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TECH

Economic Report
into the Major
Defence Bases in
the Northern
Territory
Summary Report

13 September 2010

ADVISORY

This report is delivered subject to the agreed written terms of KPMG's engagement.

This report provides a summary of KPMG's findings during the course of the work undertaken for the Department of Defence under the terms of the engagement contract dated 6 February 2009. The contents of this report do not represent our conclusive findings, which will only be contained in our final detailed report.

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The findings in this report have been formed on the above basis.

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Glossary of Terms

Value Added - the value added of a business refers to the total value of goods and services provided by the business, less the goods and services that the business purchases as intermediate inputs. Thus value added is equivalent to wages and salaries plus profit.

Turnover - The turnover/revenue of a business refers to the total value of goods and services provided by the business. This will be equal to the goods and services that the business purchases as intermediate inputs, plus wages and salaries, plus profit.

Consumption – Total expenditure on goods and services that are privately consumed by households.

Living Standards – living standards derive from consumption, not value added, consumption (in principle) is a more appropriate measure of changes in living standards. As such, KPMG Econtech uses consumption as a measure of living standards.

Traded Goods - goods and services that can be sold in the larger State or national market as such, prices of these goods and services are determined in the larger market.

Non-Traded Goods - goods and services that can not be sold in the larger State or national market, i.e. these goods are only sold in the local market and therefore prices for these goods are determined in the local market.

Direct impacts - Direct impacts on employment, industry value added and industry turnover are the result of the Defence facilities operating within Northern Territory. For example, the direct contribution of the facilities to employment in Northern Territory include staff who are employed to work at the facilities e.g. Australian Defence Force (ADF) personnel, Australian Public Servant (APS) and contractors.

Indirect impacts - Indirect or flow on impacts are the result of two factors. The first is the impact of consumer spending in Northern Territory by people who are employed directly by the Defence facilities. The second is the impact of additional spending by upstream businesses that supply goods and services to the facilities.

Computable General Equilibrium (CGE) model - A CGE model combines economic data with economic theory to generate a model of an economy. This model can then be used to estimate how an economy may adjust to external shocks such as a policy change.

MMR - is a CGE model that estimates the effects of policies that are State or region specific. It divides Australia into 33 regions and 8 States and Territories, and contains 18 industries which correspond to the Australian and New Zealand Standard Industry Classifications used by the Australian Bureau of Statistics.

Key Findings

The Department of Defence (Defence) sought to identify the economic contribution major Defence bases in the Northern Territory provide to regional and state economies. KPMG Econtech estimated these impacts by identifying the direct economic impacts and estimating the indirect economic impacts using economic modelling. Hence, the full economic impacts of the Defence facilities are modelled using KPMG Econtech’s MMR model, a computable general equilibrium (CGE) model.

Regional Results

Chart A shows the direct and indirect employment impacts of each base on the region in which they are located. Chart B shows the consumption impacts of each base on the region in which they are located.

Chart A: Employment Impacts (Jobs)

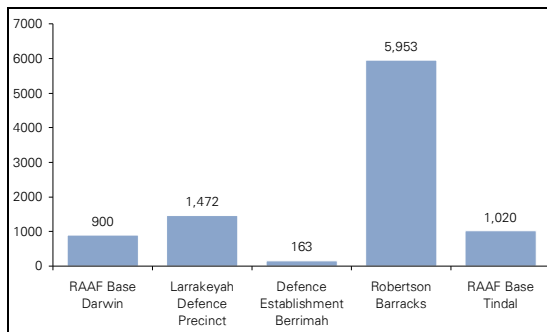
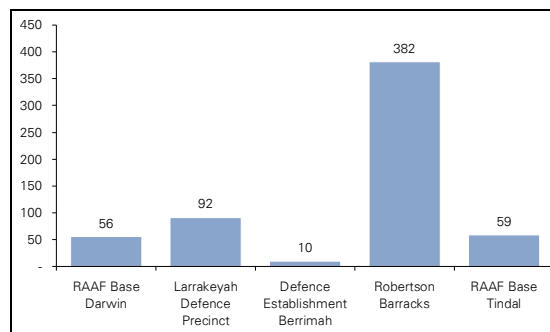


Chart B: Consumption Impacts (\$m)



The results are to be interpreted as the average annual impact of the facility on the region compared to a scenario where the base no longer operates in the same region. For example, the modelling estimates that RAAF Base Darwin directly and indirectly supports 900 jobs in the Darwin regional economy, and contributes \$56 million (\$2008/09) annually to consumption in the Darwin regional economy.

Northern Territory Results

The state results estimate that Defence facilities currently contribute

- 11,116 jobs in the Northern Territory economy,
- contributes \$674 million (2008/09 prices) annually to consumption in the Northern Territory,

than would otherwise be the case if the facilities no longer operated within the territory.

Executive Summary

Introduction

The Department of Defence (Defence) is seeking to identify the economic contribution major Defence bases in the Northern Territory provide to regional and state economies. Defence is particularly concerned about two key issues, namely:

- the impact of urban encroachment and incompatible urban land uses on the sustainability and viability of Defence's operations; and
- understanding the economic contribution of Defence's operations in the Northern Territory to the regional economy.

Defence has engaged KPMG Econtech to undertake an analysis of the economic contribution that specific Defence facilities currently make to the Northern Territory economy. In this study KPMG Econtech has estimated the economic impact of each facility on their regional economy and the economic impact of key Defence facilities on the Northern Territory economy using a consistent and robust methodology. The results in this report are expressed¹ in 2008/09 dollars based on reported activity in 2007/08.

Modelling Methodology

The economic impacts of the Defence facilities on the Northern Territory and regional economies were estimated by identifying the direct economic impacts and estimating the indirect economic impacts.

- *Direct impacts* on employment, industry value added and industry turnover are the result of the Defence facilities operating within Northern Territory. For example, the direct contribution to employment in Northern Territory include staff who are employed to work at the facilities e.g. Australian Defence Force (ADF) personnel, Australian Public Servant (APS) and contractors. The direct contribution of the facilities to turnover is the sum of payments made by Defence facilities to wages and salaries, expenditure on goods and services made by Defence such as utilities based in Northern Territory.
- *Indirect impacts* are the result of two factors. The first is the impact of consumer spending in Northern Territory by people who are employed directly by the Defence facilities. The second is the impact of additional spending by upstream businesses that supply goods and services to the facilities.

The direct impacts of the facilities can be estimated in a relatively straightforward manner using available data on Defence expenditure and employment numbers. Measuring the indirect impacts on the other hand requires the use of economic modelling. Hence, the full economic impacts of the Defence facilities are modelled using KPMG Econtech's MMR model.

MMR is a computable general equilibrium (CGE) model. A CGE model combines economic data with economic theory to generate a model of an economy. This model can then be used to

¹ Results including expenditure categories outlined in Chapter 5 have been scaled from the 2007/08 financial year to 2008/09 financial year.

estimate how an economy adjusts to external shocks such as a policy change. KPMG Econtech's MMR model estimates the effects of policies that are State or region specific. It divides Australia into 33 regions and 8 States and Territories, and contains 18 industries which correspond to the Australian and New Zealand Standard Industry Classifications used by the Australian Bureau of Statistics (ABS). Each of the regions are modelled individually, but following a consistent approach.

Defence Facilities

The specific Defence facilities separately analysed in this report are: RAAF Base Darwin, Larrakeyah Defence Precinct, Defence Establishment Berrimah; Robertson Barracks; and RAAF Base Tindal. An overview of the function of each base can be found below.

RAAF Base Darwin

RAAF Base Darwin's primary function is to enable the concentration and mounting of Australian Defence Force operations from Australia's north. While RAAF Base Darwin has no permanent aviation squadrons, it is a key staging base for maritime surveillance, patrol aircraft for border protection operations and multinational training exercises (such as Pitch Black 2010) and is expected to remain an alternative base for Army aviation activities conducted near Robertson Barracks. Units based at RAAF Base Darwin include:

- No. 396 Expeditionary Combat Support Wing;
- No. 92 Wing Detachment Darwin - Surveillance and response;
- No. 44 Wing Detachment Darwin - Air traffic control;
- No. 13 (City of Darwin) Squadron; and
- No. 144 Mobile Control and Reporting Unit Darwin - Radar operations.

Larrakeyah Defence Precinct

Larrakeyah Barracks is the Darwin headquarters of Northern Command (NORCOM) and provides HQ facilities, working and training accommodation in support of NORFORCE, Australia's regional surveillance capability in the NT and northern WA. HMAS Coonawarra at Larrakeyah Cove provides administrative, personnel, logistics and maintenance support to Australia's 12 Darwin-based vessels and personnel. HMAS Coonawarra also hosts visiting warships from time to time.

Units and functions based at Larrakeyah Defence Precinct include:

- HQ NORCOM;
- NORFORCE;
- 36 Water Transport Troop;
- HMAS Coonawarra; and
- Fleet Support Unit - Darwin.

Defence Establishment Berrimah

Defence Establishment Berrimah (DEB) is located on the Stuart Highway south of RAAF Base Darwin in the suburb of Winnellie. It has an area of approximately 166 hectares and operates primarily as an administrative and support facility with APS staff from the Defence Support Group being the major tenants.

In addition to providing administrative services to the wider Defence organisation and community DEB contains residences for ADF personnel and their families, as well as for single ADF members.

Robertson Barracks

Robertson Barracks is designated as a Forward Mounting Base for units accessing ranges and training areas in the region. Robertson Barracks also provides a significant number of living, working and training facilities and is the home of Australia's 1st Brigade (1 BDE) which operates Australia's mechanised force (including the M1A1 Abrams). The 1st Aviation Regiment, which operates the Tiger Armed Reconnaissance Helicopter (ARH), is co-located at Robertson Barracks in purpose-built facilities constructed in 2006.

Units and functions supported by Robertson Barracks include:

- 1st Brigade;
- 1st Aviation Regiment; and
- 1 Troop A Squadron Incident Response Regiment.

RAAF Base Tindal

Formerly a World War II airfield, RAAF Base Tindal is part of a chain of airfields that stretch across Australia from Townsville in Queensland to Learmonth in Western Australia. Once a "bare base" the current RAAF Base Tindal was opened in 1988 and is the home base for the flying operations of F/A-18 Hornets from 75 Squadron. Located approximately 18 kilometres south of Katherine, RAAF Base Tindal occupies an area of over 2,000 square kilometres and allows for the concentration of ADF operations and exercises in the north of Australia.

Units and functions based at RAAF Base Tindal include:

- 75 Squadron (75 SQN);
- 322 Expeditionary Combat Support Squadron (322 CESS);
- 44 Wing Detachment - Tindal;
- Northern Regions Operation Centre (NORTHROC);
- Delamere Range Facility; and
- Katherine Troop NORFORCE.

Modelling Inputs

Estimates of the direct employment impacts were used as the main modelling inputs into the MMR. The estimates of the direct impact of each facility is based on activity in each facility during the 2007/08 financial year. The direct employment impacts for each facility are presented in Table 1 below.

Table 1 Modelling Inputs - Direct Employment Impacts	
Facility	Direct Employment (jobs)
RAAF Base Darwin	641
Larrakeyah Defence Precinct	1046
Defence Establishment Berrimah	117
Roberston Barracks	4128
RAAF Base Tindal	678
Total Northern Territory Defence Facilities	6611

Source: Department of Defence

We note that the direct employment impacts for each of the facilities differ in terms of the distributional impacts across industries (details of the distribution are provided within the body of the report). It is important to note that it is assumed that the facilities and operations associated with the facilities are removed from the Northern Territory and are not re-established elsewhere in the Territory. However, the facilities may be re-established somewhere else in Australia, but outside of the Northern Territory. The direct employment impacts are distributed across the Government Administration and Defence industry and the Property and Business Services industry, this distribution affects the size and distribution of the indirect impacts, as is illustrated in the modelling results.

Economic Impacts

The key results of the economic modelling at both the state and regional level are presented in Table 2. It is important to note that these are estimates of both the direct and indirect impacts and as such employment impacts are not identical to the direct employment impacts in Table 1.

Table 2 Economic Impacts Summary				
Defence Facility	Employment (jobs)	Value Added (\$m)	Turnover (\$m)	Consumption (\$m)
Regional Impacts				
Darwin Region				
RAAF Base Darwin	900	63.9	116.3	55.7
Larrakeyah Defence Precinct	1,472	105.4	189.4	91.6
Defence Establishment Berrimah	163	11.7	20.9	10.0
Robertson Barracks	5,953	427.9	768.0	381.7
Katherine Region				
RAAF Base Tindal	1,020	73.4	132.3	59.0
State Impacts				
Total	11,116	805.4	1,460.9	673.8

Source: KPMG Econtech MMR

Economic impact of Major Defence Facilities in Regional economies

Economic impact modelling was carried out at the regional economy level for five pivotal Defence facilities. The estimates of employment, value added and consumption impacts presented above represent the average annual economic impacts attributable to the facilities, based on reported activity in 2007/08.

As is the case with each of the Bases, the results show that a sizable proportion of the overall employment impact occurs in the Government Administration and Defence industry, as each of the bases directly employs a large number of APS and ADF staff within that industry. These direct employment impacts produce positive indirect employment impacts in industries that supply goods and services to the Bases and sell consumer goods to the Bases employees. Industries that benefit from demand created by Bases in the economy include: Retail Trade; Finance and Insurance; Education; and Health and Community Services. At the same time, expenditure by each base on goods and services within the regional economy contributes to price pressures within some industries. As such, some negative employment impacts are felt in industries that experience a loss of competitiveness through higher input prices. For example, it is estimated that RAAF Base Darwin has negative indirect employment impacts on industries

including: Manufacturing; Construction; Transport and Storage; and Property and Business Services. Importantly, the overall impact of the Defence base on employment in the Darwin region is positive.

These findings are consistent with the findings of previous modelling undertaken by KPMG Econtech for Defence, to measure the economic contribution of the RAAF Base, Richmond, to the Sydney economy. The pattern of direct and indirect impacts are consistent with previous findings Defence bases create positive indirect impacts in consumer focused industries that sell goods to Defence employees, while negative indirect impacts are generally seen in trade-exposed industries. Negative indirect impacts stem from the fact that traded goods prices are determined in the national market. As such, industries producing traded goods are not able to raise the price of their output in response to changes in input prices. However, as discussed above, some of these trade-exposed industries use similar inputs to Defence and thus would be facing price pressures as a result of Defence's presence. Accordingly, those tradable industries that use a similar set of inputs to Defence and does not sell a large proportion of their goods to the Defence bases or to Defence employees are worse off as a result of Defence's presence.

To take a specific example, the Bases increases the demand for goods and services produced by industries such as Finance and Insurance. This industry produces non-tradeable goods and services, and therefore they focus on selling in the Darwin region only. As such, industry production levels and prices for these services are determined by local demand. The Bases increases local demand and therefore leads to an increase in the prices charged by the Finance and Insurance industries. These higher prices would have a slight negative impact on industries that use these goods and services. Hence, production and employment in some industries, such as Property and Business Services, will be slightly lower, as businesses in these industries pay higher prices for business inputs. Importantly, Defence bases contribute positively to employment, value added and consumption in the region in which they are situated.

Key Economic Impacts for the Northern Territory

The Defence facilities that have been included in the Northern Territory analysis are: RAAF Base Darwin; Defence Establishment Berrimah; Larrakeyah Defence Precinct; Robertson Barracks; RAAF Base Tindal; and the Northern Territory Training Areas (Mount Bundy Training Area and the Bradshaw Training Area) and other smaller defence facilities in the Northern Territory. Additionally, the modelling also captures the increased expenditure from Naval ship visits to the region.

The modelling estimates that these Defence facilities and Naval ship visits currently support 11,116 jobs in the Northern Territory economy. The majority of these jobs are in the Government Administration and Defence industry, as most of the direct employment impacts are within that industry. At the same time, the facilities create additional employment in businesses that sell consumer goods to employees of Defence, and in industries that sell goods and services to Defence.

For example, by purchasing construction services, the Defence facilities and their contractors indirectly support employment in the construction industry. Expenditure by the employees of the Defence facilities and their contractors also supports employment in consumer focused industries including: Retail Trade; Education; and Health and Community Services.

The Defence facilities are also estimated to have negative employment impacts on some industries. By contributing to demand in the state economy, the Defence facilities place upward

pressure on the prices of goods and services that are not traded between states. As such, some negative employment impacts are felt in industries which use the non-traded goods and services as they experience a loss of competitiveness through higher input prices. Importantly, Defence bases contribute positively to employment in the Northern Territory.

The modelling estimates that Defence facilities currently contribute \$805 million (2008/09 prices) annually to value added in NT. This is equivalent to the Defence facilities' contribution to Northern Territory GSP. Similarly to the employment impacts, the Defence facilities produce both positive and negative indirect impacts in industries within Northern Territory. Beneficiaries of Defence activity include: Retail Trade; Finance and Insurance; Education; and Health and Community Services. All of these industries receive a positive contribution to value added through sales to Defence facilities, contractors and their employees. Industries that experience negative value added impacts include: Construction; Transport and Storage; and Property and Business Services.

The overall impact of the Defence facilities on Gross State Product (value added) is positive. By supporting production (value added) in the state economy, the Defence facilities contribute to living standards in NT. The Defence facilities are estimated to contribute \$673 million (2008/09 prices) annually to consumption in the Northern Territory.