

2012 Impact Report

Northern Queensland Operations

2012 Economic Impact: Queensland

\$587.1
MILLION

ECONOMIC IMPACT

20.3%
(5.1% ANNUALISED
AVERAGE RATE)

GROWTH IN REGIONAL
ECONOMIC IMPACT
SINCE 2008

4,862
FULLTIME JOBS

CREATED DIRECTLY
AND INDIRECTLY

\$350.2
MILLION

CONTRIBUTION TO
HOUSEHOLD INCOME

\$410.7 MILLION
JCU OPERATING EXPENDITURE IMPACT

\$80.1 MILLION
JCU CAPITAL EXPENDITURE IMPACT

\$95.7 MILLION
STUDENT EXPENDITURE IMPACT

*Townsville and Cairns figures do not add to give Queensland figures as other regions are included in the Queensland figures.

JAMES COOK UNIVERSITY

A Powerful Economic Driver

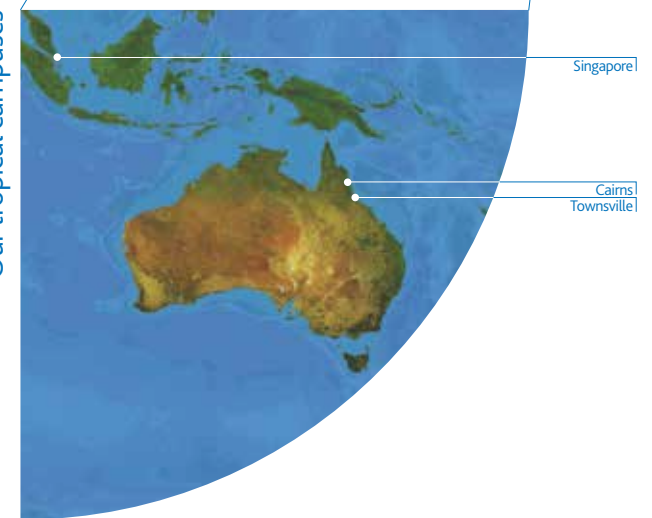
James Cook University is located across three tropical campuses located in Cairns, Singapore and Townsville. These campuses are complemented and extended by regional and remote study centres and research stations. JCU's strategic intent is to create a brighter future for life in the tropics worldwide by focusing on environmental, social, health and economic themes of importance to the tropics.

The Western Research Institute was commissioned by JCU to undertake an assessment of the impact of the University on the economies of the Cairns and Townsville Local Government areas and the state of Queensland as a whole. This assessment did not include JCU's Singapore

operations, and hence this document focuses on the impacts of JCU on Queensland and specifically the Townsville and Cairns regions.

The University employs almost 5,000 staff and teaches more than 16,000 students across its Townsville and Cairns campuses. JCU's economic impact is far greater than its annual expenditure. The University's impact also arises from its research activity and the direct and flow on effects of job creation, household income and human capital. Hence, JCU makes a vital contribution to the regional economies of Cairns and Townsville, and the economy of Queensland as a whole.

Our tropical campuses



*The full report can be found at: www.jcu.edu.au/cppo/public/groups/everyone/documents/annual_report/jcu_127230.pdf

ECONOMIC IMPACT 2012

Cairns Region

Cairns is the site of JCU's second largest campus which was established over 25 years ago, with more than 4,000 students including 400 international students studying there. The campus, which is sandwiched between two world heritage areas – the Great Barrier Reef Marine Park and the Wet Tropics ancient rainforests – is located in the suburb of Smithfield, 15 kilometres north of the city centre.

JCU Cairns campus houses state-of-the-art teaching and research facilities including The Cairns Institute, an impressive library, JCU's Dentistry teaching facilities and Dental Clinic, and other health and science laboratories and teaching spaces.

JCU's Cairns campus is a major economic driving force of the Cairns local government area, contributing **2.16%** of the region's employment.

1.75% of Cairns' Gross Regional Product was derived from the direct and flow on activities of JCU.

\$137.5
MILLION

ECONOMIC IMPACT

1,148
FULLTIME JOBS

CREATED DIRECTLY
AND INDIRECTLY

\$80.6
MILLION

CONTRIBUTION TO
HOUSEHOLD INCOME

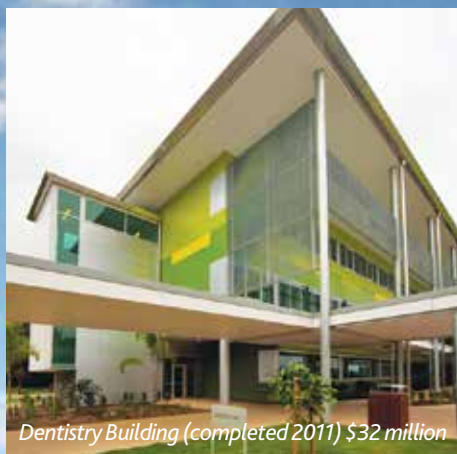
33%

GROWTH SINCE
2008 IN FULL
TIME EQUIVALENT
STUDENT NUMBERS

60%

INCREASE IN
ECONOMIC
IMPACT
SINCE 2008





Dentistry Building (completed 2011) \$32 million



Dental Clinic (completed 2012) \$22 million

Since 2009 JCU has invested **\$136.5 million** in completed and future building and infrastructure projects on the Cairns Campus.

The Cairns Institute (completed 2013) \$25 million



ECONOMIC IMPACT OF CAPITAL
DEVELOPMENT

Campus
Development:
Cairns

ECONOMIC IMPACT 2012

Townsville Region

More than 12,000 students, including almost 1,500 international students, study at JCU's Townsville campus which was established over 40 years ago. The campus is located in the suburb of Douglas, in a 386-hectare natural bush and parkland setting, 13 kilometres from the central business district.

JCU Townsville's facilities include Education Central, the Australian Tropical Science and Innovation Precinct, the JCUVet Emergency Centre and Hospital, the Eddie Koiki Mabo Library, a multitude of other science, computing, health science, medical and veterinary teaching spaces, cafes, fitness and sporting facilities, and a wealth of student clubs and societies. Around 1,400 students live on campus in colleges and halls of residence, giving the campus a true community atmosphere.

JCU's Townsville campus is a major economic driving force of the Townsville local government area, contributing **5.24%** of the region's employment.

4.43% of Townsville's Gross Regional Product was derived from the direct and flow on activities of JCU.

\$398.0
MILLION

ECONOMIC IMPACT

3,138
FULLTIME JOBS

CREATED DIRECTLY
AND INDIRECTLY

\$228.9
MILLION

CONTRIBUTION TO
HOUSEHOLD INCOME

20%

GROWTH SINCE
2008 IN FULL
TIME EQUIVALENT
STUDENT NUMBERS

11%

INCREASE IN
ECONOMIC
IMPACT
SINCE 2008

Since 2009 JCU has invested
\$340.7 million in completed and
future building and infrastructure
projects on the Townsville Campus

Education Central
(completed 2012)
\$20 million



Education Central



The Australian Tropical Science & Innovation
Precinct Building (completed 2010) \$32.2 million

ECONOMIC IMPACT OF CAPITAL
DEVELOPMENT

Campus Development: Townsville

ECONOMIC IMPACT OF 2011 GRADUATES

Human Capital

JCU provides opportunities for higher education to residents of northern Queensland who may otherwise have limited access. Further, the presence of graduates in the region contributes to higher wages and lower unemployment, and provides an educated workforce. The contribution to human capital by JCU is a vital catalyst for growth in the region. The ongoing graduation of students from JCU creates a pipeline of human capital supporting the region's economic development and sustainability into the future.



\$550

MORE INCOME
PER WEEK

FOR THOSE WITH
A UNIVERSITY
QUALIFICATION IN QLD
COMPARED TO THOSE
WITHOUT

\$1.16 BILLION

\$614.0M
PRIVATE VALUE

\$546.9M
PUBLIC VALUE

**TOTAL HUMAN CAPITAL IMPACT OF 2011
COHORT OF GRADUATES**

\$70.6 MILLION

\$37.3M
PRIVATE VALUE

\$33.3M
PUBLIC VALUE

**ANNUALISED HUMAN CAPITAL IMPACT
OF 2011 COHORT OF GRADUATES**

Private value is defined as the personal income of a JCU graduate.

Public value is defined as the value generated for an employer by a JCU graduate. For a full methodology of the calculation of these values, please refer to the WRI report which can be found at:

www.jcu.edu.au/cppo/public/groups/everyone/documents/annual_report/jcu_127230.pdf

RESEARCH IMPACT

High Impact on the Tropics

JCU has the tropics at the core of its teaching, research and engagement priorities, which are centred on four themes:

- Tropical Ecosystems and Environment,
- Industries and Economies in the Tropics,
- Peoples and Societies in the Tropics, and
- Tropical Health, Medicine and Biosecurity.

JCU can demonstrate substantial and concrete impacts from its research on the people, economies and industries of the tropics in Australia and internationally.

This is demonstrated through case studies which provide examples of how JCU affects its region beyond the demonstrable

economic and human capital effects.

JCU's research capacity in northern Australia provides a flexible capability that can be directed to some of the most significant challenges and issues that confront the region, and provide a vital part of the infrastructure for Australia to sustain the environment, economies and population of the tropics.

JCU's research has led to the improvement of outcomes in areas such as health (Ear Trial), social wellbeing (Empowerment Research Program), environmental effects (Cyclone Testing Station), and economic development (Backpacker Tourism), and contributed to innovation critical to new industries (Carbon Farming Trials).



RESEARCH IMPACT

NACCHO Ear Trial

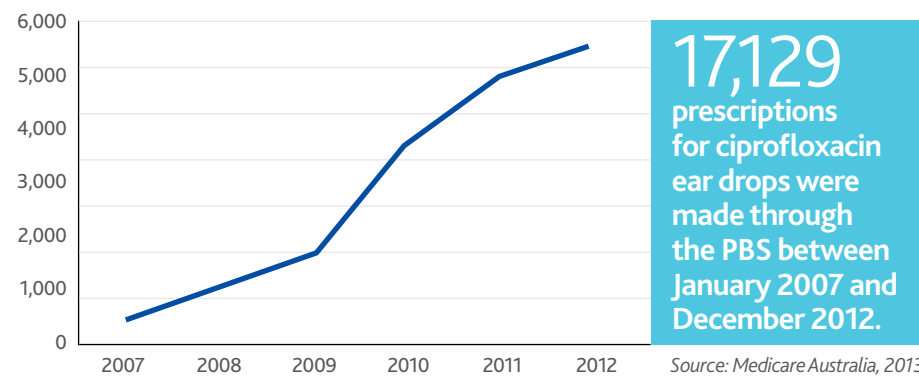
Positive health outcomes for the Aboriginal and Torres Strait Islander population are significantly lower than that of other Australians. This case study demonstrates a community-centred approach to research that shows great potential to improve health outcomes of Indigenous Australians and other populations around the world.

The National Aboriginal Community Controlled Health Organisation (NACCHO) Ear Clinical Trial led by Associate Professor Sophia Couzos, assessed 111 children with chronic middle ear infections, attending eight Aboriginal Community Controlled Health Services in rural and remote communities in Queensland and Western Australia. It was the first clinical trial of its kind in

Australia at the time as it was community-centred and community-controlled and sought to build capacity within Aboriginal communities. This double-blind randomised controlled clinical trial also revolutionised the way that chronic middle ear infection was approached in Australia, demonstrating greater effectiveness and lower risk of an alternative antibiotic, Ciprofloxacin. On the strength of this research, the antibiotic was listed on the Pharmaceutical Benefits Scheme (PBS) for the Aboriginal and Torres Strait Islander population, and subsequently for the entire population of Australia. This listing was critical to enable affordable patient access to treatment to those most likely to require it and least able to afford it.



Number of Prescriptions of Ciprofloxacin Ear Drops (PBS)





"JCU was critical to the project getting funded and going ahead. That's the level of connection required to engage in a large scale, quality clinical trial. And the level of trust that NACCHO had in the relationship with JCU was critical to the Trial's success, too."

Associate Professor Sophia Couzos

*Public Health Physician and General Practitioner,
Discipline of General Practice and Rural Medicine,
School of Medicine and Dentistry, JCU.*

"This seminal research has had an important effect on ear health. It has resulted in children with chronic middle ear infection getting better more quickly and with less long term damage to their hearing."

Professor David Atkinson

*Medical Educator,
Kimberley Aboriginal Medical Services Council*

RESEARCH IMPACT

Cyclone Testing Station

Northern Australia is significantly impacted by regular cyclonic events. With the growth in population, economic activity and substantial infrastructure in northern Australia, it is increasingly critical to develop knowledge of how to build appropriate structures to ensure the safety and sustainability of Australia's population and economic growth.

Established in 1977 in response to the devastation caused by Cyclone Althea (Qld, 1971) and Cyclone Tracy (NT, 1974), JCU's Cyclone Testing Station (CTS) represents a valuable collaboration between researchers, industry, government and JCU. The CTS is Australia's only research and testing facility dedicated to understanding the impacts of cyclonic events, and determining the most effective methods of building cyclone-tolerant low-rise structures.

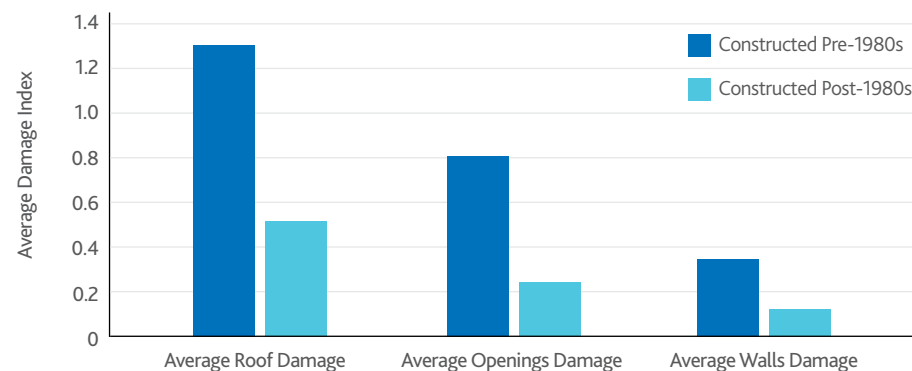
Research undertaken by the CTS has improved international knowledge of the effects of


cyclonic events on low-rise buildings, and informed industry on how to better construct infrastructure to withstand cyclonic winds. The CTS is one of the few independent bodies that provides input into the Australian Standards and the Building Code of Australia, and its research and recommendations have had a substantial impact on the building codes for residential and low-rise structures.

Its contribution is amongst the most substantial and sustained research impact of any JCU tropical research. The contrast of damage sustained during tropical Cyclones Althea (1971) and Tracy (1974) with Cyclones Larry (2006) and Yasi (2011) provides a contemporary context to understanding the extensive impact that the CTS's body of research has had over three decades. The CTS also informs the insurance industry, acting as a key body able to provide information and background to the way insurers assess risk.



Tropical Cyclone Yasi Average Damage: Buildings Constructed Pre-1980s versus Post-1980s





"We can see from the work that the Cyclone Testing Station has done over the past two cyclone events that there is marked improvement in the awareness of building and construction practices."

John Kralic

Manager

Lysaght Technology, BlueScope Steel

"The work of the Cyclone Testing Station has been central to our approach to preparation and also our response to cyclone events"

Allen Morris

Manager, Emergency Management

Townsville City Council

RESEARCH IMPACT

Backpacker Tourism

Tourism is a significant industry in the Australian economy. According to Tourism Australia, in 2012 it provided 11.6 percent of Australia's total exports, and 5 percent of total employment. Backpacker tourism accounts for 9.92 percent of all visitor numbers to Australia whilst contributing 16.54 percent of total tourist expenditure.

Pioneering research commenced at JCU in the early 1990s by Professor Philip Pearce and Associate Professor Laurie Murphy, and which continues today, had a significant impact on the way that the backpacker market was understood and responded to by the Australian Government, its tourism development agencies, and by tourism enterprises themselves. The success of backpacker tourism in Australia was founded to a large degree on this research, and the transfer

of the findings through tourism bodies and government policy, has led to the growth and sustainability of backpacker tourism in Australia.

The research is an outstanding example of the way that JCU's novel research findings have deeply influenced the direction of government policy and strategies. It is also an example of the way in which JCU has collaborated both formally and informally with government and industry to accelerate the transfer of policy changes to the tourist sector, small-to-medium enterprises that operate within that sector, and the broader economy. It also has strong implications for our understanding of the importance of research and the manner in which research impacts can deeply affect policy and economic growth in Australian industry.



“The research changed the way that the industry and government saw the contribution of backpackers from a low base to a high overall spend. As a result there was a real swing in our thinking at the time.”

Professor Leo Jago

Chief Economist, Tourism

General Manager, Tourism Research Australia;

Department of Resources, Energy and Tourism



"The cohorts coming out of JCU over the years have definitely influenced policy direction in the tourism discipline. ... Early JCU tourism graduates also worked in local government tourism operations throughout tropical Queensland."

Allison Rossetto

*Lecturer, formerly Principal Analyst
Bureau of Tourism Research*

"The early research at JCU was incredibly important, because it provided evidence for those seeking to develop businesses to then approach banks and business partners, and demonstrate that here was an industry worth investing in."

Warren Gardner

*Founder and Publisher
Aussie Backpacker magazine, an industry journal*

RESEARCH IMPACT

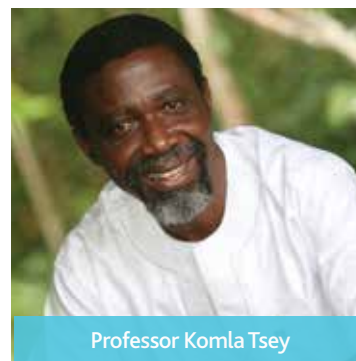
Building Capacity in Indigenous Communities

World Health Organisation evidence suggests that empowerment and control are important personal and community resources for alleviating poverty and social exclusion, and improving mental health and wellbeing. Research undertaken by the Empowerment Research Program (ERP) led by Professor Komla Tsey and colleagues at The Cairns Institute has had far-reaching impacts in the most complex and urgent area of social disadvantage faced by Australia and its people: the health and wellbeing of Aboriginal and Torres Strait Island people.

The ERP team have shown that the Family Wellbeing Program (FWB), developed by Australian Aboriginal people, enables the participants to exert greater influence and responsibilities over the conditions affecting their

health and wellbeing. FWB participants reported improvements in physical and mental health and social wellbeing, and access to better education and employment outcomes. When the adult program was adapted for school children, it resulted in less socially disruptive behaviour and improved friendships.

Consistent with international healing approaches for Indigenous peoples, FWB prompts participants to consider the effects of historical and contemporary policies and events on their lives, yet to move forward towards action and sustainable development. The widespread successes of the ERP clearly demonstrate the validity of the approach of effecting change from within the community, which provides guidance for the development and delivery of other programs within Australia and beyond.



Professor Komla Tsey



“Empowerment and capacity building strategies produce outcomes at an individual, community, organisation and political level and are universally relevant across the broad spectrum of Indigenous health, education, child safety, employment, drug and alcohol treatment and prevention, and workforce development.”

Professor Komla Tsey

*Tropical Leader, Education for Social Sustainability
The Cairns Institute, James Cook University*



"We selected the Family Wellbeing Program as it met two important needs as expressed by communities in our consultation with them – it provided accredited training ... and had a strong evidence base around having a positive impact in remote Aboriginal communities. It's actually very hard to find things that are relevant to Aboriginal people in very remote areas. The outcomes of the Family Wellbeing Program are that people report it enables them to look at their lives, their family life, and community life in a different way; and make changes ... We've seen quite a few people change their own personal situation, particularly in moving into more satisfactory jobs, taking leadership roles in the community, and providing access to education"

Ann Kreger

Senior Mental Health Nurse

Royal Flying Doctor Service, Gulf of Carpentaria



PROSPECTIVE RESEARCH IMPACT

Carbon Farming Trials

The challenge of environmental sustainability is one of the most critical issues we face in the world today. Food production, fundamental to human existence in an era of rapidly increasing global population, directly relies upon our successful management of environmental assets.

The Carbon Farming Trial project, led by Professor Michael Bird, and funded under the Federal Government's Carbon Farming Futures Program and Carbon Farming Initiative, has received \$1.14 million to demonstrate the effectiveness of biochar on plant growth. The research seeks to demonstrate the effectiveness of biochar on productivity when it is introduced to sugarcane, banana, peanut and papaya crops located across eight Far North Queensland farms.

Additional benefits of biochar include the sequestering of carbon dioxide, potential decrease in nutrient run-off, and deriving value from waste.

The research features effective collaboration with National Resource Management groups, industry groups, entrepreneurial carbon enterprises, and individual farmers. Outcomes from the research will inform Australia's participation in global discussions and endeavours in the emerging carbon industry.

The potential impacts of the research align with Federal Government initiatives seeking to develop responses to climate change, energy challenges and the potential for new industry.



"What Professor Bird is doing has relevance to all tropical regions on the planet – that's where JCU can be a world leader in tropical agriculture, and tropical soils."

Kristjan Sorensen

Sustainable Industries Officer

Regional Landcare Facilitator, Northern Gulf Resource Management Group





"The research being undertaken by Professor Bird and associates at JCU is critical to the emerging biochar industry and to northern Queensland, as it seeks to provide vital evidence and methodologies around the stability of carbon in soil, crop yields and response of particular soil types and crops"

Daryl Killin

Director of Select Carbon and a Professional Forester of the Institute of Foresters of Australia

ECONOMIC IMPACT OF CAPITAL DEVELOPMENT

Future Developments: Discovery Rise

With the Asian Century gathering momentum, the co-location of education and research institutions and the prospering northern Queensland economy, the stage is perfectly set to establish Discovery Rise at the Townsville campus, as the City's Knowledge Precinct.

The vision for Discovery Rise is to create a knowledge community with a distinctively Australian tropical ambience incorporating energetic academic, social, artistic and commercial environments. It will be an integrated community of living and learning.

**\$1.0
BILLION
OVER 30 YEARS**

*Clinical Practice Building
(completion in 2013) \$43 million*



*Conceptual sketch of the
Discovery Rise Court Yard Houses*



*Conceptual sketch of the
Discovery Rise
Mount Stuart Street*





Conceptual sketch of the Discovery Rise Ideas Market



Discovery Rise Master Plan

Other Future Projects

\$80
MILLION

SCIENCE
PLACE
TOWNSVILLE

500 CONSTRUCTION
JOBS TO BE CREATED

\$42
MILLION

AUSTRALIAN
INSTITUTE OF
TROPICAL HEALTH
AND MEDICINE

TOWNSVILLE, CAIRNS
THURSDAY ISLAND

JCU's Townsville Campus has the largest Campus District Cooling system tank in the Southern Hemisphere, holding 12.5 million litres of water.



*Campus District Cooling System Townsville
(completed 2009) \$22 million*

ENVIRONMENTAL IMPACT

Sustainability@JCU

JCU makes environmental sustainability a priority. The University has won numerous prestigious awards for its integrated approach to energy. These include the 2012 Green Gown Awards Australasia for Carbon Reduction, the 2012 Clean Energy Innovation Award at the Premier's Sustainability Awards, the 2011 Tertiary Education Facilities Management Association Innovation Award and the 2010 Australian Business Award for Environmental Sustainability.

The Townsville Campus in particular has reduced energy consumption by 25%, reduced carbon emissions by 10,600 tonnes per annum and resulted in a peak demand reduction of 40%, saving JCU over \$2 million per annum compared to business as usual.

One of the major initiatives focused on improving energy efficiency, conservation and management on the Cairns and Townsville JCU campuses are the Campus District Cooling Systems. These deliver chilled water to buildings to provide more efficient air-conditioning, the area of JCU's energy usage which was previously consuming up to 60% of total usage. The Campus District Cooling Systems reduce daytime peak electricity usage by 40%.



Campus District Cooling System Cairns (completed 2012) \$18.8 million

\$417.5
MILLION

INCOME

43,000
GRADUATES

NUMBER FROM JCU
SINCE 1960

20,913

STUDENTS AT ALL CAMPUSES

15,214

FULL TIME EQUIVALENT

4,988

STAFF

2,028

FULL TIME EQUIVALENT

\$795.2
MILLION

ASSETS

\$1.16
BILLION

HUMAN CAPITAL IMPACT
OF 2011 COHORT OF
GRADUATES

For further information contact
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www.jcu.edu.au

Cairns
Singapore
Townsville