 73.3% of flooded businesses and 46.7% of those not flooded forced to close. A small number of businesses (1.9%) were forced to relocate as a result of the flooding, whilst 10.7% of survey respondents had previously experienced flooding in their current location.

Almost half of those flooded businesses forced to close (48.9%) reopened within 1 week, whilst a further 24.4% opened again within 2 weeks. A higher proportion of unflooded businesses forced to close reopened within 1 week (71.8%). Very few businesses (0.3% of total) remained closed at the time of the survey (or after 6 months).

Length of Time to Reopen Business



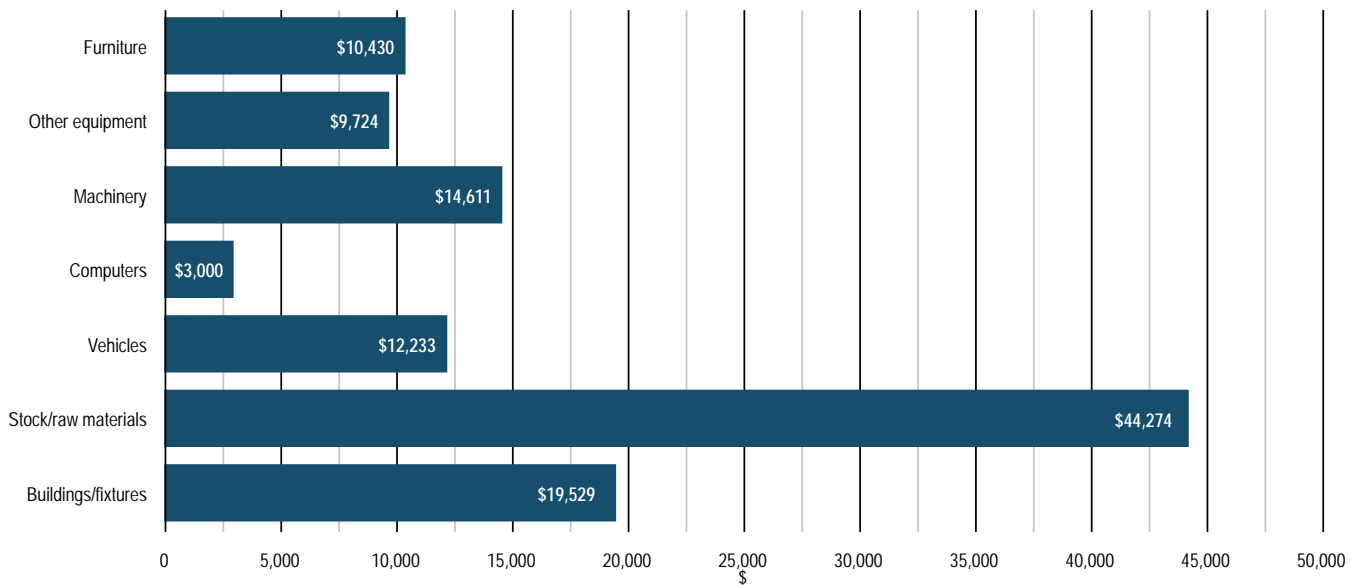
Flood water and debris caused significant damage to inventory, equipment and facilities of businesses across the Central Highlands. The average cost of direct damages to those affected businesses ranged from \$3,000 for vehicles to \$44,274 for stock / raw materials. The total estimated cost of direct damages to businesses across the Central Highlands as a result of the flooding was \$27.7 million.

Estimated Cost of Direct Flood Damages

Category	Average cost per effected business	Total cost for region (\$'000)
Buildings/fixtures	19,529	7,186.1
Stock/raw materials	44,274	15,874.2
Vehicles	12,233	1,154.3
Computers	3,000	56.6
Machinery	14,611	1,240.7
Other equipment	9,724	1,009.2
Furniture	10,430	1,180.9
Total	n.a.	27,702.0

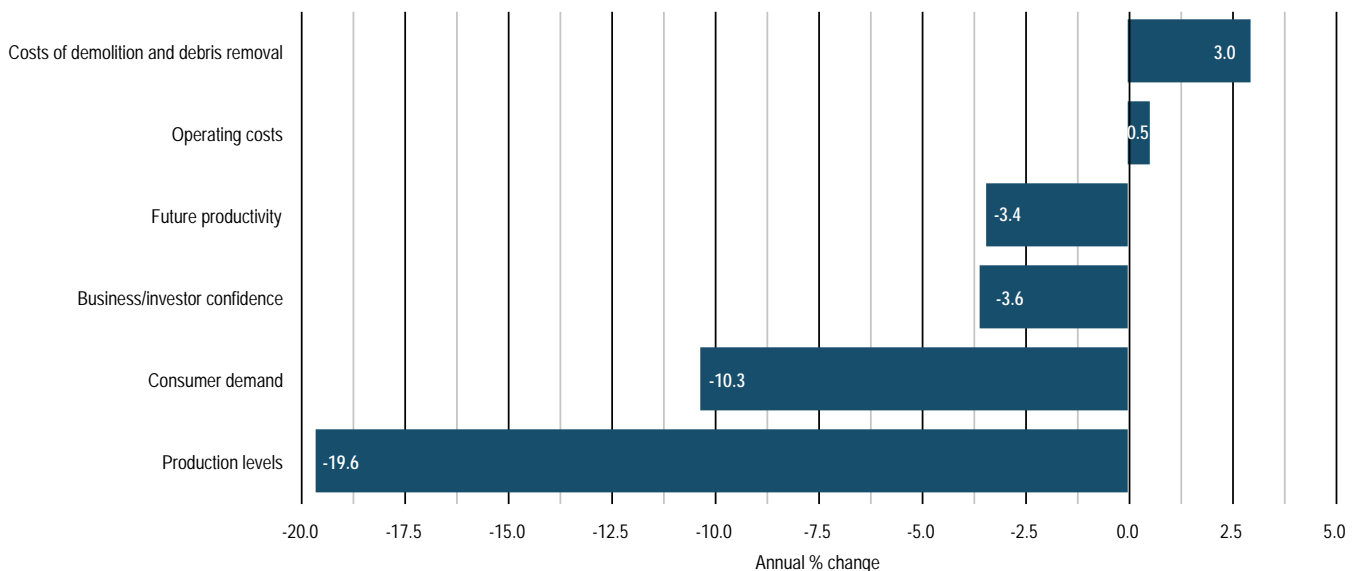


Average Cost of Direct Flood Damage for Affected Businesses



There was an immediate downturn in activity for businesses in the Central Highlands as a result of the flooding, with higher operating costs and expenses relating to demolition and debris removal compounded by significant declines in production levels and consumer demand. The long-term viability of businesses was also impacted by reduced expectations for future productivity and investor confidence. Across the survey respondents, the average net change in activity was as follows: production levels (down 19.6%); consumer demand (down 10.3%); business / investor confidence (down 3.6%); future profitability (down 3.4%); operating costs (up 0.5%); and costs of demolition and debris removal (up 3.0%).

Average Net Change in Activity Following Flooding

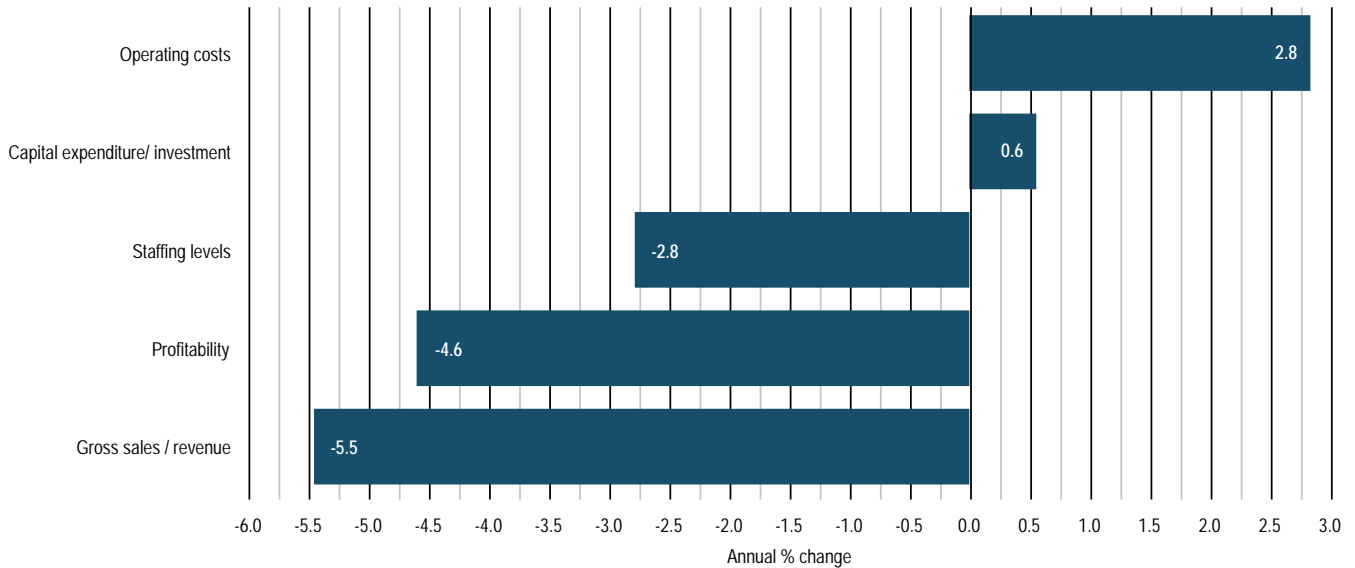


Over one-third of businesses (34.7%) suffered financial costs / losses as direct result of the flooding that were not covered by insurance; the average cost incurred by these businesses was approximately \$64,745, although this does not include a figure of \$25 million provided by one respondent in the mining sector that would have distorted the average. A small number of businesses (2.5%) experienced a financial gain as a direct result of the flooding.



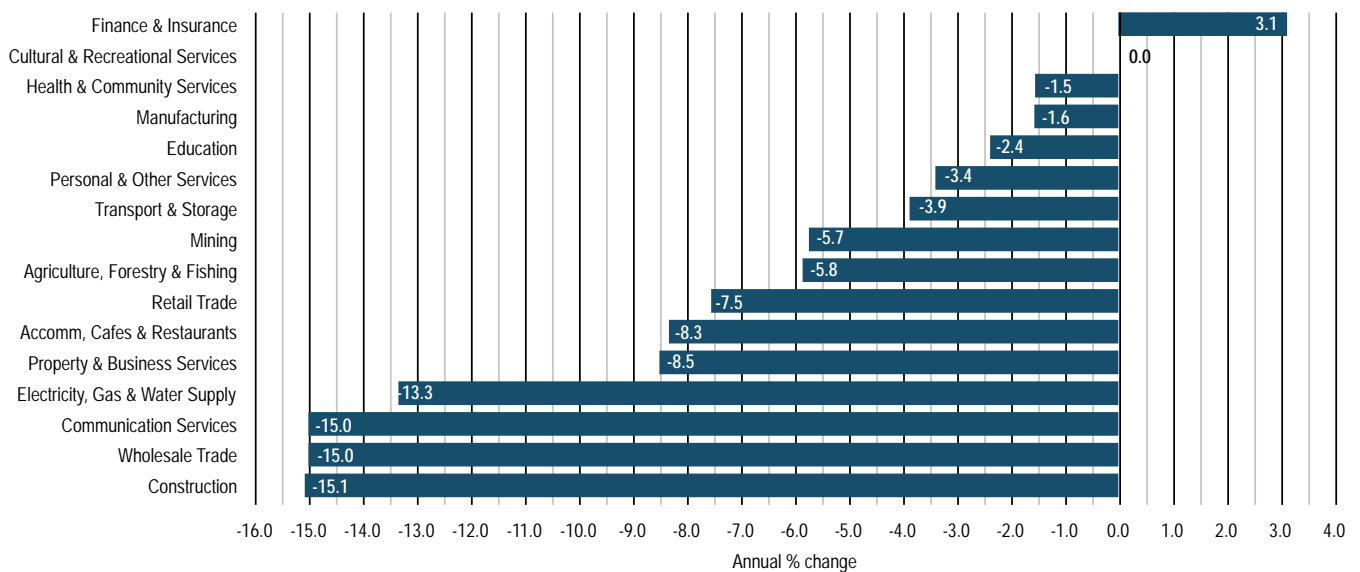
The flooding contributed to a decrease in activity in the Central Highlands in 2007/08, with 28.1% of businesses surveyed indicating a decrease in gross revenue / sales for the year and 23.7% experiencing a fall in profit levels, whilst 19.2% of businesses reported an increase in operating costs. Across the whole survey sample, the average net change in activity was as follows: gross sales / revenue (-5.5%); profitability (-4.6%); staffing levels (-2.8%); operating costs (+2.8%); and capital expenditure / investment (+0.6%).

Average Net Change in Activity, 2007/08



Whilst there was an overall negative effect on gross revenue as a result of the flood, this impact was not uniform, with some industry sectors experiencing significantly greater declines in sales than others. The Construction industry recorded the largest decrease in turnover in 2007/08 (down 15.1%), followed by Wholesale Trade and Communication Services (both down 15.0%), whilst the Finance & Insurance industry was the only to indicate an increase in total sales (up 3.1%).

Change in Net Sales by Industry, 2007/08





Staffing

Businesses were asked whether the flooding had caused any measurable change in their work force. Approximately 3.8% indicated that they required additional staff members as a result of the flood, the average increase in employment levels for these businesses being 14.8 persons. In contrast, a higher proportion of businesses (13.2%) reported a decrease in staff numbers following the flooding at an average of 13.1 positions lost; the consequent net effect on staff was a loss of 1.3 persons across all businesses.

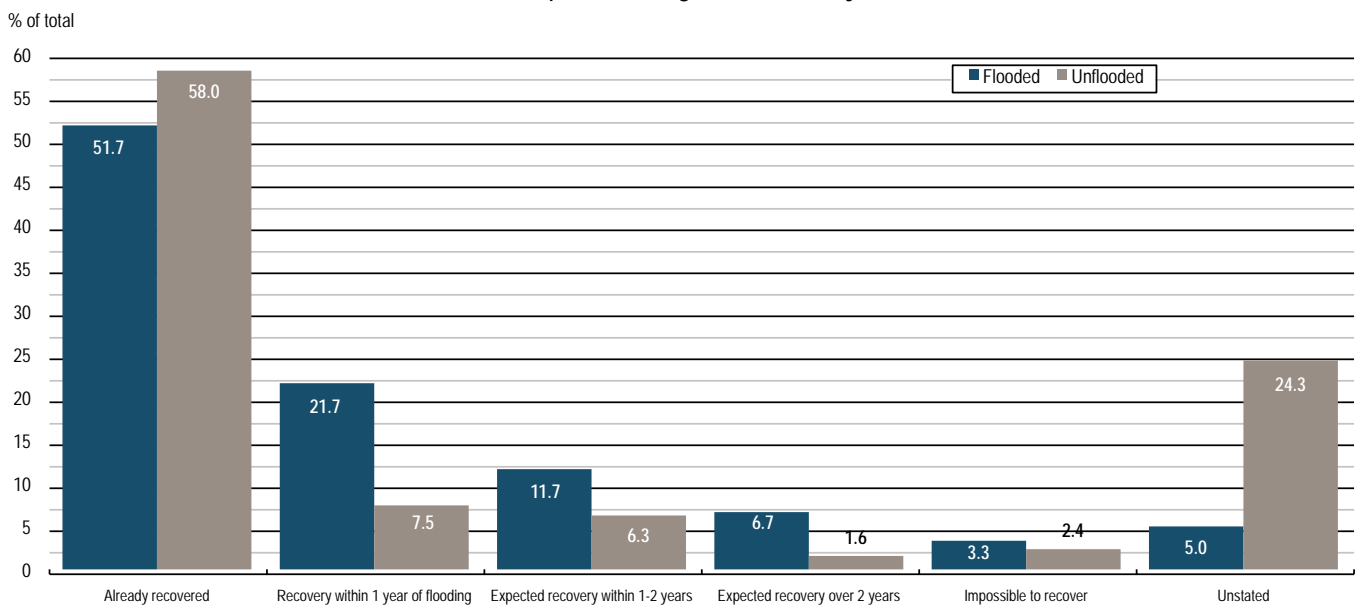
Further compounding these employment losses, the term of which was unspecified, were 14.5% of businesses that reported owners of staff members requiring time away from work due to physical or emotional trauma caused by the flooding.

Recovery

Businesses were asked to indicate how long they expected their business would take to recover to a position similar to that prior to the flooding. The majority of businesses surveyed (56.8%) believed they have already recovered, while a further 10.1% expect to recover within a year. Overall, 9.8% of businesses expect recovery will take greater than one year to recover, whilst few businesses deem recovery to be extremely difficult or impossible (2.5%).

Generally, fewer businesses that were flooded had already recovered compared to those who were not inundated; consequently there were lower proportions of unflooded businesses that expected recovery to take a considerable length of time.

Expected Length of Recovery



Businesses overwhelmingly used internal sources to finance recovery, with the primary financial resource indicated by business being “absorbed own losses” (44.8% of all responses). Many businesses relied upon personal savings (10.1%) or bank loans (6.0%) to cover losses, whilst only 3.2% of businesses made an insurance claim.

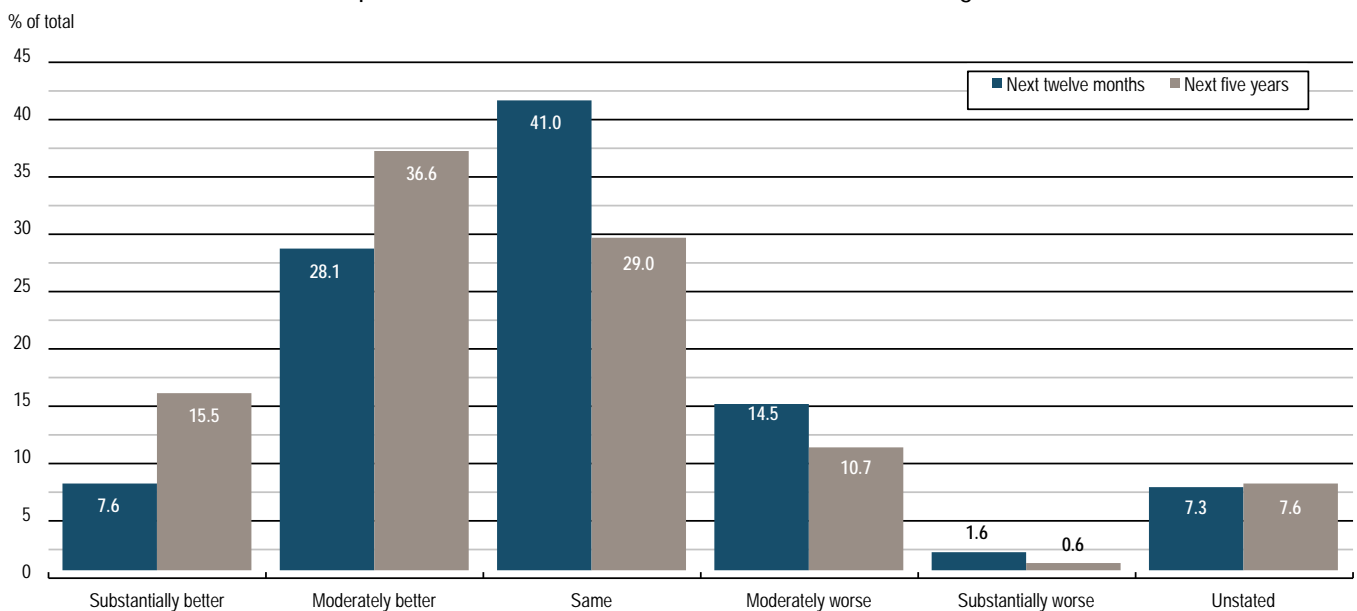


Future Expectations

Industry expectations for the next twelve months were generally positive, with more than one third of businesses (35.6%) responding to the survey expecting economic conditions in the Central Highlands to perform better (either moderately or substantially), whilst 16.1% thought that conditions in the region would worsen. This represented a differential of +19.6 percentage points across the whole survey sample. On a scale of 1 to 5 – with 1 indicating substantially better, 5 indicating substantially worse and 3 indicating about the same – the average weighted response across all businesses surveyed was 2.53, better than the benchmark for average or “about the same” (3.00).

Expectations for the regional economy were significantly more positive for the longer term, with the majority of businesses (52.1%) expecting conditions in the Central Highlands to perform better over the next 5 years, whilst only 11.4% of businesses expecting the regional economy to perform worse, resulting in a substantial differential of +40.7 percentage points. The average response across all businesses surveyed was 2.22, better than the benchmark for average or “about the same” (3.00) and higher than the average response to the next twelve months (2.53).

Expectations for Economic Conditions in the Central Highlands



The majority of businesses expect activity over the coming twelve months to be highly positive, with the proportion of businesses indicating either an increase in activity or no change ranging from 74-81% across a number of operational areas. Across the whole survey sample, the average net change in activity was as follows: gross sales / revenue (+3.7%); profitability (+2.7%); staffing levels (+2.6%); operating costs (+4.4%); and capital expenditure / investment (+3.4%).

Classification

Of the 317 businesses that responded to the survey, the majority were located in Emerald (53.3%), followed by location unstated, including rural areas (25.2), Blackwater (8.5%) and Springsure (6.3%). The most prominent industry sectors were Retail Trade (14.5%), Agriculture, Forestry & Fishing (11.7%), Health & Community Services (10.7%) and Accommodation, Cafes & Restaurants (8.5%). Survey respondents were mainly small business, with 85.2% employing less than 20 persons, whilst only one-quarter (24.9%) reported annual turnover in excess of \$1 million.



ECONOMIC IMPACT

Approach

This section outlines the input-output methodology that was used to examine the change in economic activity caused by the January 2008 floods on the economy of the Central Highlands Regional LGA.

The contribution / shock to the economy of the region being analysed is applied to the relevant industry sectors of the input-output model of the regional economy to examine the impact of the disaster. This analysis utilised regional input-output tables developed specifically for the Central Highlands Regional LGA to identify the expected impact of the proposed changes.

The stimulus from economic activity can be traced through the economy in several different ways:

- The first round effect, or direct effect, are those from the activities expenditure in purchasing goods from other industries;
- The second round effects are those from the supplying industries increasing their purchases to meet the additional demand. The second and subsequent rounds of purchasing are termed the indirect effects; and
- The consumption-induced effects, which recognise that the level of local production is important in determining regional levels of household consumption, that this in turn will be spent locally to a large extent and therefore influence the level of regional consumption and the level of output of each sector.

(Note: Caution should be exercised when interpreting the consumption impacts as they are generally expected to overestimate the actual impact.)

These effects can be represented by multipliers. There are commonly four different types of multipliers:

- Output;
- Income;
- Employment; and
- Value added.

Output

The output impact measures the increase in gross sales throughout the whole economy by summing all the individual transactions resulting, directly and indirectly, from the economic stimulus. The output impacts, are however, regarded as overstating the impact on the economy as they count all goods and services used in one stage of production as an input to later stages of production, hence counting their contribution more than once.

Income

The income impact measures the additional amount of wages and salaries paid to employees of the industry under consideration and to other industries benefiting from the stimulus to the economy.



Employment

The employment impact measures the number of jobs created or lost by the stimulus, both directly and indirectly. It should be noted that the short-term response to increased demand might be for employers to ask existing staff to work overtime. As a consequence, lower employment than the level indicated by the economic impact of the stimulus will result. This short-term scenario is particularly true where the demand stimulus is seen as temporary or where there is spare capacity in the economy (i.e. unemployment).

Value Added

The value added or Gross Regional Product¹ (GRP) impact measures only the net activity at each stage of production. GRP is defined as the addition of consumption, investment and government expenditure, plus exports of goods and services, minus imports of goods and services for a region. The GRP impacts are the preferred measure for the assessment and contribution of a stimulus to the economy.

Limitations

Limitations or qualifiers that should be raised when using input-output analysis include:

- The inputs purchased by each industry are a function of the level of output of that industry. The input function is generally assumed linear and homogenous of degree one (which implies constant returns to scale and no substitution between inputs);
- Each commodity (or group of commodities) is supplied by a single industry or sector of production. This implies that there is only one method used to produce each commodity and that each sector has only a single primary output;
- The total effect of carrying on several types of production is the sum of the separate effects. This rules out external economies and diseconomies and is known simply as the additivity assumption. This generally does not reflect real world operations;
- The system is in equilibrium at given prices. This is obviously not the case in an economic system subject to external influences;
- In the static input-output model, there are no capacity constraints so that the supply of each good is perfectly elastic. Each industry can supply whatever quantity is demanded of it and there are no capital restrictions. This assumption would come into play depending upon the magnitude of the changes in quantities demanded, brought about through changes in taxation levels; and
- The input-output model is an optimisation model that allocates resources between sectors to their most efficient use. This is not expected to happen all of the time in the "real world" and as such results from the input output analysis may overestimate the actual impact delivered on ground.

Input-output techniques provide a solid approach for taking account of the inter-relationships between the various sectors of the economy in the short-term and hence are an appropriate tool for determining the direct, indirect and induced economic impact of the 2008 flooding on industry and the economy of the Central Highlands.

¹ This is also known as Gross State Product (GSP) or Gross National Product (GNP) depending on the level of the analysis.



Data Inputs

As identified in the survey findings, the January 2008 floods contributed to a decrease in activity in the Central Highlands in 2007/08, with the average net change in gross sales / revenue representing a decrease of 5.5% across all businesses. This impact was not uniform, however, with some industry sectors experiencing significantly greater declines in sales than others. The average change in output and the resultant impact on total turnover / sales for each industry in the Central Highlands are outlined in the following table.

Businesses by Industry, June 2007			
Industry Division	Estimated industry turnover, 2006/07 (\$m)	Average net change in turnover, 2007/08 (%)	Estimated total change in turnover, 2007/08 (\$m)
Agriculture, Forestry & Fishing	694.5	-5.8	-40.6
Mining	718.3	-5.7	-41.2
Manufacturing	91.2	-1.6	-1.4
Electricity, Gas & Water Supply	0.2	-13.3	0.0
Construction	468.7	-15.1	-70.6
Wholesale Trade	153.6	-15.0	-23.0
Retail Trade	406.7	-7.5	-30.7
Accommodation, Cafes & Restaurants	127.5	-8.3	-10.6
Transport & Storage	67.7	-3.9	-2.6
Communication Services	4.2	-15.0	-0.6
Finance & Insurance	17.6	3.1	0.5
Property & Business Services	149.4	-8.5	-12.7
Education	3.3	-2.4	-0.1
Health & Community Services	24.0	-1.5	-0.4
Cultural & Recreational Services	3.0	0.0	0.0
Personal & Other Services	11.6	-3.4	-0.4
Total	2,941.2	-5.5	-234.4

The total change in industry turnover due to the January 2008 flood was a decrease of approximately \$234.4 million in 2007/08. Disaggregated industry outputs were provided as part of the analysis to demonstrate the impacts on all 109 sectors included in the input-output model; these are provided in Appendix A.

Displacements & Leakages

Displacement arises when an economic stimulus (positive or negative) such as the January 2008 flood takes market share from other existing local firms or organisations, or 'displaces' alternative uses of project funds that might otherwise have occurred. Leakages are defined as the proportion of outputs that flow out of the catchment area, i.e. purchases from outside the region. For the purpose of this analysis, it has been assumed that the Central Highlands Regional LGA economy is a closed economy, that is, any displacement and leakages are considered marginal. All expenditure related to these industries is therefore assumed to be made within the region in order to represent the change in economic activity caused by the flooding.

Economic Impact of Flooding

Output

The direct, indirect and induced economic impacts on output by industry for the Central Highlands associated with the January 2008 flood are outlined in the following table. With regard to total industry impact, the Construction sector experienced the largest decrease in output (down \$168.0 million), followed by Mining (down \$76.7 million) and Agriculture, Forestry & Fishing (down \$71.6 million).



Net Impact on Output by Industry (\$ million)					
Industry	Direct (D)	Indirect (I)	Total Industry Impact (D + I)	Consumption Induced (C)	Total Impact (D + I + C)
Agriculture, Forestry & Fishing	-40.6	-31.0	-71.6	-35.9	-107.5
Mining	-41.2	-35.6	-76.7	-47.1	-123.9
Manufacturing	-1.4	-1.2	-2.6	-1.8	-4.3
Electricity, Gas & Water Supply	0.0	0.0	0.0	0.0	-0.1
Construction	-70.6	-97.4	-168.0	-124.9	-293.0
Wholesale Trade	-23.0	-26.9	-49.9	-43.5	-93.4
Retail Trade	-30.7	-29.1	-59.7	-67.3	-127.0
Accommodation, Cafes & Restaurants	-10.6	-11.0	-21.6	-18.6	-40.2
Transport & Storage	-2.6	-2.6	-5.3	-4.7	-10.0
Communication Services	-0.6	-0.6	-1.2	-0.9	-2.1
Finance & Insurance	0.5	0.3	0.8	1.0	1.9
Property & Business Services	-12.7	-12.8	-25.5	-26.4	-51.9
Education	-0.1	0.0	-0.1	-0.2	-0.4
Health & Community Services	-0.4	-0.2	-0.6	-1.0	-1.6
Cultural & Recreational Services	0.0	0.0	0.0	0.0	0.0
Personal & Other Services	-0.4	-0.3	-0.7	-1.0	-1.7

Income

The direct, indirect and induced economic impacts on wages and salaries by industry for the Central Highlands associated with the January 2008 flood are outlined in the following table. With regard to total industry impact, the Construction sector is expected to have the largest decrease in income (down \$30.8 million), followed by Retail Trade (down \$16.6 million) and Mining (down \$11.6 million).

Net Impact on Income by Industry (\$ million)					
Industry	Direct (D)	Indirect (I)	Total Industry Impact (D + I)	Consumption Induced (C)	Total Impact (D + I + C)
Agriculture, Forestry & Fishing	-3.6	-5.3	-8.9	-4.7	-13.6
Mining	-5.6	-6.0	-11.6	-6.2	-17.8
Manufacturing	-0.2	-0.2	-0.4	-0.2	-0.7
Electricity, Gas & Water Supply	0.0	0.0	0.0	0.0	0.0
Construction	-10.5	-20.3	-30.8	-16.5	-47.3
Wholesale Trade	-5.3	-5.4	-10.7	-5.7	-16.5
Retail Trade	-10.5	-6.1	-16.6	-8.9	-25.5
Accommodation, Cafes & Restaurants	-2.5	-2.1	-4.6	-2.5	-7.0
Transport & Storage	-0.6	-0.5	-1.2	-0.6	-1.8
Communication Services	-0.1	-0.1	-0.2	-0.1	-0.3
Finance & Insurance	0.2	0.1	0.3	0.1	0.4
Property & Business Services	-3.6	-2.9	-6.5	-3.5	-10.0
Education	-0.1	0.0	-0.1	0.0	-0.1
Health & Community Services	-0.2	0.0	-0.3	-0.1	-0.4
Cultural & Recreational Services	0.0	0.0	0.0	0.0	0.0
Personal & Other Services	-0.2	-0.1	-0.2	-0.1	-0.4



Employment

The direct, indirect and induced impacts on employment by industry for the Central Highlands associated with the January 2008 flood are outlined in the following table. With regard to total industry impact, the Construction sector is forecast to experience the largest decrease in employment (down 667.8 FTEs), followed by Retail Trade (down 458.7 FTEs) and Agriculture, Forestry & Fishing (down 366.5 FTEs).

Net Impact on Employment by Industry (FTEs)					
Industry	Direct (D)	Indirect (I)	Total Industry Impact (D + I)	Consumption Induced (C)	Total Impact (D + I + C)
Agriculture, Forestry & Fishing	-290.0	-76.6	-366.5	-87.4	-453.9
Mining	-103.4	-101.2	-204.7	-114.7	-319.4
Manufacturing	-3.9	-2.9	-6.8	-4.3	-11.1
Electricity, Gas & Water Supply	0.0	-0.1	-0.1	-0.1	-0.2
Construction	-325.8	-342.0	-667.8	-304.0	-971.7
Wholesale Trade	-198.2	-75.3	-273.5	-105.8	-379.4
Retail Trade	-362.9	-95.9	-458.7	-163.8	-622.5
Accommodation, Cafes & Restaurants	-83.7	-31.7	-115.4	-45.3	-160.7
Transport & Storage	-13.8	-8.4	-22.2	-11.5	-33.8
Communication Services	-1.3	-1.9	-3.2	-2.2	-5.4
Finance & Insurance	1.8	0.7	2.5	2.5	5.0
Property & Business Services	-52.1	-41.5	-93.6	-64.1	-157.8
Education	-1.0	-0.1	-1.1	-0.6	-1.7
Health & Community Services	-5.0	-0.6	-5.6	-2.5	-8.1
Cultural & Recreational Services	0.0	0.0	0.0	0.0	0.0
Personal & Other Services	-5.2	-1.1	-6.3	-2.4	-8.7

Value Added

The direct, indirect and induced economic impacts on value added, or contribution to gross regional product, by industry for the Central Highlands associated with the January 2008 flood are outlined in the following table. With regard to total industry impact, the Construction sector experienced the largest decrease in value added (down \$61.5 million), followed by Mining (down \$36.6 million) and Agriculture, Forestry & Fishing (down \$36.1 million).

Net Impact on Output by Industry (\$ million)					
Industry	Direct (D)	Indirect (I)	Total Industry Impact (D + I)	Consumption Induced (C)	Total Impact (D + I + C)
Agriculture, Forestry & Fishing	-21.9	-14.2	-36.1	-10.4	-46.5
Mining	-22.7	-13.9	-36.6	-13.7	-50.3
Manufacturing	-0.4	-0.5	-0.8	-0.5	-1.3
Electricity, Gas & Water Supply	0.0	0.0	0.0	0.0	0.0
Construction	-22.9	-38.6	-61.5	-36.2	-97.7
Wholesale Trade	-8.6	-11.0	-19.6	-12.6	-32.2
Retail Trade	-15.4	-12.0	-27.5	-19.5	-47.0
Accommodation, Cafes & Restaurants	-3.9	-4.6	-8.6	-5.4	-14.0
Transport & Storage	-1.1	-1.0	-2.2	-1.4	-3.5
Communication Services	-0.3	-0.2	-0.6	-0.3	-0.8
Finance & Insurance	0.4	0.1	0.5	0.3	0.8
Property & Business Services	-5.7	-5.6	-11.3	-7.6	-18.9
Education	-0.1	0.0	-0.1	-0.1	-0.1
Health & Community Services	-0.3	-0.1	-0.3	-0.3	-0.6
Cultural & Recreational Services	0.0	0.0	0.0	0.0	0.0
Personal & Other Services	-0.2	-0.1	-0.4	-0.3	-0.6



Net Impact

The net regional economic impacts (i.e. direct, indirect and consumer-induced) of the January 2008 floods for the Central Highlands are summarised in the table below and include:

- An estimated decrease in direct output of \$234.4 million and additional flow on decreases in output of \$248.3 million through other industries, for a total net industry impact of \$482.7 million;
- An estimated decrease in direct income (wages and salaries) of \$42.8 million, with an additional decrease of \$49.0 million in income through flow on effects in other industries;
- A decrease of 1,444.5 direct full-time equivalent (FTE) employment positions, with an estimated reduction of 778.6 employment positions lost indirectly through other industries, for a total net industry employment impact of 2,223.1 FTEs; and
- An estimated contraction in GRP of \$103.1 million from direct effects, with a further flow on impact of \$101.8 million through other industries for a total decrease in net industry value added of \$204.9 million.

Net Economic Impact of January 2008 Flood					
	Direct (D)	Indirect (I)	Total Industry Impact (D + I)	Consumption Induced (C)	Total Impact (D + I + C)
Output (\$m)	-234.4	-248.3	-482.7	-372.5	-855.2
Income (\$m)	-42.8	-49.0	-91.8	-49.1	-140.9
Employment (FTE)	-1,444.5	-778.6	-2,223.1	-906.3	-3,129.4
Value Added (\$m)	-103.1	-101.8	-204.9	-108.0	-313.0

Note: (a) Figures represent annual impacts.



APPENDIX A: BUSINESS SURVEY FORM



Question 4. Did your business suffer any direct damage or loss in any of the following areas? If yes, please indicate an approximate value of damages:

- 1 Buildings/fixtures \$ _____
- 2 Stock/raw materials \$ _____
- 3 Vehicles \$ _____
- 4 Computers \$ _____
- 5 Machinery \$ _____
- 6 Other equipment \$ _____
- 7 Furniture \$ _____

Question 5. Please indicate whether your business experienced an increase, decrease or no change in the following areas as a result of the flooding, and by approximately how much (%):

	Increase	No change	Decrease
a) Operating costs	1 <input type="checkbox"/> _____ %	2 <input type="checkbox"/>	3 <input type="checkbox"/> _____ %
b) Production levels	1 <input type="checkbox"/> _____ %	2 <input type="checkbox"/>	3 <input type="checkbox"/> _____ %
c) Consumer demand	1 <input type="checkbox"/> _____ %	2 <input type="checkbox"/>	3 <input type="checkbox"/> _____ %
d) Future productivity	1 <input type="checkbox"/> _____ %	2 <input type="checkbox"/>	3 <input type="checkbox"/> _____ %
e) Business/investor confidence	1 <input type="checkbox"/> _____ %	2 <input type="checkbox"/>	3 <input type="checkbox"/> _____ %
f) Costs of demolition and debris removal	1 <input type="checkbox"/> _____ %	2 <input type="checkbox"/>	3 <input type="checkbox"/> _____ %

Question 6. Did your business suffer any financial costs as a direct result of the flooding that were NOT covered by insurance? If yes, please indicate an approximate value of costs:

- 1 Yes \$ _____
- 2 No

Question 7. Did your business experience any financial gain as a direct result of the flooding? If yes, please indicate an approximate value of additional income:

- 1 Yes \$ _____
- 2 No

Question 8. Has your business, in its current location, previously experienced flooding?

- 1 Yes
- 2 No



Question 9. In your business, please indicate whether you experienced an increase, decrease or no change in the 2007/08 financial year for the following operational areas, and by approximately how much (%):

	Increase	No change	Decrease
a) Gross sales / revenue	1 <input type="checkbox"/> _____%	2 <input type="checkbox"/>	3 <input type="checkbox"/> _____%
b) Profitability	1 <input type="checkbox"/> _____%	2 <input type="checkbox"/>	3 <input type="checkbox"/> _____%
c) Staffing levels	1 <input type="checkbox"/> _____%	2 <input type="checkbox"/>	3 <input type="checkbox"/> _____%
d) Operating costs	1 <input type="checkbox"/> _____%	2 <input type="checkbox"/>	3 <input type="checkbox"/> _____%
e) Capital expenditure/investment	1 <input type="checkbox"/> _____%	2 <input type="checkbox"/>	3 <input type="checkbox"/> _____%

STAFFING

Question 10. In your business, please indicate whether you experienced an increase, decrease or no change in staffing levels following the flooding, and by approximately how many:

1 Increase _____ 2 No change 3 Decrease _____

Question 11. Did you or your staff have time away from work due to physical or emotional trauma caused by the flooding?

1 Yes 2 No

RECOVERY

Question 12. Please indicate how long you expect your business will take to recover to a position similar to that prior to the flooding:

- | | |
|---|---|
| 1 <input type="checkbox"/> Already recovered | 4 <input type="checkbox"/> Expected recovery over 2 years |
| 2 <input type="checkbox"/> Recovery within 1 year of flooding | 5 <input type="checkbox"/> Impossible to recover |
| 3 <input type="checkbox"/> Expected recovery within 1-2 years | |

Question 13. Please indicate which resources you have used, if any, to assist your business to recover:

- | | |
|--|---|
| 1 <input type="checkbox"/> Absorbed own losses | 5 <input type="checkbox"/> Donation/aid |
| 2 <input type="checkbox"/> Insurance claim | 6 <input type="checkbox"/> Bank loan |
| 3 <input type="checkbox"/> Personal savings | 7 <input type="checkbox"/> Other (please specify) |
| 4 <input type="checkbox"/> Loans from family/friends | |
-

FUTURE EXPECTATIONS

On a scale of 1 to 5, with 1 indicating substantially better, 5 indicating substantially worse and 3 indicating about the same, please rate the following:

Question 14. How do you expect economic conditions in the Central Highlands to perform over the next 12 months?

Substantially better	Moderately better	Same	Moderately worse	Substantially worse
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

Question 15. How do you expect economic conditions in the Central Highlands to perform over the next 5 years?

Substantially better	Moderately better	Same	Moderately worse	Substantially worse
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>



Question 16. In your business, please indicate whether you expect an increase, decrease or no change in the 2008/09 financial year for the following operational areas, and by approximately how much (%):

	Increase	No change	Decrease
a) Gross sales / revenue	1 <input type="checkbox"/> _____ %	2 <input type="checkbox"/>	3 <input type="checkbox"/> _____ %
b) Profitability	1 <input type="checkbox"/> _____ %	2 <input type="checkbox"/>	3 <input type="checkbox"/> _____ %
c) Staffing levels	1 <input type="checkbox"/> _____ %	2 <input type="checkbox"/>	3 <input type="checkbox"/> _____ %
d) Operating costs	1 <input type="checkbox"/> _____ %	2 <input type="checkbox"/>	3 <input type="checkbox"/> _____ %
e) Capital expenditure/investment	1 <input type="checkbox"/> _____ %	2 <input type="checkbox"/>	3 <input type="checkbox"/> _____ %

CLASSIFICATION

Question 17. In what type of industry is your business or organisation involved? (One response only)

- | | |
|---|---|
| 1 <input type="checkbox"/> Agriculture, forestry & fishing | 10 <input type="checkbox"/> Communication Services |
| 2 <input type="checkbox"/> Mining | 11 <input type="checkbox"/> Finance & insurance |
| 3 <input type="checkbox"/> Manufacturing | 12 <input type="checkbox"/> Property & business services |
| 4 <input type="checkbox"/> Electricity, gas & water | 13 <input type="checkbox"/> Government administration & defence |
| 5 <input type="checkbox"/> Construction | 14 <input type="checkbox"/> Education |
| 6 <input type="checkbox"/> Wholesale trade | 15 <input type="checkbox"/> Health & community services |
| 7 <input type="checkbox"/> Retail trade | 16 <input type="checkbox"/> Cultural & recreational services |
| 8 <input type="checkbox"/> Accommodation, cafes & restaurants | 17 <input type="checkbox"/> Personal & other services |
| 9 <input type="checkbox"/> Transport & storage | |

Question 18. Approximately how many people does your business / organisation employ?

- | | |
|--|------------------------------------|
| 1 <input type="checkbox"/> Non-employing | 5 <input type="checkbox"/> 50-99 |
| 2 <input type="checkbox"/> 1-4 | 6 <input type="checkbox"/> 100-199 |
| 3 <input type="checkbox"/> 5-19 | 7 <input type="checkbox"/> 200+ |
| 4 <input type="checkbox"/> 20-49 | |

Question 19. What are the approximate annual sales / gross revenues of your business or organisation?

- | | |
|---|---|
| 1 <input type="checkbox"/> Less than \$100,000 | 6 <input type="checkbox"/> \$5 million to \$10 million |
| 2 <input type="checkbox"/> \$100,001 to \$250,000 | 7 <input type="checkbox"/> \$10 million to \$20 million |
| 3 <input type="checkbox"/> \$250,001 to \$500,000 | 8 <input type="checkbox"/> \$20 million to \$50 million |
| 4 <input type="checkbox"/> \$500,001 to \$1 million | 9 <input type="checkbox"/> Over \$50 million |
| 5 <input type="checkbox"/> \$1 million to \$5 million | 10 <input type="checkbox"/> Unsure / not stated |

Question 20. Do you have any additional comments you would like to make on the impact of the 2008 floods on business and industry in the Central Highlands region?

Thank you for participating in this survey



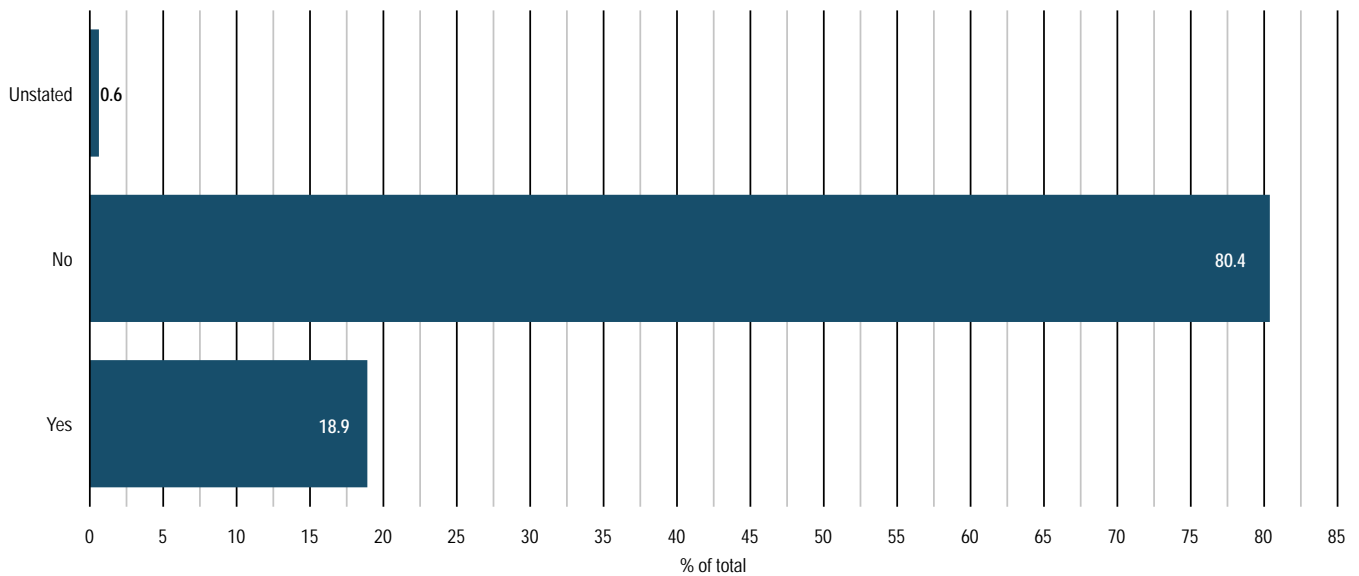
APPENDIX B: SURVEY RESULTS

Impact & Damages

Question 1. Was your business inundated (i.e. flooded) during the floods?

Question 1: Results		
Response	No. of responses	% of total
Yes	60	18.9
No	255	80.4
Unstated	2	0.6
Total	317	100.0

Question 1. Was Your Business Inundated During the Flood?

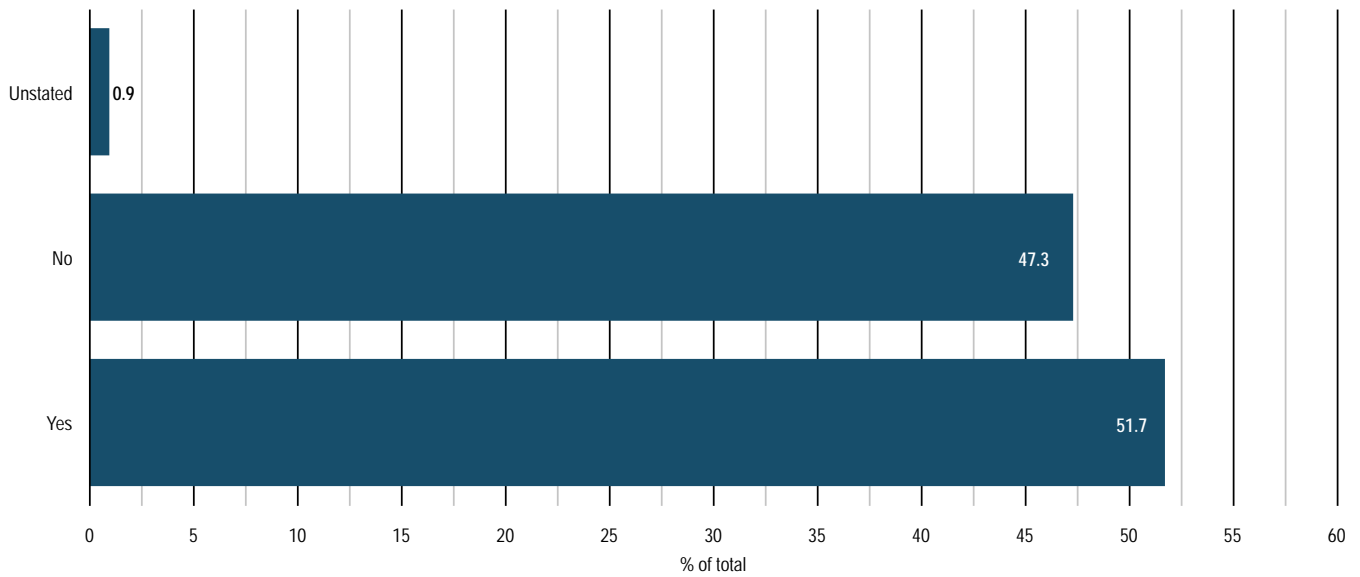


Question 2. Was your business forced to close as a result of the flooding?

Question 2: Results		
Response	No. of responses	% of total
Yes	164	51.7
No	150	47.3
Unstated	3	0.9
Total	317	100.0



Question 2. Was Your Business Forced to Close as a Result of the Flood?

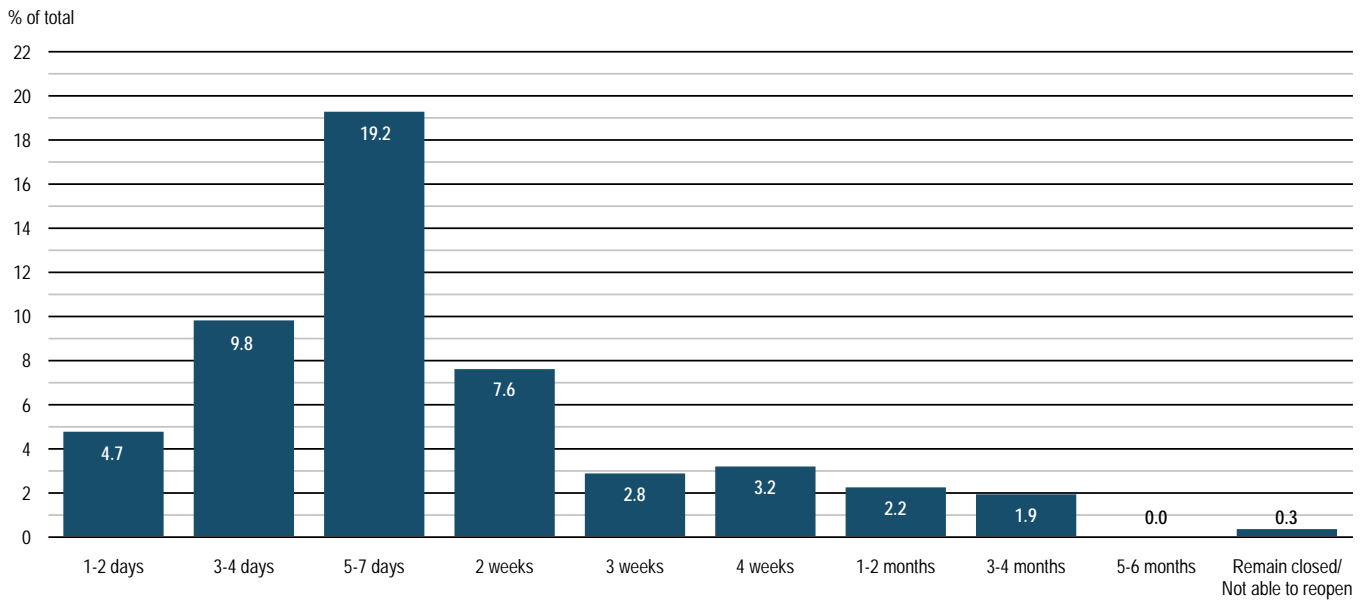


If Yes, after what length of time were you able to reopen your business?

Question 2: Results		
Response	No. of responses	% of total
1-2 days	15	4.7
3-4 days	31	9.8
5-7 days	61	19.2
2 weeks	24	7.6
3 weeks	9	2.8
4 weeks	10	3.2
1-2 months	7	2.2
3-4 months	6	1.9
5-6 months	0	0.0
Remain closed/Not able to reopen	1	0.3
Total	317	100.0
Average length of time closed (days)	13.8	



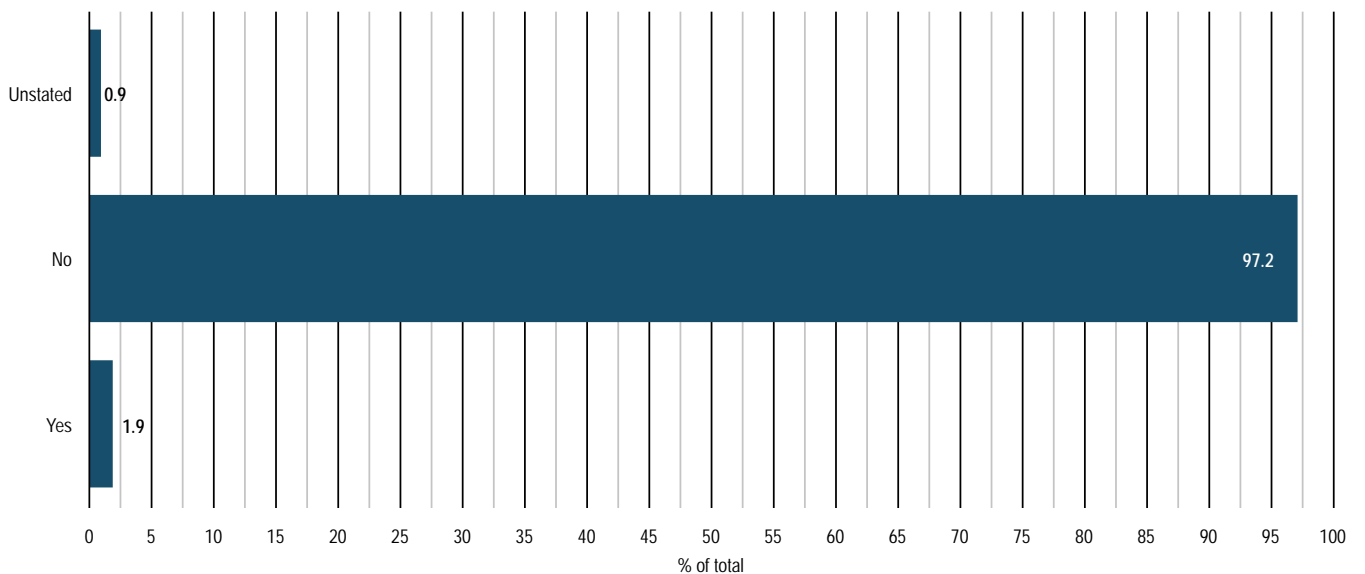
Question 2a. After What Length of Time Were You Able to Reopen Your Business?



Question 3. Was your business forced to relocate as a result of the flooding?

Question 3: Results		
Response	No. of responses	% of total
Yes	6	1.9
No	308	97.2
Unstated	3	0.9
Total	317	100.0

Question 3. Was Your Business Forced to Relocate as a Result of the Flooding?

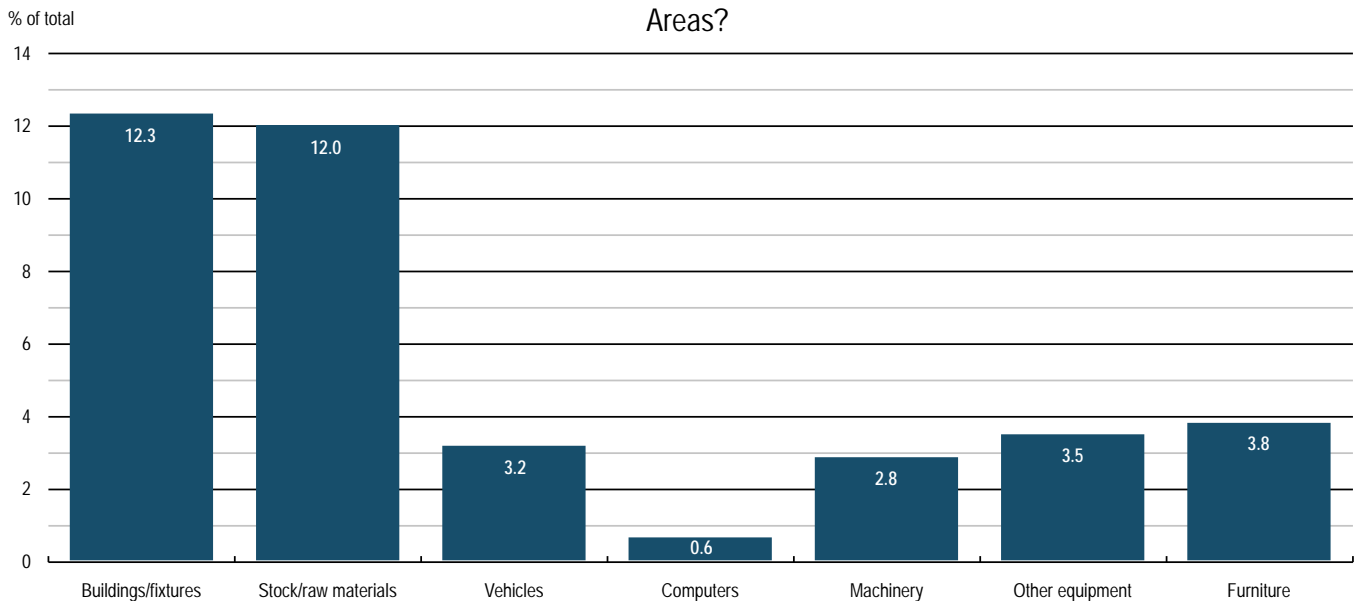




Question 4. Did your business suffer any direct damage or loss in any of the following areas?

Question 4: Results			
Response	No. of responses	% of total	Average loss (\$)
Buildings/fixtures	39	12.3	19,529
Stock/raw materials	38	12.0	44,274
Vehicles	10	3.2	12,233
Computers	2	0.6	3,000
Machinery	9	2.8	14,611
Other equipment	11	3.5	9,724
Furniture	12	3.8	10,430
Total	317	100.0	-

Question 4. Did Your Business Suffer Any Direct Damage or Loss in Any of the Following Areas?

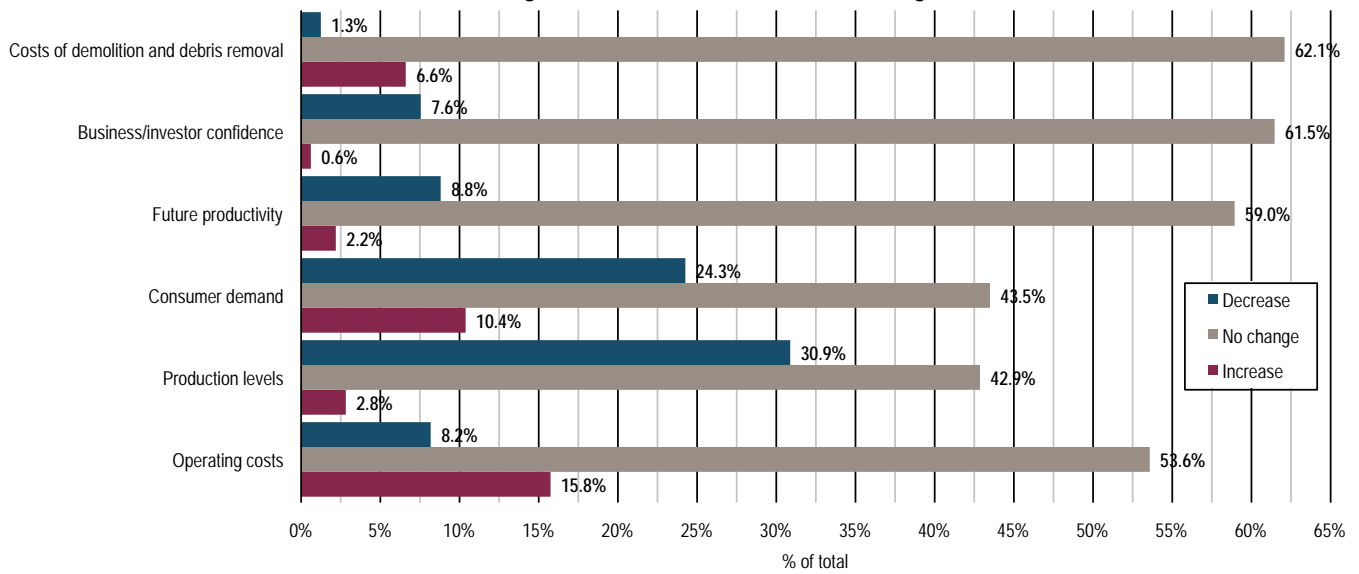


Question 5. Please indicate whether your business experienced an increase, decrease or no change in the following areas as a result of the flooding, and by approximately how much (%).

Question 5: Results											
Area	Increase			No change		Decrease			Unstated		Total Avg net % chg
	No.	% of total	Avg % chg	No.	% of total	No.	% of total	Avg % chg	No.	% of total	
Operating costs	50	15.8	21.4	170	53.6	26	8.2	36.0	71	22.4	0.5
Production levels	9	2.8	30.6	136	42.9	98	30.9	51.5	74	23.3	-19.6
Consumer demand	33	10.4	43.6	138	43.5	77	24.3	52.0	69	21.8	-10.3
Future productivity	7	2.2	35.0	187	59.0	28	8.8	35.9	95	30.0	-3.4
Business/investor confidence	2	0.6	20.0	195	61.5	24	7.6	34.6	96	30.3	-3.6
Costs of demolition and debris removal	21	6.6	37.1	197	62.1	4	1.3	30.0	95	30.0	3.0



Question 5. Did Your business Experienced an Increase, Decrease or No Change in the Following Areas as a Result of the Flooding?

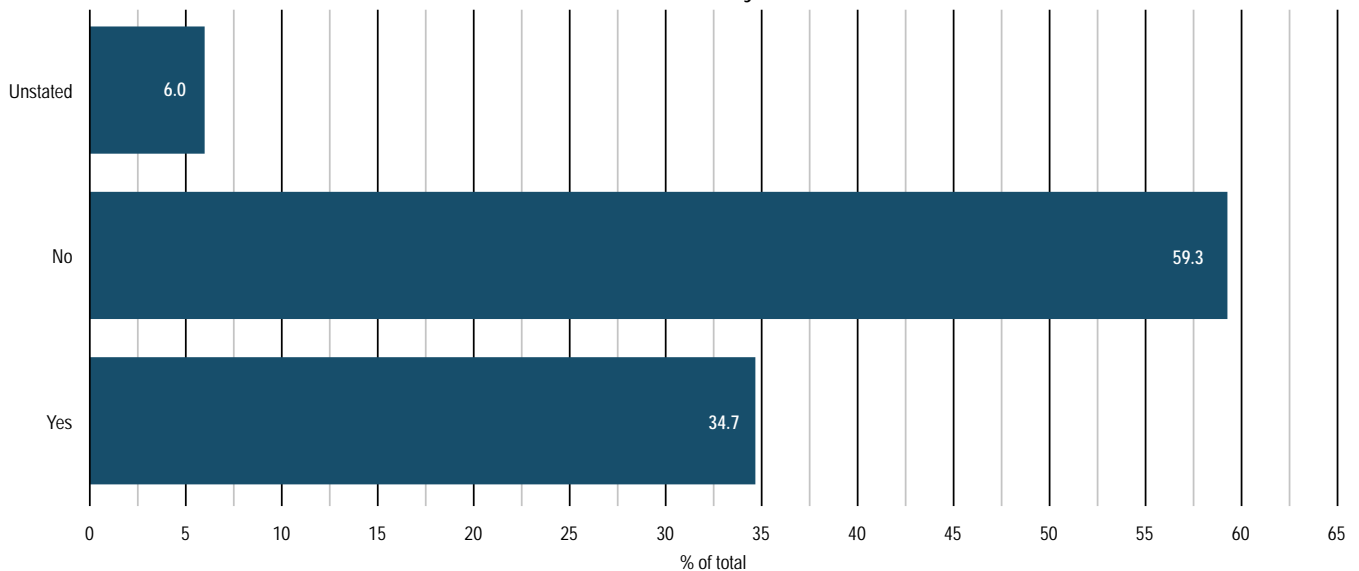


Question 6. Did your business suffer any financial costs as a direct result of the flooding that were NOT covered by insurance?

Question 6: Results		
Response	No. of responses	% of total
Yes	110	34.7
No	188	59.3
Unstated	19	6.0
Total	317	100.0
Average cost (if 'Yes') (\$)	118,124	

Note: Average cost does not include a figure of \$25 million provided by one business in the mining sector (assumed to be a mine) as this would have distorted the average.

Question 6. Did Your Business Suffer any Financial Costs as a Direct Result of the Flooding that Were Not Covered by Insurance?

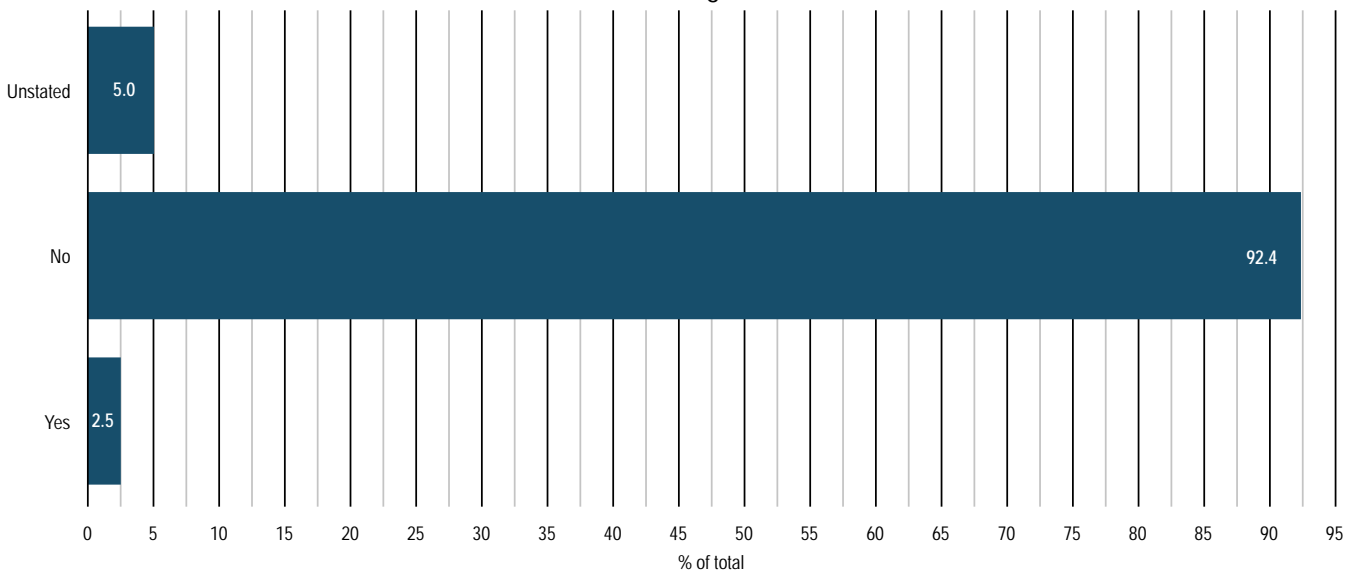




Question 7. Did your business experience any financial gain as a direct result of the flooding?

Question 7: Results		
Response	No. of responses	% of total
Yes	8	2.5
No	293	92.4
Unstated	16	5.0
Total	317	100.0
Average cost (if 'Yes') (\$)	117,938	

Question 7. Did Your Business Experience any Financial Gain as a Direct Result of the Flooding?

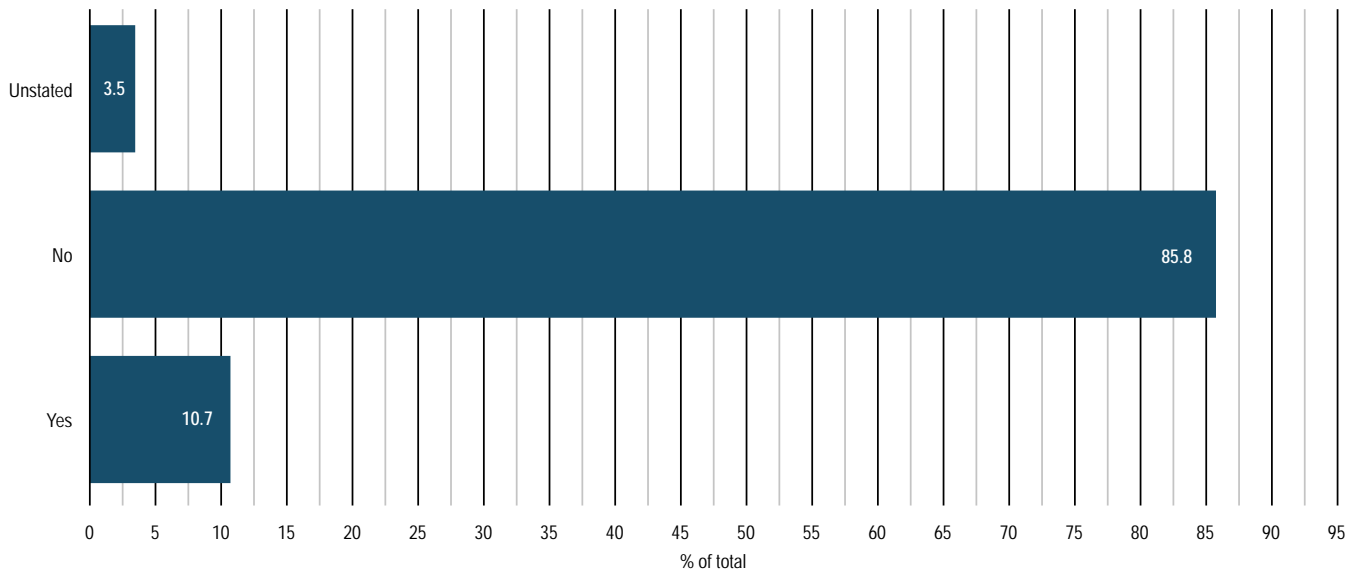


Question 8. Has your business, in its current location, previously experienced flooding?

Question 8: Results		
Response	No. of responses	% of total
Yes	34	10.7
No	272	85.8
Unstated	11	3.5
Total	317	100.0



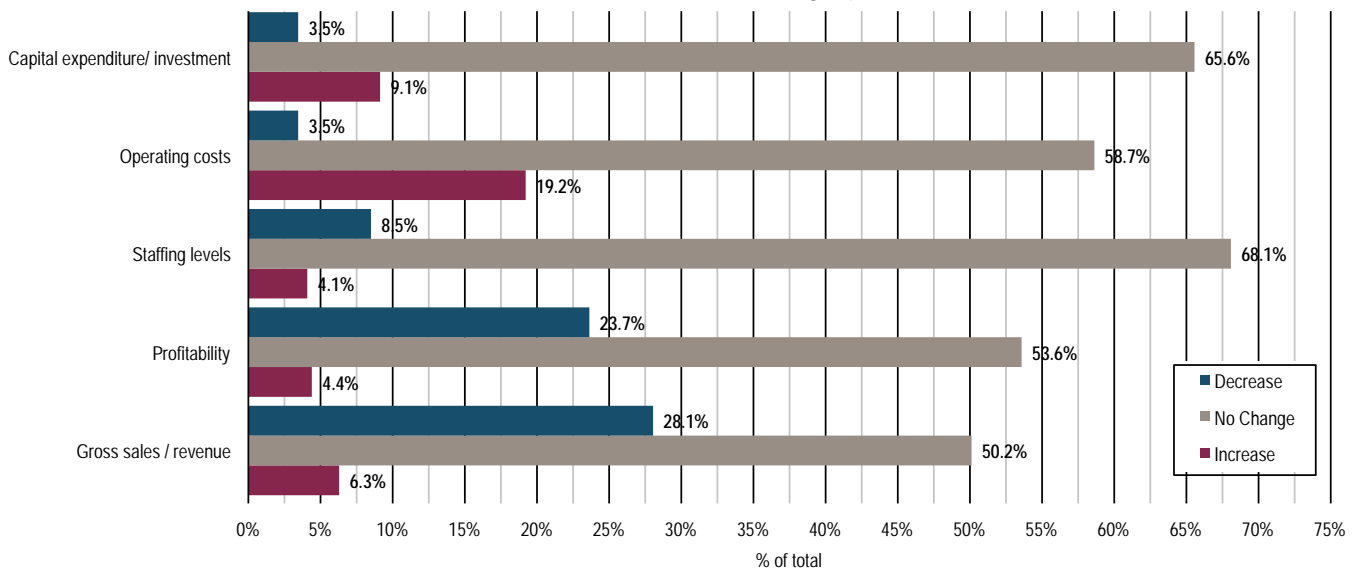
Question 8. Has Your Business, in Its Current Location, Previously Experienced Flooding?



Question 9. In your business, please indicate whether you experienced an increase, decrease or no change in the 2007/08 financial year for the following operational areas, and by approximately how much (%).

Question 9: Results											
Area	Increase			No change		Decrease			Unstated		Total Avg net % chg
	No.	% of total	Avg % chg	No.	% of total	No.	% of total	Avg % chg	No.	% of total	
Gross sales / revenue	20	6.3%	16.9	159	50.2	89	28.1	20.2	49	15.5	-5.5
Profitability	14	4.4%	34.8	170	53.6	75	23.7	22.4	58	18.3	-4.6
Staffing levels	13	4.1%	26.1	216	68.1	27	8.5	39.0	61	19.2	-2.8
Operating costs	61	19.2%	17.5	186	58.7	11	3.5	30.7	59	18.6	2.8
Capital expenditure/ investment	29	9.1%	20.4	208	65.6	11	3.5	41.3	69	21.8	0.6

Question 9. In Your Business, Did You Experience an Increase, Decrease or No Change in the 2007/08 Financial Year for the Following Operational Areas?



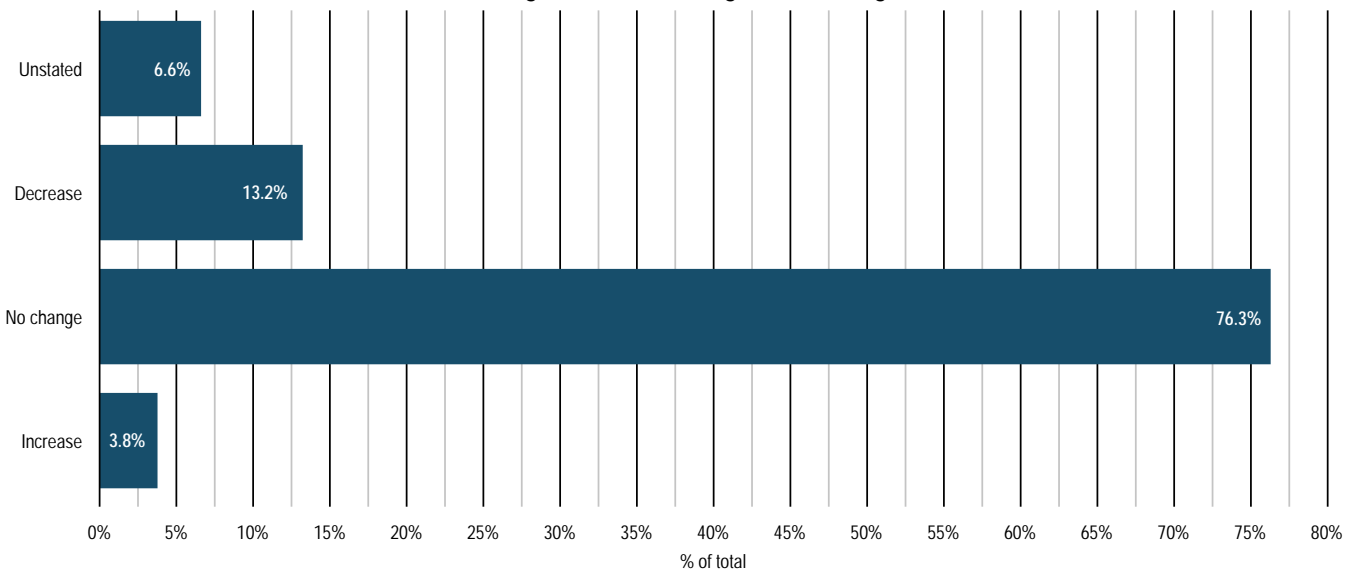


Staffing

Question 10. In your business, please indicate whether you experienced an increase, decrease or no change in staffing levels following the flooding, and by approximately how many.

Question 10: Results			
Response	No. of responses	% of total	Avg change (no.)
Increase	12	3.8	14.8
No change	242	76.3	
Decrease	42	13.2	13.1
Unstated	21	6.6	
Total	317	100.0	-1.3

Question 10. In Your Business, Did You Experience an Increase, Decrease or No Change in Staffing Levels Following the Flooding?

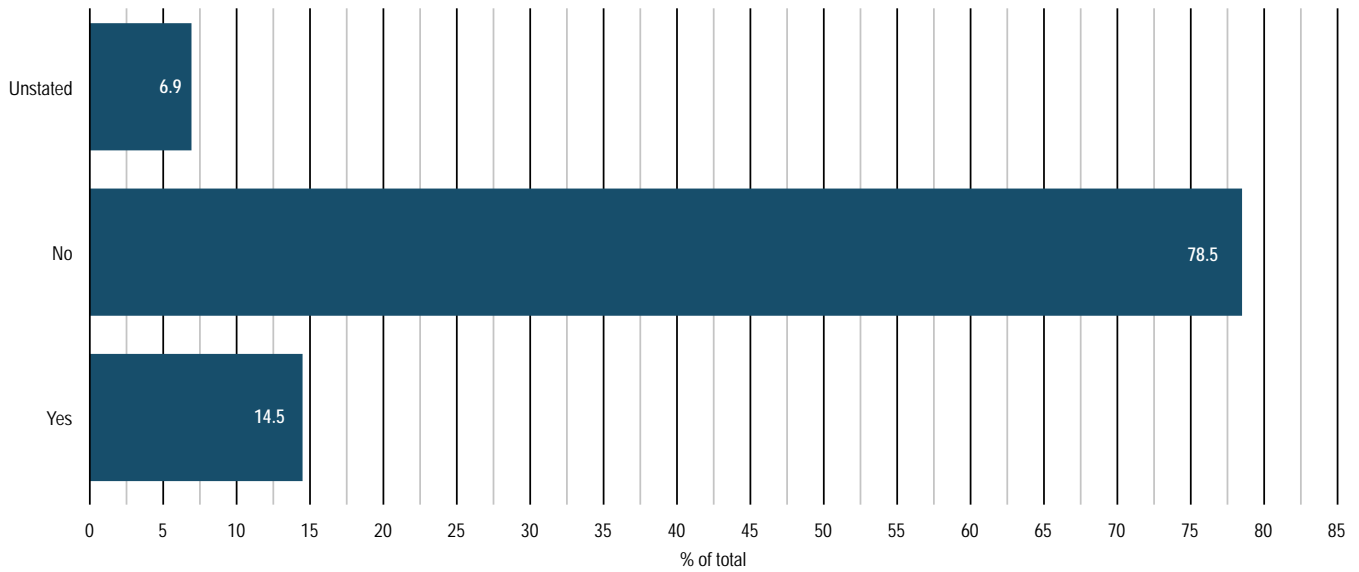


Question 11. Did you or your staff have time away from work due to physical or emotional trauma caused by the flooding?

Question 11: Results		
Response	No. of responses	% of total
Yes	46	14.5
No	249	78.5
Unstated	22	6.9
Total	317	100.0



Question 11. Did You or Your Staff Have Any Time Away From Work Due to Physical or Emotional Trauma Caused by the Flooding?

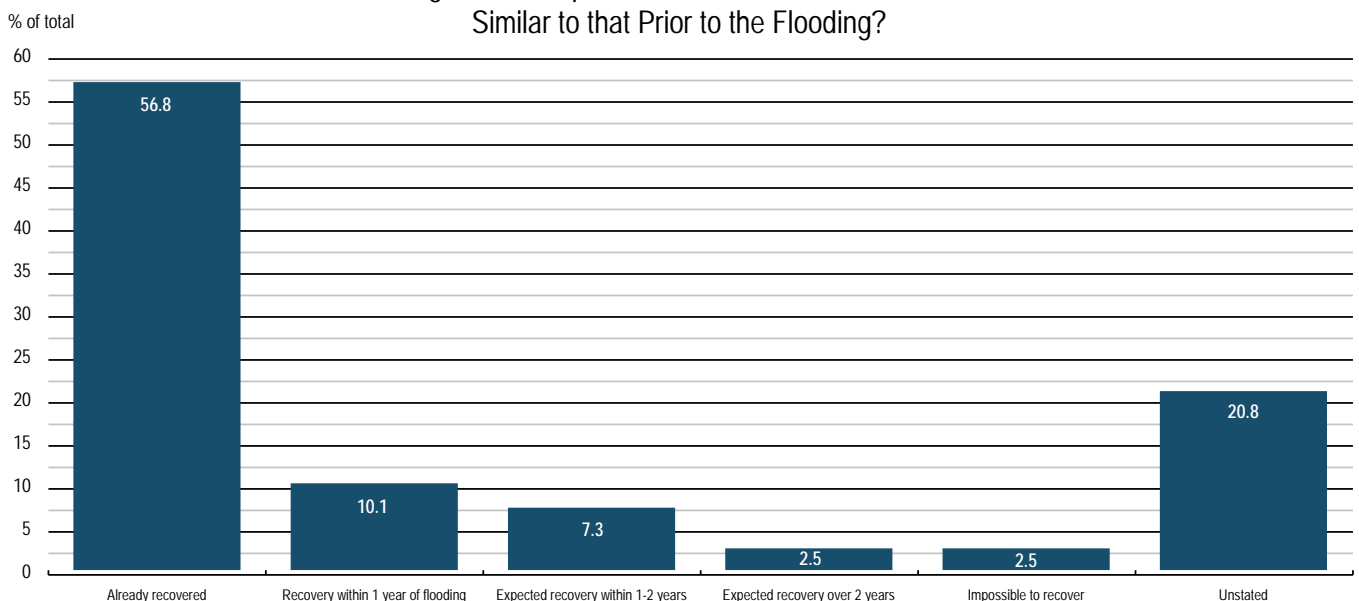


Recovery

Question 12. Please indicate how long you expect your business will take to recover to a position similar to that prior to the flooding.

Question 12: Results		
Response	No. of responses	% of total
Already recovered	180	56.8
Recovery within 1 year of flooding	32	10.1
Expected recovery within 1-2 years	23	7.3
Expected recovery over 2 years	8	2.5
Impossible to recover	8	2.5
Unstated	66	20.8
Total	317	100.0

Question 12. How Long You Do Expect Your Business Will Take to Recover to a Position Similar to that Prior to the Flooding?

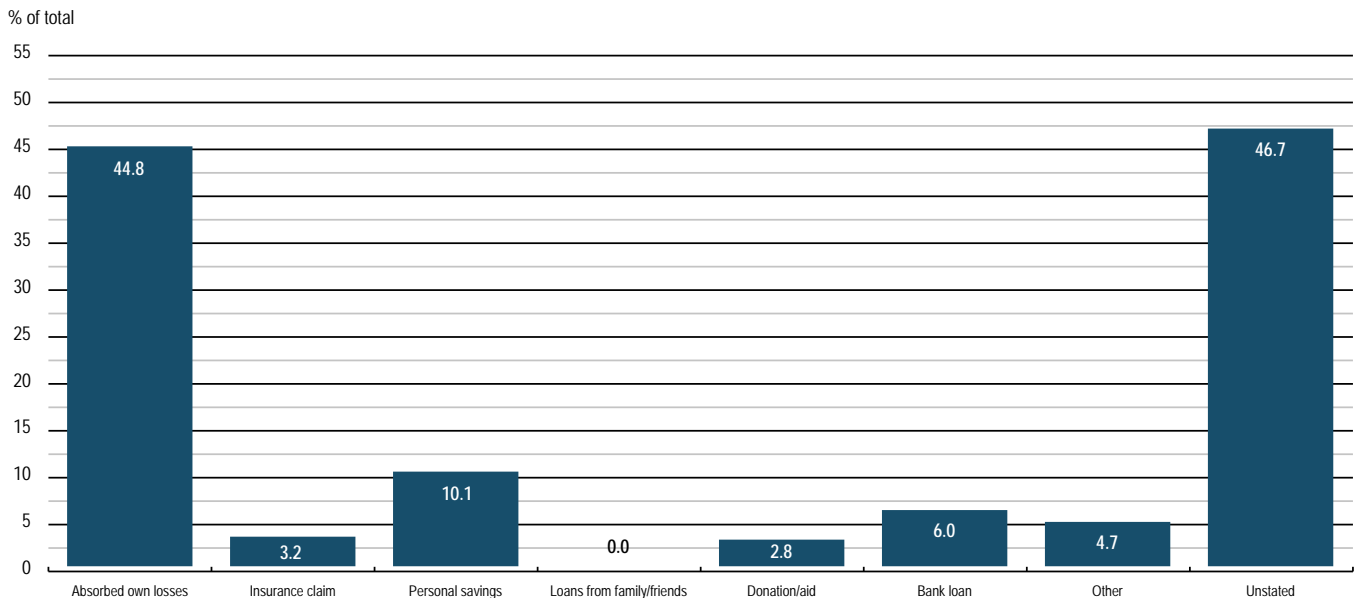




Question 13. Please indicate which resources you have used, if any, to assist your business to recover.

Question 13: Results		
Response	No. of responses	% of total
Absorbed own losses	142	44.8
Insurance claim	10	3.2
Personal savings	32	10.1
Loans from family/friends	0	0.0
Donation/aid	9	2.8
Bank loan	19	6.0
Other	15	4.7
Unstated	148	46.7
Total	317	100.0

Question 13. Which Resources Have You Used, If Any, to Assist Your Business to Recover?



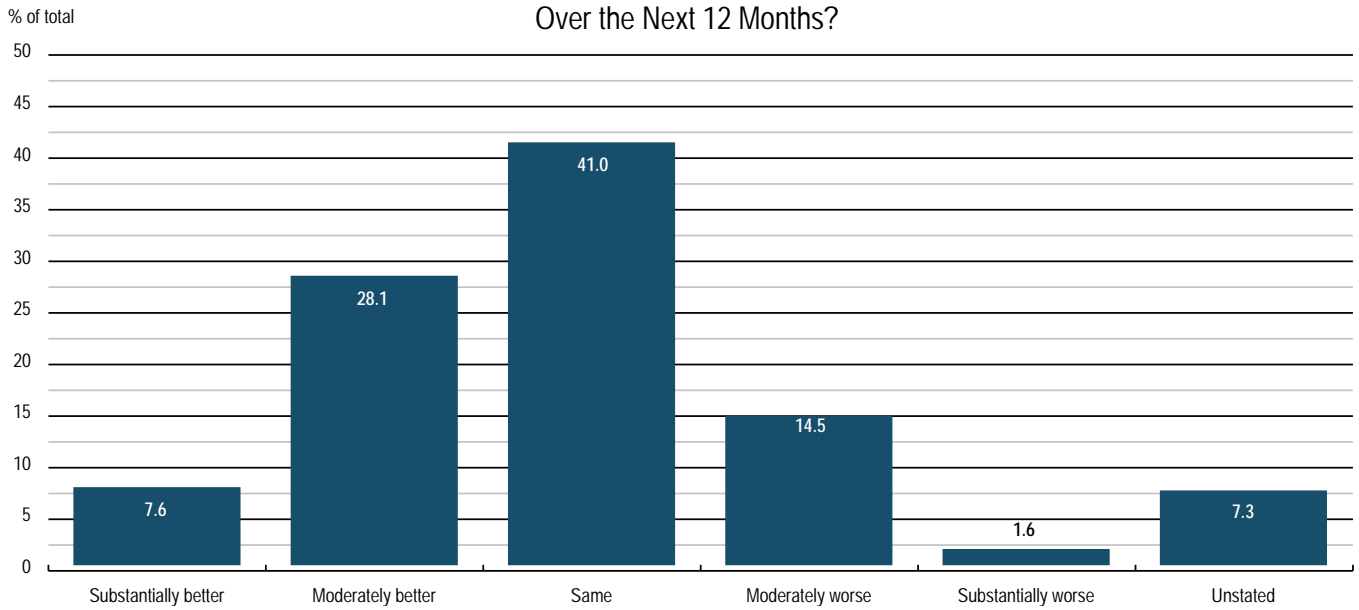
Future Expectations

Question 14. How do you expect economic conditions in the Central Highlands to perform over the next 12 months?

Question 14: Results		
Response	No. of responses	% of total
Substantially better	24	7.6
Moderately better	89	28.1
Same	130	41.0
Moderately worse	46	14.5
Substantially worse	5	1.6
Unstated	23	7.3
Total	317	100.0
% better (i.e. above "same")	35.6	
% worse (i.e. below "same")	16.1	
Differential (i.e. % better – % worse)	19.6	
Average weight	2.53	



Question 14. How Do You Expect Economic Conditions in the Central Highlands to Perform Over the Next 12 Months?

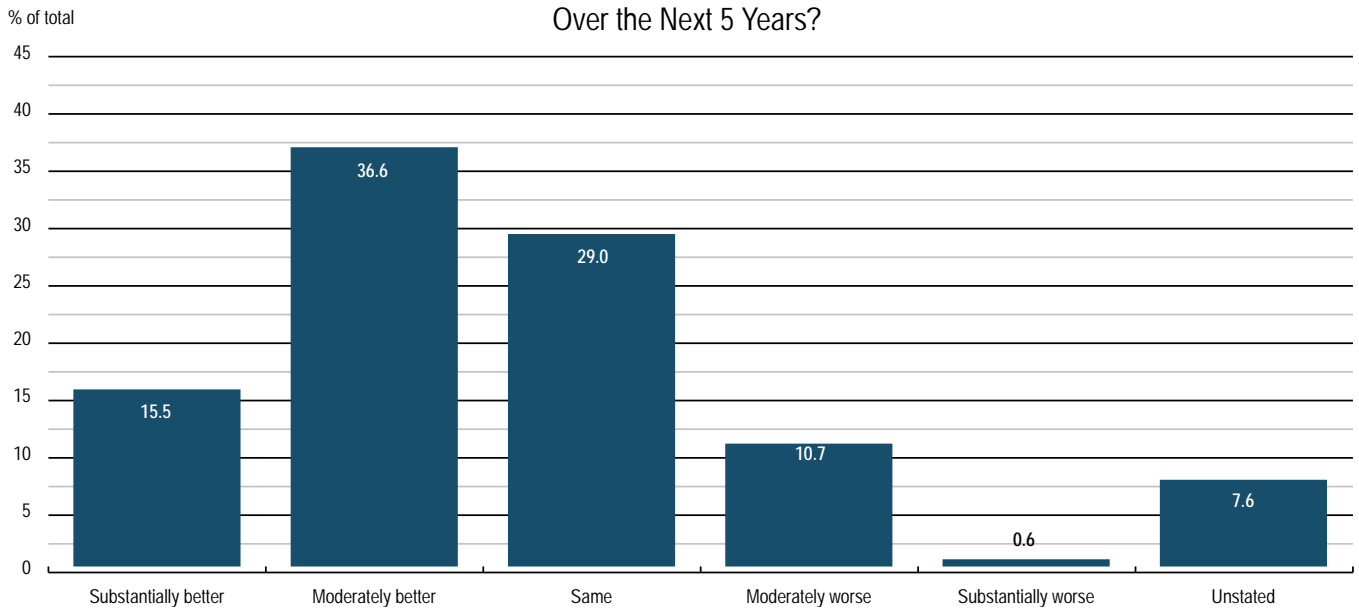


Question 15. How do you expect economic conditions in the Central Highlands to perform over the next 5 years?

Question 15: Results		
Response	No. of responses	% of total
Substantially better	49	15.5
Moderately better	116	36.6
Same	92	29.0
Moderately worse	34	10.7
Substantially worse	2	0.6
Unstated	24	7.6
Total	317	100.0
% better (i.e. above "same")	52.1	
% worse (i.e. below "same")	11.4	
Differential (i.e. % better – % worse)	40.7	
Average weight	2.22	



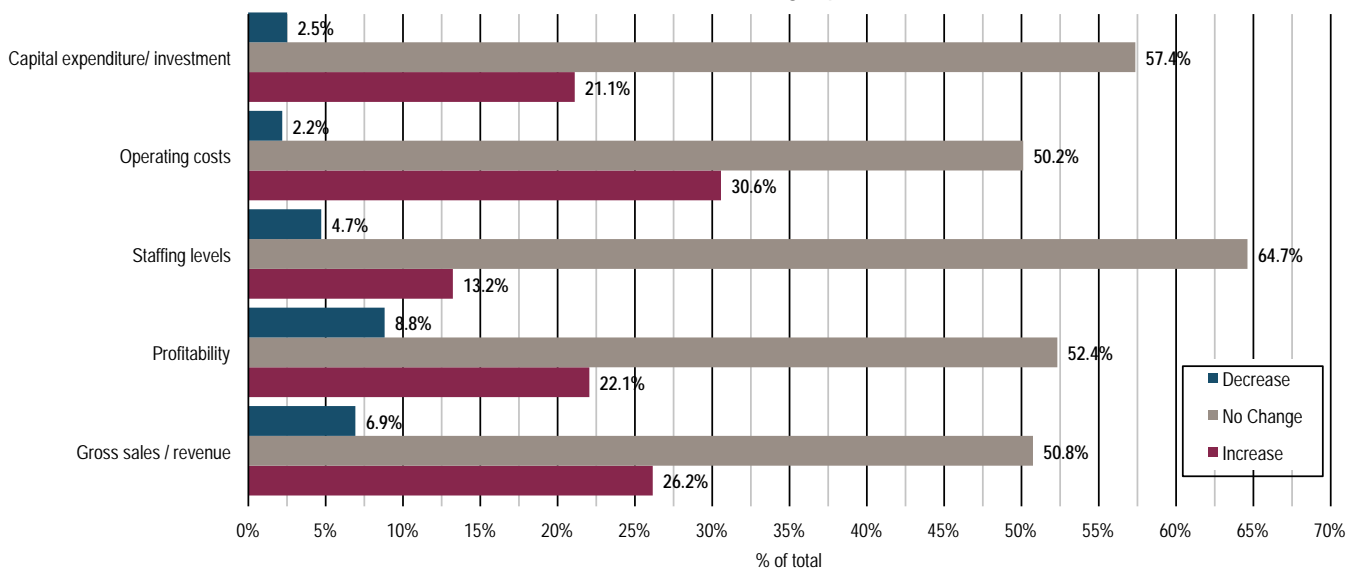
Question 15. How Do You Expect Economic Conditions in the Central Highlands to Perform Over the Next 5 Years?



Question 16. In your business, please indicate whether you experienced an increase, decrease or no change in the 2008/09 financial year for the following operational areas, and by approximately how much (%).

Question 16: Results											
Area	Increase			No change		Decrease			Unstated		Total Avg net % chg
	No.	% of total	Avg % chg	No.	% of total	No.	% of total	Avg % chg	No.	% of total	
Gross sales / revenue	83	26.2	18.6	161	50.8	22	6.9	25.8	51	16.1	3.7
Profitability	70	22.1	19.0	166	52.4	28	8.8	22.3	53	16.7	2.7
Staffing levels	42	13.2	29.8	205	64.7	15	4.7	37.5	55	17.4	2.6
Operating costs	97	30.6	14.9	159	50.2	7	2.2	41.0	54	17.0	4.4
Capital expenditure/ investment	67	21.1	19.1	182	57.4	8	2.5	51.4	60	18.9	3.4

Question 16. In Your Business, Do You Expect an Increase, Decrease or No Change in the 2008/09 Financial Year for the Following Operational Areas?



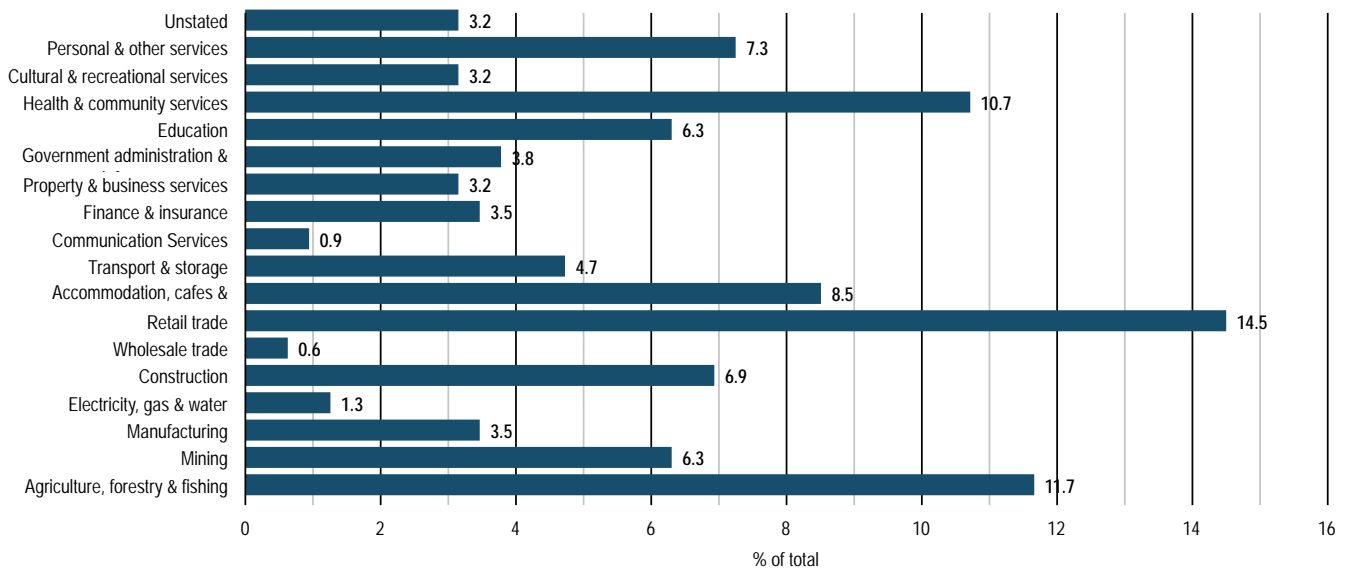


Classification

Question 17. In what type of industry is your business or organisation involved?

Question 17: Results		
Response	No. of responses	% of total
Agriculture, forestry & fishing	37	11.7
Mining	20	6.3
Manufacturing	11	3.5
Electricity, gas & water	4	1.3
Construction	22	6.9
Wholesale trade	2	0.6
Retail trade	46	14.5
Accommodation, cafes & restaurants	27	8.5
Transport & storage	15	4.7
Communication Services	3	0.9
Finance & insurance	11	3.5
Property & business services	10	3.2
Government administration & defence	12	3.8
Education	20	6.3
Health & community services	34	10.7
Cultural & recreational services	10	3.2
Personal & other services	23	7.3
Unstated	10	3.2
Total	317	100.0

Question 17. In What Type of Industry is Your Business or Organisation Involved?

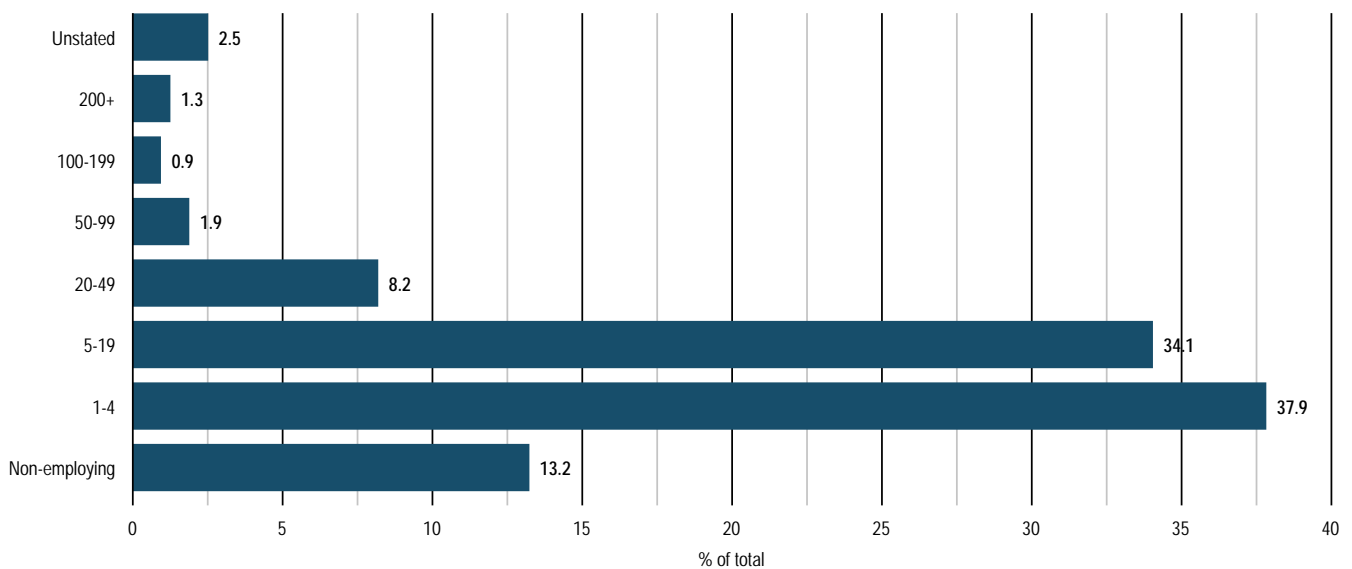




Question 18. Approximately how many people does your business / organisation employ?

Question 18: Results		
Response	No. of responses	% of total
Non-employing	42	13.2
1-4	120	37.9
5-19	108	34.1
20-49	26	8.2
50-99	6	1.9
100-199	3	0.9
200+	4	1.3
Unstated	8	2.5
Total	317	100.0

Question 18. Approximately How Many People Does Your Business or Organisation Employ?

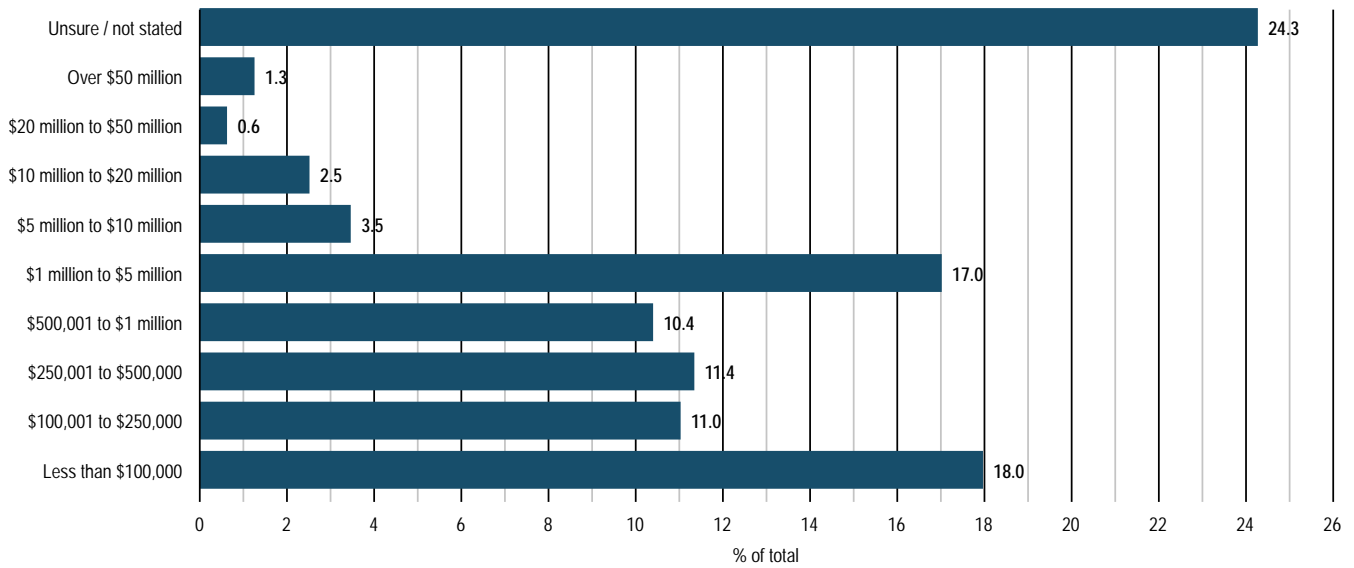


Question 19. What are the approximate annual sales / gross revenues of your business or organisation?

Question 19: Results		
Response	No. of responses	% of total
Less than \$100,000	57	18.0
\$100,001 to \$250,000	35	11.0
\$250,001 to \$500,000	36	11.4
\$500,001 to \$1 million	33	10.4
\$1 million to \$5 million	54	17.0
\$5 million to \$10 million	11	3.5
\$10 million to \$20 million	8	2.5
\$20 million to \$50 million	2	0.6
Over \$50 million	4	1.3
Unsure / not stated	77	24.3
Total	317	100.0



Question 19. What Are the Approximate Annual Sales of Your Business or Organisation?



Question 20. Do you have any additional comments you would like to make on the impact of the 2008 floods on business and industry in the Central Highlands region?

Question 20: Results

Response

A lot of people were of the opinion is unless you were flooded you weren't affected, loss of income stress of paying and meeting financial obligations and family extras to feed/nurture and protect was an emotionally stressful position to be in a lot of wasted time quoting on jobs as clients performed repair works themselves and insurance companies paid direct to clients based on our quotes

After 20 years in Emerald, I have decided to move. My house has depreciated in value so I can't sell until the market value pick up. Emerald is poorly administered at the local level

As a result of forced road closures, tenants vacated premises giving 8hrs notice of departure. Damage by tenants and removal of equipment and finalising of a/c left by tenants has left us personally out of pocket and as a result of the forced closure of our premises and the Bauhinia Shire Council permitting a mobile cafe building to be placed across the road from our premises it is most unlikely that this business will open its doors again unless sold

Being self-employed, nobody can help you. Make sure all insurances are covered. Can't beat Mother Nature

Better infrastructure for the delivery of goods, with Emerald being closed the freight would not deliver to Springsure because it had to be sorted in Emerald

Biggest problem was flooding of roads/drainage to enable to get to work sites. At times, had to be creative ways to get to location or had to leave area with nil coverage as roads flooded and unable to get back. A big concern is lack of communication from council/roads dept to state of roads, what is open/closed or expected/potential problems, closures or dangers. had to rely on BOM and RACQ site to give info

Blackwater did not flood

Business was impacted solely due to employer residing in Emerald and therefore unable to travel to Tieri due to flooding of roads

Capitalise on the sense of community and selflessness, keep it fresh in everyone's mind

Complete lack of support by state/federal govt for non-inundated business was devastating. Nil access to the support structures offered for agribusiness - very inequitable

Council and emergency services response to the situation was adequate and appropriate. As too was the government agencies, i.e. Roadtek. Well done

Delays in getting roads usable for heavy transport was a major problem. Cattle washed away by floods are not insured. No relief funds available to replace them, only loans. Impact on profit in years to come drinking water scare

Question 20: Results

Response

Early warning and infrastructure improvement to ensure vital routes can withstand the impacts of large floods is essential to ensure we can still access our sites and vital services can reach the mine site very easily

Emerald, or should I say CHRC, need to make new home and land buyers aware if they are going to purchase in a flood area emergency services did an excellent job

Every single piece of real estate in Emerald should be sold with a known height above or below maximum water heights. That way everybody knows the risks or chances of getting wet or inundated with water. And guess what? I bet it won't happen. The real estate agents will rely on spin and people new to town and memory loss to keep selling known wet spots around town. remember flooding is normal, building in low areas is not

Financial chaos also had an effect after the floods for 2007/08

Flooding had no effect on this service

For our business, the rain benefits far outweigh any effects the increased creek flooding had on our property

For the first quarter of 2008, it was very hard with low cash flow, business didn't return to normal until approximately March

Get it right in case there is another flood

I think all business people who suffered by the floods should be compensated. As a lot of people do not have insurances, owners had to put staff off as their wasn't enough work to keep going and to make wages

I think it will take time to make a full recovery

I think that businesses who suffered loss of income/sales because of forced closure should have been able to obtain some financial assistance from government. Everybody else did!

If not for our location to the hospital, we'd have been completely vacant - Old Health took several rooms

If people build where floods have previously been, that's stupidity. If people are that stupid, Council should take responsibility instead of greed - not let them build in flood prone areas.

In general, the local gemfields community, SES and Emerald Council did a fantastic job toward helping through this difficult time

In our case, public access to our business was closed for 11 weeks. Only when state ministers were involved did action proceed

In the future, in this type of situation, it would be nice to see a bit more compassion shown by government offices

Insurance companies could be more helpful

It has taken many months for trade to return to normal levels. The impact of the flood on retail has been long lasting. We have finally been able to insure our business against flooding (this was not previously available). The biggest impact for our business was not the cost of store fitouts but the loss of trade, which made cash flow poor and we did not have the ability to pay accounts on time. we are finally catching up after months of slower trade

Lack of tradesmen/builders/maintenance persons

many clients and community persons and businesses were badly affected but it is great to see the community support during the hard times

Mining and exploration will have bigger impact on our business than floods

My business is in Blackwater, we had more work than we could handle for approx. 3 months, once the ground dried up. We lost two vehicles at BMA which were flooded but insurance paid out for replacement.

My storage business gained; I hired empty containers for my customers as I had no storage space left. 100% occupied

Our business did not fully recover until August/September 2008

Our business didn't need to be affected by flood waters to have a massive impact on our business financially. We have had to carry wages and no new cash flow for 4 1/2 months and then have clients unable to pay due to being affected by flooding in their business or personal home. then after the flood we were hit with massive price rises that we had to carry and also lack of trades in the area after the floods put more costs on our business to absorb as trades were more expensive to travel from out of town

our business is located in an area 60km from Emerald which took the brunt of the floods. This area was relatively unaffected

Our business was most affected by communications damage. We lost phone and internet access and our power was disconnected

Our head office in Emerald went under, phones were diverted to our office in Blackwater

our losses were due to road closure; unable to get across the Bedford Weir road crossing

Part of doing business on the flood plain. Council should look closer at what is acceptable in prone areas. Some development was bloody stupid given historic climate data. Nothing to do with climate change, all to do with human contempt for mother nature

Please fix up all roads

Possibly funding for those businesses who were forced to close through evacuation, although not actually touched by the floods. Just major loss of income

Rail has proved as a good emergency supply route - Emerald roads cut



Question 20: Results

Response

Road damage and subsequent road closures and heavy vehicle restrictions affected our business as cattle for sale could not be transported to markets, placing financial strain on our business with cash flow issues, e.g. Meeting loan repayments

Roads being closed for heavy vehicles did affect some primary producers

Slowed business for 6-8 months

Take steps to prevent road closures due to poor planning of flood prone regions. Levee banks to stop flood waters entering town

The 2007/08 year in general has set the business back 5-7 years

The access road to our property was impassable for over a month during the Jan/Feb rain event. We were unable to truck cattle to meatworks for two months after the rains

The closure of roads for ridiculous reasons stopped our business. Roads were closed long after water subsided, when roads could have been opened

the community as a whole worked well together to recover quickly

The flood affected us financially. We have drained our bank accounts to support us through. Business now has picked up but at this stage we have not been able to recover any of the money we lost. Nothing was claimable through insurance as we were not actually flooded. I really don't know if we will ever recover the loss

The government should have help financially those businesses that were not inundated by the flood but lost sales as a result of having to close their doors

the only impact the flood had on our dept was most staff were unable to attend work for 3-4 days during flooding. Also had to charter a plane to get staff back to Emerald from Alpha as all roads were closed

The weight limits were the main problem for our business to get cattle carted on the flooded roads

these things happen and you simply have to deal with them the best you can

This business located in Springsure; there was a delay in getting some supplies in but nothing that really affected our business operations

This is a government agency and the only impact has been the unavailability of trades people and associated staff

Water quality is a big issue for us personally. Costing an extra \$30 a week in bottled water

We experienced loss of sales caused by the inability to obtain freight from Emerald (rail & air) and Brisbane. Freight delivered to AAE was held in Brisbane and not released for road delivery

we found that in the floods, our business had closed for 7 days, we paid wages and expenses without any income. This put a stress on business/personnel

We were lucky that our operation only closed for one week and that was due to the majority of our staff were flooded in

We were lucky to suffer very minimal damage. Our expenses to do our job increased because the work took longer. We never increased our price as that was our way to help the people of Emerald. We just worked 7 days/week for over a month after flooding

we were not affected by Emerald floods, our club is situated 3km west of Bluff

we were not forced to close for the 5-7 days, however with no customers remotely interested in our products at this time, it was beneficial for us to close and help out in the community in the rescue and relocation of families, sand bagging and working for the community not trying to take advantage of the situation

we weren't actually affected

We would like know why the army did not come in and assist the town. They are very quick to run to Asia, but we only saw a helicopter after it was all over

We would like to know what prevention plans have been put into place for future floods, or do we have to assume this can happen again in future

when trucks weren't able to move, our equipment we could not do any work

While our business was not affected by flooding as such, we did not have any work for the truck until mid-Feb. Our son, who has an electrical apprenticeship, was unable to get to work outside of Capella as the town was cut off in all directions. So he suffered a loss of wages for that period. Luckily we had a pretty well stocked pantry and deep freeze so he was able to feed himself!

While we were not affected by flood water, the roads sustained major damage and we could not work until full capacity for 8 weeks. Road affected still very poor resulting in extra costs for tyres and repairs because of road conditions. The roads have not been repaired at all and in some places trucks are down to 60km/hr to avoid major repairs

Whilst my business did not suffer direct damage, the closure of other businesses I rely on had a large impact, e.g. Childcare

APPENDIX C: DISAGGREGATED INDUSTRY OUTPUT

Table A1: Total Output Per Industry (\$ million)

Industry sector	Net change
Sheep	-2.2
Grains	-6.4
Beef cattle	-28.2
Dairy cattle	-0.3
Pigs	-0.1
Poultry	-0.1
Other agriculture	-17.5
Services to agriculture; hunting and trapping	-6.5
Forestry and logging	-0.7
Commercial fishing	-0.2
Coal	-41.4
Oil and gas	-8.5
Iron ores	-0.1
Non-ferrous metal ores	-0.8
Other mining	-1.2
Services to mining	-9.2
Meat and meat products	-1.5
Dairy products	-0.3
Fruit and vegetable products	-0.1
Oils and fats	-0.1
Flour mill products and cereal foods	-0.3
Bakery products	-0.4
Confectionery	-0.1
Other food products	-0.9
Soft drinks, cordials and syrups	-0.1
Beer and malt	-0.3
Wine, spirits and tobacco	-0.4
Textile fibres, yarns and woven fabrics	-0.1
Textile products	-0.2
Knitting mill products	-0.1
Clothing	-0.2
Footwear	0.0
Leather and leather products	-0.1
Sawmill products	-1.0
Other wood products	-2.1
Pulp, paper and paperboard	-0.4
Paper containers and products	-0.5
Printing and services to printing	-1.7
Publishing; recorded media and publishing	-1.5
Petroleum and coal products	-7.2
Basic chemicals	-3.4
Paints	-1.1
Medicinal and pharmaceutical products, pesticides	-3.7
Soap and other detergents	-0.2
Cosmetics and toiletry preparations	0.0
Other chemical products	-1.6
Rubber products	-0.7
Plastic products	-1.8
Glass and glass products	-0.3
Ceramic products	-0.7
Cement, lime and concrete slurry	-2.2

Table A1: Total Output Per Industry (\$ million)

Industry sector	Net change
Plaster and other concrete products	-1.4
Other non-metallic mineral products	-0.9
Iron and steel	-5.9
Basic non-ferrous metal and products	-0.8
Structural metal products	-3.6
Sheet metal products	-0.7
Fabricated metal products	-2.4
Motor vehicles and parts; other transport equipment	-3.9
Ships and boats	-0.1
Railway equipment	-0.4
Aircraft	-1.1
Photographic and scientific equipment	-0.6
Electronic equipment	-1.9
Household appliances	-0.9
Other electrical equipment	-1.5
Agricultural, mining and construction machinery, lifting and material handling equipment	-1.7
Other machinery and equipment	-2.1
Prefabricated buildings	-0.6
Furniture	-0.4
Other manufacturing	-0.5
Electricity supply	-7.2
Gas supply	-0.5
Water supply; sewerage and drainage services	-1.0
Residential building construction	-9.7
Other construction	-23.9
Construction trade services	-62.5
Wholesale trade	-28.1
Wholesale mechanical repairs	-4.2
Other wholesale repairs	-6.7
Retail trade	-25.9
Retail mechanical repairs	-10.6
Other retail repairs	-0.7
Accommodation, cafes and restaurants	-12.9
Road transport	-4.6
Rail, pipeline and other transport	-1.9
Water transport	-0.3
Air and space transport	-1.1
Services to transport; storage	-4.7
Communication services	-5.0
Banking	-3.5
Non-bank finance	-1.5
Insurance	-0.8
Services to finance, investment and insurance	-3.9
Ownership of dwellings	0.0
Other property services	-27.4
Scientific research, technical and computer services	-9.4
Legal, accounting, marketing and business management services	-17.9
Other business services	-11.5
Government administration	-1.0
Defence	0.0
Education	-0.8
Health services	-0.4
Community services	-0.1
Motion picture, radio and television services	-1.7



Table A1: Total Output Per Industry (\$ million)

Industry sector	Net change
Libraries, museums and the arts	-0.5
Sport, gambling and recreational services	-0.3
Personal services	-0.5
Other services	-0.3
	-482.7
Total	-2.2