

2017 Indicator Report





GOVERNMENT OF THE COOK ISLANDS

Te Kaveinga Nui

The National Sustainable Development Plan 2016 – 2020

**Report on NSDP Indicators
Year One Report – 2017**



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Abbreviations

BTIB	Business Trade and Investment Board
CI	Cook Islands
CICC	Cook Islands Climate Change (a division of OPM)
CIIC	Cook Islands Investment Corporation
CITTI	Cook Islands Tertiary Training Institute
COTS	Crown of thorns starfish
CPPO	Central Policy and Planning Office (a division of OPM)
EEZ	Exclusive Economic Zone
FTE	Full time equivalents
GDP	Gross Domestic Product
GPS	Global positioning system
HD	High definition
HES	Household Expenditure Survey
HIES	Household Income and Expenditure Survey
HYEFU	Half Year Economic and Fiscal Update
ICT	Information and Communications Technology
ICI	(Ministry of) Infrastructure Cook Islands
INTAFF	Ministry of Internal Affairs
JNAP II	Joint National Action Plan
MFAI	Ministry of Foreign Affairs and Immigration
MFEM	Ministry of Finance and Economic Management
MMR	Ministry of Marine Resources
MOA	Ministry of Agriculture
MOCD	Ministry of Cultural Development
MOE	Ministry of Education
MOH	Ministry of Health
MOJ	Ministry of Justice
MOT	Ministry of Transport
NCD	Non-Communicable Disease
NCEA	National Certificate of Educational Achievement
NGO	Non-governmental organisation
NES	National Environment Service
NSDP	National Sustainable Development Plan 2016-2020
MFEM	National Statistics Office (a division of MFEM)
MMS	Multi-media messaging service
NZD	New Zealand dollars
OECD	Organisation for Economic Cooperation and Development
OPM	Office of the Prime Minister
OPSC	Office of the Public Service Commissioner
PEG	Pa Eヌua Governance (a division of OPM)
REDD	Renewable Energy Development Division (of OPM)
RMD	Revenue Management Division (of MFEM)
SMS	Short messaging service
SOE Report	State of the Environment Report
SPC	Secretariat for the Pacific Community
TAU	Te Aponga Uira (Electricity Authority)
TMV	Te Mato Vai (Rarotonga water supply project)
USP	University of South Pacific
VOIP	Voice over internet protocol
WATSAN	Water, Waste, Sanitation Division (of ICI)
WCPO	Western and Central Pacific Ocean
WHO	World Health Organisation
YOY	Year over year



Measurements

ha	hectares
km	kilometres
kbps	kilobits per second
M	million
mbps	megabits per second
mt	metric tonnes
nm	nautical miles

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Executive summary

This is the first report on the 66 indicators which measure progress towards achieving the 16 goals in the NSDP 2016-2020. Where possible the information is for either the 2016 calendar year, or the 2016/17 financial year. There are 12 indicators relating to nine goals that have not been reported on due to the lack of data. The report includes data and analysis for each of the indicators, together with some explanation of the methodology. Where possible, the report identifies a status and trend for each of the indicators. The status describes whether the results are 'on track', 'of concern' or 'off track'.

Summary of indicator results

Welfare, equity, economy, and employment (Goals 1 and 2)

The results show progress is 'on track' for reducing economic hardship, improving the distribution of wealth, increasing economic equity, and increasing individual incomes. However, there are limitations in the data available and further analysis is needed once more comprehensive information is available from the HIES 2016 and the Census 2016.

Progress is also 'on track' for national economic growth, tourism growth, economic stability and diversity. Increases in real GDP have been primarily driven by growth in tourism with support from investment in key infrastructure projects. The dependence on tourism continues to be an economic risk but here has been growth in the contribution of non-tourism related industries. The Total Debt to GDP ratio indicates an appropriate level of economic security and financial stability. There is currently a lack of information about employee wellbeing beyond the public sector.

Water, sanitation and waste management (Goals 3 and 4)

Progress is 'on track' for improving waste management through recycling on Rarotonga and Aitutaki, but 'off track' for the other islands. Information is lacking for the indicators about management of hazardous waste and sanitation. The results about access to water within dwellings needs to be updated with Census 2016 information. Water supply was sufficient for all islands in 2016. The quality of drinking water at Rarotonga school and community water stations is 'of concern' since the relevant WHO standards are not always met.

Infrastructure, energy and transport (Goals 5 and 6)

Progress is 'on track' for access to information and communications technology. The fitness of other national infrastructure and buildings has not been reported on. The renewable energy project is 'on track' as is the decrease in petrol, diesel and LPG imports. Affordability of electricity should be further considered once information from the HIES 2016 is available. The number of domestic flights to the southern group and Manihiki is 'on track' but 'of concern' for Penrhyn and Pukapuka. Domestic shipping trips are 'on track' for the southern group but 'of concern' for the northern group.

Health, education, gender and the vulnerable (Goals 7, 8 and 9)

Only one of the health indicators is 'on track'. The prevalence of sexually transmitted infections has declined. The rate of premature deaths from non-communicable diseases is 'off track'. The areas 'of concern' relate to health spending relative to overall government expenditure, physical activity among youth, average life expectancy and mental health care.

Progress is 'on track' for the indicators relating to early childhood and secondary school education. The percentage of the population with vocational or tertiary qualifications is 'off



track', but this is based on Census 2011 information. Education spending relative to overall government expenditure is 'of concern'.

Women remain underrepresented at the political level so the related indicator is 'off track'. There has been a gender pay gap, with men earning more than women. However, based on 2016 results for the public sector, it is anticipated that the Census 2016 information will show greater parity. Youth wellbeing has not been reported on. There is a continuing need to make public facilities more accessible to people with a disability or impaired mobility.

Agriculture and food security (Goal 10)

The results show little progress towards the goal. There is a lack of information about production and consumption of local food but this has been assessed as 'off track'. The loss of agricultural land is 'of concern'. Biosecurity is 'on track' with no reported outbreaks in 2016/17.

Environment, biodiversity, oceans, lagoons and marine resources (Goals 11 and 12)

Only two of the indicators relating to sustainable management of the environment are 'on track'. The 'on track' matters are the extent of the marine protected areas, and the tuna catch being below maximum sustainable yields. The status of wetlands on Rarotonga is 'off track'. Loss of biodiversity, coral coverage, lagoon water quality, and economic returns from oceanic and lagoon resources are 'of concern'.

Resilience and climate change (Goal 13)

The results provide limited information about progress towards strengthening resilience to climate change and natural disasters. Two indicators have not been reported on. Access to protection from cyclones is 'on track'.

Culture, population and governance (including law and order) (Goals 14, 15 and 16)






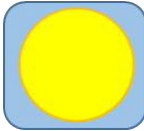




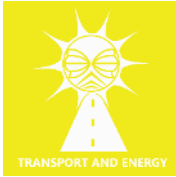
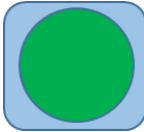




The results show that the literacy rates for Cook Islands Maori at NCEA level 1 are 'on track'. Two other indicators relating to engagement in cultural activities and digitising of cultural resources have not been reported on.

Population continues to be 'of concern' overall with a loss in the Pa Enua and slight increase of 2 percent in Rarotonga since the Census 2011. Information about ethnic composition of the population is not yet available for 2016. Voter turnout at the last general election in 2014 was 'on track'. Three additional research applications were received by the research committee in 2016 compared with 2015. Two indicators related to foreign and local investment, and a quality of life index, were not reported on.

The results show mixed progress towards improved governance and some indicators have not been reported on. There is a lack of information about access to justice, rates of domestic violence and reoffending rates. However, the justice and domestic violence indicators have been assessed as 'off track'. Motor vehicle accidents from reckless behaviour is 'off track'. The number of parliamentary sitting days is also 'off track'. Public financial management, and the performance of government ministries are both 'on track'.



















Quick guide to indicator results

NSDP Goal	Summary of indicator results	
 <p>WELFARE AND EQUITY</p>	Goal 1: Improve welfare, reduce inequity and economic hardship	 <p>'On track' in reducing economic hardship, improving the distribution of wealth and economic equity. However the data has limitations and more comprehensive information is required.</p>
 <p>ECONOMY AND EMPLOYMENT</p>	Goal 2: Expand economic opportunities, improve economic resilience and productive employment to ensure decent work for all	 <p>'On track' in increasing individual incomes, and growing and diversifying the national economy in a prudent manner. Employee wellbeing in the public sector is 'on track'. More comprehensive information is required on individual incomes.</p>
 <p>WASTE MANAGEMENT</p>	Goal 3: Promote sustainable practices and effectively manage solid and hazardous waste	 <p>'On track' with recycling for Rarotonga and Aitutaki but 'of concern' for other islands. Information lacking for hazardous waste management.</p>
 <p>WATER AND SANITATION</p>	Goal 4: Sustainable management of water and sanitation	 <p>Mix of 'on track' and 'of concern' for access to sufficient and safe water in homes. Information lacking about use of approved sanitation systems, though this is known to be 'of concern' for Rarotonga and Aitutaki.</p>
 <p>INFRASTRUCTURE AND ICT</p>	Goal 5: Build resilient infrastructure and ICT to improve our standard of living	 <p>'On track' for all information and communication technology measures except affordability which is 'of concern'. Information lacking for fitness of national infrastructure and buildings.</p>
 <p>TRANSPORT AND ENERGY</p>	Goal 6: Improve access to affordable, reliable, sustainable, modern energy and transport	 <p>'On track' for renewable energy projects and reduced imports of petrol, diesel and LPG. More comprehensive information needed about affordability of electricity. 'On track' for domestic shipping and flights to southern group but 'of concern' for some of the northern group.</p>
 <p>HEALTH</p>	Goal 7: Improve health and promote healthy lifestyles	 <p>'On track' for decline in sexually transmitted infections. 'Of concern' for health spending, physical activity among youth, life expectancy and mental health. 'Off track' for non-communicable diseases. More information needed on mental health.</p>
 <p>EDUCATION</p>	Goal 8: Inclusive and equitable quality education and promote life-long learning opportunities	 <p>'On track' for early childhood and secondary school education. 'Of concern' for vocational and tertiary qualifications, but based on 2011 data which needs updating. 'Of concern' for health spending.</p>



NSDP Goal

Summary of indicator results

 <p>GENDER AND THE VULNERABLE</p>	<p>Goal 9: Accelerate gender equality, empower all women and girls, and advance the rights of youth, the elderly and disabled</p>		<p>'Of concern' for pay parity between men and women but likely to improve once Census 2016 information is included. 'Of concern' for disability access. 'Off track' for political representation of women. Information lacking for youth wellbeing.</p>
 <p>AGRICULTURE AND FOOD SECURITY</p>	<p>Goal 10: Achieve food security and improved nutrition, and increase sustainable agriculture</p>		<p>'On track' for reported biosecurity outbreaks. 'Of concern' for land used for agriculture. Purchase and production of local food is 'of concern' but information is lacking.</p>
 <p>ENVIRONMENT AND BIODIVERSITY</p>	<p>Goal 11: Promote sustainable land use, management of terrestrial ecosystems, and protect biodiversity</p>		<p>'Of concern' for extent of protected land, and biodiversity loss. 'Off track' for extent and state of wetland areas.</p>
 <p>OCEAN, LAGOON AND MARINE RESOURCES</p>	<p>Goal 12: Sustainable management of oceans, lagoons and marine resources</p>		<p>'On track' for extent of marine protected areas, and tuna catch against maximum sustainable yields. 'Of concern' for coral coverage, lagoon water quality, and economic returns from marine resources.</p>
 <p>RESILIENCE AND CLIMATE CHANGE</p>	<p>Goal 13: Strengthen resilience to combat the impacts of climate change and natural disasters</p>		<p>'On track' for access to protection from cyclones. Information lacking for overall resilience, and for cyclone readiness of public buildings and infrastructure.</p>
 <p>CULTURE</p>	<p>Goal 14: Preserve our heritage and history, protect our traditional knowledge, and develop our language, creative and cultural endeavours</p>		<p>'On track' for Cook Island Maori literacy rates. Lack of current information for involvement in cultural activities. Digitising of cultural resources at its beginning stages.</p>
 <p>POPULATION</p>	<p>Goal 15: Ensure a sustainable population, engaged in development for Cook Islanders by Cook Islanders</p>		<p>'On track' for voter turnout and research applications. 'Of concern' for overall population decline, but 'on track' for Rarotonga. Lack of information for local and foreign investment, and for overall quality of life.</p>
 <p>GOOD GOVERNANCE, LAW AND ORDER</p>	<p>Goal 16: Promote a peaceful and just society and practice good governance with transparency and accountability</p>		<p>'On track' for public financial management and performance of government ministries. Lack of information for access to justice and rates of domestic violence but considered 'off track'. Low number of parliamentary sitting days is 'off track'. Lack of information for reoffending rates.</p>



Introduction

Each year the Central Planning and Policy Office (CPPO) will report on the NSDP indicators used to measure progress towards achieving the 16 NSDP goals. The NSDP sets out the 16 goals that the Cook Islands seeks to achieve as a nation, and the 66 indicators which will be used to measure progress towards those goals. The 16 goals cover the following areas:

1	Welfare and equity
2	Economy and employment
3	Waste management
4	Water and sanitation
5	Infrastructure and ICT
6	Energy and transport
7	Health
8	Education
9	Gender and the vulnerable
10	Agriculture and food security
11	Environment and biodiversity
12	Oceans, lagoons and marine resources
13	Resilience and climate change
14	Culture
15	Population
16	Governance, law and order

This is the first (Year One) indicator report. Where possible the information provided is for either the 2016 calendar year, or the 2016/17 financial year¹, depending on how the data has been collected. Earlier data has sometimes been relied on where more recent information is not available. There are 12 indicators relating to nine goals that have not been reported on due to the lack of data. These indicators relate to hazardous waste, sanitation, the fitness of national infrastructure and buildings, youth wellbeing, local food production, overall resilience and quality of life, cultural engagement, local and foreign investment, and access to the justice system. Where there is insufficient information to report on an indicator, the report gives some explanation and includes other relevant statistics where possible.

The report includes data and analysis for each of the indicators, together with some explanation of the methodology. Some indicators have been modified from those described in the NSDP. Where this occurs, it has been done in consultation with the relevant agency to better match the data that they are realistically able to provide. Where possible, the report identifies a status and trend for each of the indicators. Status is illustrated using a traffic light system (green, yellow, red) to identify the different level of concern or urgency. Trends are illustrated using arrows (up or down) or a circle (no change). This is shown in the figure below:

¹ The 2016/17 financial year runs from 1 July 2016 to 30 June 2017.












	Positive trend	Negative trend	No change
On track			
Of concern			
Off track			

Figure: Symbology for illustrating status and trend for indicators

For some indicators there will be more comprehensive and up to date information available in 2017 once the results of the Census 2016, and the Household Income and Expenditure Survey (HIES) 2016 are available.



Goal 1: Improve welfare, reduce inequity and economic hardship

This goal seeks to address economic wellbeing across society by alleviating economic hardship, improving the distribution of wealth, and promoting economic equity. The results for the Goal 1 indicators are 'on track' and show progress towards the goal. However, there are limitations with the data used for all these indicators due to reliance on income tax records which do not include some of the lowest income earners. Once the results of the HIES 2016 and the Census 2016 are available this will provide additional information about progress towards this goal.

Indicator 1.1 Percentage of people under minimum liveable income

Introduction

This indicator provides information about the proportion of the population who find it difficult to pay for basic needs. This is done by assessing the percentage of the Cook Island resident population earning under the minimum liveable income.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	12.4%	6.9%			<15%	↑
Date	2015	2016				
Source	Income tax data: RMD-MFEM; calculations and analysis: Economic Advice: MFEM; minimum living level: NSO-MFEM					

Comments on methodology

The information for this indicator has been obtained from annual income tax data.

Determining minimum living level

The minimum living level calculated by NSO-MFEM for 2016 is \$41,122 - this is the minimum annual income required to support a household of two adults and two children. The minimum living level is allocated proportionally to various expenditure groups based on information derived from the Household Expenditure Survey ('HES') 2005-06². The current price of goods and services is used to determine minimum living level. However, any changes in household spending habits will not be reflected in updated expenditure allocations until the HIES 2016 information is available.

Determining earnings under the minimum liveable income

Annual income tax data is used to determine how many Cook Island residents earn under the minimum liveable income. A major limitation of this approach is that it only considers people for which MFEM has taxpayer records. It does not include people who are in informal employment³, and some of the lowest income earners fall into this category.

² The allocations to expenditure groups are: food 29%, transport 19%, household operation 17%, health, education, other 17%, housing 13%, clothing 5%

³ Individuals who earn less than \$11,001 are exempt from income tax and are not required to lodge annual income tax returns. However if they have an employer, that employer should notify the tax authorities of their employment.



For this reporting period, only 2108 taxpayers are included in the data, 1344 less than for 2015. For 2016, the data will be more complete later in the year once more outstanding income tax returns have been filed and processed.

Another difficulty is that the minimum living level information provided by NSO-MFEM is household based, and is intended for an earner supporting a spouse and two children. Income tax is measured per person, and some households will have more than one income earner. For the purposes of this indicator, the minimum liveable income per person for 2016 has therefore been assessed as \$20,561 - half of the minimum living level for a household. However, not every person earning below the minimum living level will be supporting children or other family members.

Economic Advice-MFEM has used the Cook Islands Consumer Price Index (CPI) information to calculate minimum liveable income per person for 2014 and 2015.

Analysis

The information for this indicator is set out in the table below:

Description	2014	2015	2016
Minimum liveable income	\$20,229	\$20,705	\$20,561
Number of people under minimum liveable income	2354	1860	1035
% of total resident population ⁴ under minimum liveable income	15.7%	12.4%	6.9%

Table: Minimum liveable income information for 2014 to 2016 (Source: Economic Advice-MFEM)

Based on the methodology set out in the NSDP (p53), with 6.9 per cent earning below the minimum liveable income in 2016, the status of this indicator is assessed as 'on track'. The trend is positive since the data also demonstrates an improvement between 2014 and 2016. However, given the limitations in the data, particularly the reliance on income tax information which excludes some of the lowest earners, there are difficulties in reaching conclusions based on this indicator. The results may also change once more outstanding income tax returns have been filed and processed. Once additional income data is available from the HIES 2016 and the Census 2016, this should be used to further inform this indicator.

Indicator 1.2 Gini coefficient

Introduction

This indicator uses the Gini coefficient (derived from the Lorenz curve) which is a statistical measure used to assess the distribution of income in the economy. It is commonly used as a measure of income inequality. The Gini coefficient is a number between 0 and 1, where 0 corresponds with perfect equality (where everyone has the same income), and 1 corresponds with perfect inequality (where one person has all the income, and everyone else has zero income).

⁴ The preliminary results from Census 2016 give a total resident population for the Cook Islands of 14,902. This has been used for the 2016 calculation. For 2014 and 2015 the Census 2011 total residential population of 14,974 has been used.



Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	0.43	0.39			<0.37 or consecutive yrs of dec.	↑
Date	2015	2016				
Source	Income tax data: RMD-MFEM; calculations and analysis: Economic Advice: MFEM					

Comments on methodology

A major limitation of the methodology is that only considers people for which MFEM has taxpayer records. It does not include people who are in informal employment, and some of the lowest income earners fall into this category.

For 2016, the data is likely to be more complete later in the year once more outstanding income tax returns have been filed and processed.

Analysis

The Gini coefficients for 2014, 2015 and 2016 have been calculated by Economic Advice-MFEM as follows:

2014	0.45
2015	0.43
2016	0.39

The indicator has been assessed as 'on track' with a positive trend due to the consecutive years of decrease.

Indicator 1.3 Real growth in lowest 20 per cent of incomes

Introduction

This indicator provides information about the impact of economic growth on the lowest 20 per cent of incomes. This assists with assessing the extent to which the benefits of economic growth are being shared equitably.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	68.2%	16.2%			>1.5% annual increase or consecutive yrs of growth	↑
Date	2015	2016				
Source	Income tax data: RMD-MFEM; calculations and analysis: Economic Advice: MFEM					



Comments on methodology

The limitations of relying on income tax data have been previously outlined under Indicator 1.2 Gini coefficient. The limitations relate to the exclusion of some of the lowest income earners (for which there are no tax records), and the inclusion of fewer taxpayers in the 2016 data pending the filing and processing of outstanding income tax returns.

Analysis

The information for this indicator is set out in the table below:

Description	2014	2015	2016
Real growth in the average income of the lowest 20% of incomes (\$)	\$3084	\$5189	\$6027
Real growth in the average income of the lowest 20% of incomes (%)		68.2%	16.2%

Table: Growth in the average income of the lowest 20 per cent of incomes, 2014 to 2016 (Source: Economic Advice-MFEM)

The NSDP (p53) suggests that an increase of over 1.5 per cent, or consecutive years of increase is 'on track'. This indicator has therefore been assessed as 'on track' with a positive trend. However, there are limitations in the data used for measuring this indicator. Also the increases come from a low income base, which inflates the significance of the percentage increases. Once additional income data is available from the HIES 2016 and the Census 2016, this should be used to further inform this indicator.



Goal 2: Expand economic opportunities, improve economic resilience and productive employment to ensure decent work for all

This goal addresses the growth and health of the economy including the labour force. The results for the Goal 2 indicators show that progress towards the goal is 'on track'. An increase in real median income has been identified, but due to reliance on income tax data this finding should be further assessed once more comprehensive information is available from the HIES 2016 and the Census 2016. Real GDP has grown, primarily driven by growth in tourism numbers. Growth is also supported by government and development partner investment in key infrastructure projects. There continue to be risks to the economy resulting from the large dependence on tourism, and over-reliance on tourists visiting from New Zealand and to a lesser extent Australia. The contribution of non-tourism related industries to GDP has grown but there is a need to further broaden the economic base of the Cook Islands and reduce economic vulnerability. The total debt to GDP ratio indicates an appropriate level of economic security and financial stability.

A wider labour market survey was not carried out so information about employee wellbeing is limited to the public sector. Surveys of public sector employees had a low response rate (18 per cent in 2015 dropping to 11 per cent in 2016) and cannot therefore be regarded as representative of the public sector. However, those who responded were generally positive notwithstanding concern about pay and benefits.

Indicator 2.1 Real median income

Introduction

This indicator provides information about the real median income of people living and working in the Cook Islands. Median income measures the annual income of the 50th percentile.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	\$19,678 8% change Year over Year	\$20,645 4.9% change Year over Year			>1.5% annual increase or consecutive years of inc.	↑
Date	2015	2016				
Source	Income tax data: RMD-MFEM; calculations and analysis: Economic Advice: MFEM					

Comments on methodology

The information for this indicator has been obtained from the annual income tax data. The limitations of relying this data source have been previously outlined under Indicator 1.2 Gini coefficient. The limitations relate to the exclusion of some of the lowest income earners (for which there are no tax records), and the inclusion of fewer taxpayers in the 2016 data pending the filing and processing of outstanding income tax returns.



Wages have been adjusted for the Consumer Price Index, using 2016 as the base year, to ensure that real wages are used and results are thus comparable. Some issues remain with the Consumer Price Index data which will be amended once the HEIS 2016 results are available.

Analysis

The table below sets out the information for 2014, 2015, and 2016:

Description	2014	2015	2016
Real median income	\$18,219	\$19,678	\$20,645
Change in median (%)		8%	4.9%
Total number of values ⁵	4234	3452	2108

Table: Real median income information for 2014 to 2016 (Source: Economic Advice-MFEM)

The NSDP (p53) suggests that an increase of over 1.5 per cent, or consecutive years of increase is 'on track'. Therefore this indicator has been assessed as 'on track' with a positive trend. However, there are limitations in the data used for measuring this indicator. Once additional income data is available from the HIES 2016 and the Census 2016, this should be used to further inform this indicator.

Indicator 2.2 Real GDP (aggregate)

Introduction

This indicator uses GDP information to measure national economic growth.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		8.8% change Year over Year			>2% annual increase, or 2+ consecutive yrs of inc.	↑
Date		2015/16				
Source	National accounts; calculations and analysis: Economic Advice-MFEM					

Comments on methodology

Real GDP removes the impact of inflation as it is calculated using constant 2006 prices. Nominal GDP is in current prices.

Analysis

Real GDP is estimated to have grown by 8.8 per cent in 2015/16. This growth has been primarily driven by the increase in tourism numbers to the Cook Islands, with arrivals increasing by 11 per cent during the year. Growth was also supported by government capital spending. From 2016/17 onward, the key driver of economic growth will remain with the tourism industry, though this is anticipated to be supported by capital investment, as the

⁵ This refers to the total number of taxpayers used to calculate median income



government, along with development partners, invests in several key projects. There continue to be risks to the economy resulting from the large reliance on tourism, and the over-reliance on tourists visiting from New Zealand and to a lesser extent Australia. This indicator has been assessed as 'on track' with a positive trend.

Indicator 2.3 Growth in tourism

Introduction

This indicator tracks the growth in the tourism industry which is the primary revenue earner for the economy of the Cook Islands.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result						
Total visitor numbers	121,772 -0.61% change Year over Year	135,134 10.97% change Year over Year			-	↑
Average length of stay	10 days	10 days			-	○
Date	2014/15	2015/16				
Source	Cook Islands Statistical Bulletin, Migration Statistics, April 2017: NSO-MFEM					

Comments on methodology

This indicator has been modified from that published in the NSDP as information about total bed nights is no longer collected by either NSO-MFEM or the Tourism Corporation. 'Total length of stay for visitors' was considered as an alternative but it was decided that a combination of total visitor numbers (including percentage change), and average length of stay, gave a good measure of growth in tourism. This also had the advantage of using information which is regularly published by NSO-MFEM. Targets have not yet been set for the modified indicator.

Analysis

The table below shows the total number of visitors:

Year	No. of visitors	Difference	% Change
2013/14	122,518		
2014/15	121,772	-746	-0.61%
2015/16	135,134	13,362	10.97%
2016/17	155,230	20,096	14.87%

Table: Total number of visitors 2013/14 to 2016/17⁶ (Source: NSO-MFEM)

⁶ Source: Cook Islands Statistical Bulletin, Migration Statistics, April 2017, NSO-MFEM



The 11 per cent growth in visitor arrival in 2015/16 shows a significant rebound from the negative growth experienced in 2014/15 and the overall trend of slowing growth in arrivals since 2010/11. The status of this aspect of the indicator has therefore been assessed as 'on track' with a positive trend.

The information provided by NSO-MFEM shows that the intended length of stay has remained at 10 days since 2012. The status of this aspect of the indicator has therefore been assessed as 'on track' with a static (no change) trend. The table below sets out visitor arrivals by country of usual residence and intended average days stay.

Year	Total	New Zealand	Australia	USA	Canada	Europe	Asia	French Polynesia	Other country
2012	10	10	11	10	11	10	10	13	15
2013	10	9	11	10	11	10	11	10	12
2014 ^(p)	10	9	11	10	11	10	11	11	14
2015 ^(p)	10	9	11	10	11	10	11	11	13
2016 ^(p)	10	9	11	10	11	10	11	11	14

Table: Visitor arrivals by country of usual residence and intended average days stay, 2012 to 2016⁷ (Source: NSO-MFEM)

(p) Provisional figures

The Tourism Corporation also has information about average length of stay, sourced from their visitor survey. Their survey has an average length of stay of 8.6 nights for 2014/15, increasing to 8.8 nights for 2015/16.

Indicator 2.4 Total Debt to GDP ratio

Introduction

This indicator uses the Total Debt to GDP as a measure of economic security and financial stability. It assesses the ability of the country to achieve personal and national aspirations and absorb economic shocks while meeting public and private debt obligations.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		78%			<1:1	🟢
Date		2015/16				
Source	National accounts, and Financial Supervisory Commission data; analysis: Economic Advice-MFEM					

Comments on methodology

There are no comments on the methodology.

⁷ Source: Cook Islands Statistical Bulletin, Migration Statistics, April 2017, NSO-MFEM



Analysis

The findings for the 2015/16 financial year (as at 30 June 2016) are set out below:

Net private sector debt	\$228.7M
Net government debt	\$95.9M
Total private and public debt	\$324.6M
GDP	\$415M
Total debt to GDP	78%

The status of this indicator is assessed as 'on track', since the total debt to GDP ratio is less than 1:1. It has not been compared to previous years, therefore the trend is assessed as static (no change).

Indicator 2.5 Employee wellbeing index

Introduction

This indicator assesses the wellbeing of employees as a measure of the fairness of the labour market and the adequacy of working conditions.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	77% (degree of satisfaction)	77% (degree of satisfaction)			>60%	○
Date	2015	2016				
Source	Public Service Employee Engagement Survey 2016: OPSC					

Comments on methodology

The methodology described in the NSDP requires a labour market survey, but this has not been undertaken. In the absence of a labour market survey, information from the Public Service Employee Engagement Surveys undertaken by OPSC in 2015 and 2016 has been used. The responses used were those most relevant to determining employee perceptions regarding: general satisfaction with the current role; opportunities in current role; inherent (perceived) importance/meaning of the job; likelihood of staying with the organisation; and workplace environment. The relatively low response rates to both the 2015 and 2016 surveys limits the reliability of the data for drawing general conclusions about the public service. The response rate for 2015 was 18 per cent, and this dropped to 11 per cent in 2016. Employees from 23 out of 37 agencies participated in the 2016 survey, with most agency participation rates under 20 per cent. This trend has continued, with the 2017 survey also having a 11 per cent response rate. There have been changes in the questions for the 2017 survey, which will make it difficult to compare some of the findings about employee perceptions with the previous survey results.



Analysis

The responses relate to the public service sector only and should not be used to draw conclusions about employee satisfaction beyond this sector. In addition, as noted above, the relatively low response rate limits the reliability of the conclusions that can be drawn for the public sector from the Public Service Employee Engagement Survey. However, the survey respondents were predominantly positive about their agency, the work they do, and their work environment. Areas identified as needing improvement were remuneration and training.

Averaging the responses to the questions most relevant to employee perceptions about wellbeing results in a '77 per cent' overall 'degree of satisfaction', for both the 2015 and 2016 surveys. Therefore the status of the indicator has been assessed as 'on track' with a static (no change) trend. However, there were negative 'of concern' responses to the questions about pay and benefits. The concerns about remuneration, are consistent with the difficulties many government ministries have in recruiting and retaining suitable employees, as noted in the Public Service Commissioner's Annual Report, June 2016.

Indicator 2.6 Growth in non-tourist related industries

Introduction

This indicator assesses economic diversity by measuring the proportion of economic growth that comes from industries that are not directly related to tourism.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	4.8%	0.45%			>3% annual increase, or consecutive yrs of inc.	↑
Date	2015	2016				
Source	National accounts, & analysis: NSO & Economic Advice-MFEM.					

Comments on methodology

This indicator uses information from the national accounts to calculate the contribution of identified 'non-tourist related' industries to real GDP (at constant 2006 prices). The GDP for the industries of wholesale and retail trade, and restaurants and accommodation have been subtracted from the overall total. The remainder is assumed to indicate the GDP for non-tourist related industries. The percentage change (year on year) has then been used to measure growth in the non-tourist related industries.

One of the limitations of this approach, is that it relies on assumptions about which industries are related to tourism. The Cook Islands economy is heavily dependent on tourism which is integrated into many aspects of the economy. It is likely that the restaurant and accommodation is essentially tourism related. However, some of the wholesale and retail trade will relate to local rather than tourist use. It is also likely that the transport and communication industry has a large tourism component, so that industry could potentially be treated as 'tourism related'. Some agriculture also services the tourism sector - for example by providing local produce to resorts and restaurants.



Analysis

The table below shows the contribution of non-tourism related industries to Real GDP, and growth in that contribution over time.

Calendar year	Real GDP (\$M)	Real GDP excluding tourist industries (\$M) ⁸	Growth in non-tourism related industries (%)
2013	285.1	175.8	0.51
2014	297.8	176.5	0.41
2015	314.8	185.0	4.80
2016	325.8	185.8	0.45

Table: Contribution of non-tourist related industries to GDP (Source: Economic Advice-MFEM)

As can be seen above, the contribution of non-tourism related industries to GDP has grown every year since 2013. The status of this indicator is therefore assessed as being 'on track' with a positive trend. Despite this, further work is required to broaden the economic base of the Cook Islands, as growth is only very slight in all years except 2015. Strengthening these other industries and diversifying the economic base of the Cook Islands will reduce economic vulnerability and reliance on a single industry.

⁸ Excludes real GDP from Wholesale and Retail Trade, or Restaurants and Accommodation industries



Goal 3: Promote sustainable practices and effectively manage solid and hazardous waste



This goal seeks sustainable management of solid and hazardous waste to avoid adverse effects on the environment, human health and the economy. Only one of the two Goal 3 indicators has been reported on, so information about progress towards the goal is not comprehensive. Current recycling rates are 'on track' for Rarotonga and Aitutaki, but 'off track' for the other islands. It has been difficult to find information about hazardous waste, so the related indicator has not been reported on. Despite the lack of reporting, management of hazardous waste is known to be an area that continues to need attention throughout the Cook Islands.

Indicator 3.1 Recycling rate (percentage of total waste diverted to recycling)

Introduction

This indicator measures the extent to which products are recycled rather than sent to landfill. This is consistent with achieving effective and sustainable management of waste.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		Rarotonga 45% Aitutaki 50% Other islands 0%			>2% annual increase or consecutive years of inc.	 
Date		2016				
Source	ICI waste audit					

Comments on methodology

This indicator has been modified since the published NSDP, to better match the information available⁹.

A waste management feasibility study undertaken in 2016 for ICI by Tonkin and Taylor International Ltd¹⁰ (T+TI) provides the initial data for this indicator. WATSAN have committed to provide similar information on a yearly basis for Rarotonga. The data collected through the waste audit provides a baseline, or a reference point, to measure against for subsequent years.

⁹ Amended from published NSDP indicator which was 'Total waste recycled'. This required tracking of the amount (tonnage) of potential waste being recycled.

¹⁰ Tonkin and Taylor International Ltd 2016. Waste Management Feasibility Study, prepared for Infrastructure Cook Islands, draft for issue, Oct 2016



The diversion rate is measured by dividing the weight of recycling (tonnes/year) by the weight of the total waste generated (tonnes/year of landfill plus recycling), and converting this to a percentage (dividing by 100).

Analysis

The table below shows the recycling rate (percentage of total waste diverted to recycling) estimated in the T+TI report¹¹. The rates are 45 per cent for Rarotonga (1,048 T/year), 50 per cent (152 T/year) for Aitutaki, and nil for the Pa Enua where there is limited recycling.

Location	% Diversion (recycling rate)
Rarotonga	
Households and small business	31%
Large businesses	53%
Self-managed waste	0%
TOTAL	45%
Aitutaki	
Households and small business	35%
Large businesses	63%
TOTAL	50%
Pa Enua (excl. Aitutaki)	
Households and small business	0%

Table: Recycling rate (Source: T+TI Report)

T+TI report¹² suggests that the recycling or diversion rate for a high performing collection system will achieve a 50-60 per cent recycling rate. However, this typically includes organic waste which is not a significant portion of the waste stream on Rarotonga. The waste composition survey undertaken by T+TI on Rarotonga in August 2016 did suggest that there were opportunities to capture additional recyclable material through the roadside collection. WATSAN is already implementing actions to improve recycling including through education, and by introducing recycling of steel cans.

The status of this indicator has been assessed as 'on track' for Rarotonga and Aitutaki, where there is a roadside recycling system, and 'off track' for the other islands, where there are no established systems of recycling.

Indicator 3.2 Percentage of hazardous waste that is accounted for and managed

Introduction

This indicator measures how effectively hazardous waste is managed and disposed of. This recognises the risk that hazardous waste poses to human health and the natural environment.

¹¹ p8, *ibid*

¹² p12, *ibid*



Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		-			>2% annual inc. or consecutive yrs of inc.	-
Date		-				
Source	-					

Comments on methodology

This indicator has not been reported on due to lack of data. Approaches for measuring this indicator have been discussed with NES (ODS and POPs, e-waste), ICI, and CIIC (asbestos in public buildings), but a satisfactory approach has not been identified. There is a need to amend the indicator to make it more specific and measurable, and also to identify a specific government agency to take responsibility for collecting and analysing the information.

Analysis

As noted above, there is a lack of data for this indicator. However, CPPO does hold information about quantities of e-waste collected in 2016 on Rarotonga as part of the PacWaste e-waste programme. This demonstrates progress towards achieving the NSDP goal by recording the safe removal of e-waste for Rarotonga. It does not indicate how much e-waste remains, or provide an ongoing solution.

There is a need to provide for e-waste collection from the Pa Enua, and some progress is being made in locating covered storage sites on the islands. E-waste would be stored in these sites, pending removal as shipping is available.

For future reporting there is a need to amend this indicator to make it more specific and measurable. The most manageable approach would be to identify a particular type of hazardous waste. Despite the lack of reporting, management of hazardous waste is known to be an area that continues to need attention throughout the Cook Islands.



Goal 4: Sustainable management of water and sanitation

This goal recognises that sustainable management of water and sanitation is necessary to maintain the health of people, the environment, and the economy. The Goal 4 indicators provide limited information about progress towards the goal.

Water

Information from the Census 2011 indicated a need at that time to increase the number of dwellings on Palmerston, Pukapuka and Nassau with water piped to the inside.

The quality of drinking water at Rarotonga school and community water stations is 'of concern' as MOH testing shows that relevant WHO standards are not always met. There is a lack of information about the quality of drinking water in the Pa Enua where testing is sporadic and not always reliable.

Based on MOH information, there was sufficient water supply for all islands in 2016.

The Te Mato Vai ('TMV') project currently underway will provide a significantly better reticulated water supply on Rarotonga as well as improved collection of data to monitor water use and quality.

There has been considerable investment in improving water supply and security in the Pa Enua. However, there is a need for improved water planning, including better collection and collation of information about water supply, storage, and demand for each island.

Sanitation

The indicator about the extent to which sanitation systems meet approved standards has not been reported on. The launch of the Mei Te Vai Ki Te Vai project confirms that wastewater issues are an identified matter of concern on Rarotonga and Aitutaki.

Indicator 4.1 Percentage of population with access to sufficient and safe water in their homes

Introduction

This indicator measures the accessibility, quality and quantity of water provision to households.



Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result						
% of dwellings on Rarotonga with piped supply to inside	91%				>85%	🟢
No. of inhabited islands outside Rarotonga with less than 50% of dwellings with piped water to inside	3 (Palmerston, Pukapuka, Nassau)				>85% of households	🟡
Date	2011					
Source	Census 2011					
% of water quality samples from Rarotonga community and school water stations meeting WHO standards	63% (community) 61% (schools)	63% (community) 93% (schools)			-	🟡
No. of water outages	-	None			-	🟢
Date	2015	2016				
Source:	MOH					

Comments on methodology

As described in the NSDP, this indicator requires information about the percentage of households having running water in the home sufficient to provide 80 litres per person per day, and meeting acceptable water quality standards for domestic use. Currently there is insufficient information to measure the indicator in this manner. After discussions with MOH, ICI and the TMV, the following approach was identified for assessing this indicator:

- Access - use census information to identify the percentage of dwellings that have water piped tank to indoors (from a public water main and / or own water).
- Quality - use MOH water testing at water stations. On Rarotonga water quality is tested at the first pipe from the water intake, and the water stations, for compliance with WHO standards. Testing in the Pa Enua is ad hoc and less reliable.
- Sufficiency - use 'water outages by island' as an indicator.

Targets have not yet been determined for the revised quality and sufficiency components of this indicator.

Future information sources

Better information should be available about household water consumption on Rarotonga once the TMV project is completed and an entity (or Water Authority) is established to manage reticulated water on Rarotonga. The 2017 National Water Policy identifies the Water Authority as responsible for collecting some data about water usage. That data will



be relevant for Indicator 4.1. The policy also identifies that MOH will be responsible for publishing an annual report on the results of water quality testing. This does not currently occur.

The Pa Enua Governance Division of OPM does collect some information about water availability and security on the Pa Enua, including some demand and storage calculations. The Division acknowledges that there is a need to improve the robustness of the supply, storage and demand information for each island to be better able to assist in scoping future projects and identifying delivery gaps.

Analysis

1. Access to piped water in the home

Information from the Census 2011 has been used to collate the following table:

Location	% of dwellings with supply from public water main piped to inside	% of dwellings with supply from own water tank piped to inside
Rarotonga	90.74%	21.50%
Southern islands:	62.19%	29.61%
Aitutaki	78.22%	29.88%
Mangaia	58.24%	18.82%
Atiu	0.00%	49.64%
Mauke	84.78%	16.30%
Mitiaro	51.72%	32.76%
Northern islands:	1.08%	47.67%
Palmerston	0.00%	46.15%
Pukapuka	1.98%	17.82%
Nassau	0.00%	15.38%
Manihiki	0.00%	82.05%
Rakahanga	4.76%	47.62%
Penrhyn	0.00%	62.26%
Cook Islands	78.89%	24.91%

Table: Percentage of dwellings with piped water to inside (by island) (Source: Census 2011)

The data does not accurately identify the total percentage of dwellings with water piped to inside, because some dwellings have water piped from two sources (water tank and mains), and so are counted twice. However, it does show that at least 91 per cent of dwellings in Rarotonga had water piped to the inside. Less than 50 per cent of dwellings on Palmerston, Pukapuka and Nassau had water piped to the inside. Based on the 2011 information, this component of the indicator has been assessed as 'on track' for Rarotonga and 'of concern' for the Pa Enua. The trend has been identified as static (no change), but this is expected to change once the Census 2016 information is available.

2. Quality of drinking water

MOH has provided analysis of the water quality testing they undertake at community water stations, and school water stations. Water samples are tested for faecal coliforms (*E. coli* and *Enterococcus*) as indicators of possible faecal contamination by warm-blooded animals.



MOH applies the World Health Organisation (WHO) standards for chlorinated or treated water at the water stations. Those standards are as follows:

Faecal coliform count	0/100ml
Total coliform count	≤ 5/100ml

Results of MOH water quality testing at the Rarotonga community water stations (UV treatment)

The table below show the results of the water quality testing at the Rarotonga community water stations.

Description	2013	2014	2015	2016
% samples meeting WHO standard of 0 faecal coliform count / 100ml	75%	73%	63%	63%
Number of samples meeting WHO standards of 0 faecal coliform count /100ml	6 samples	27 samples	17 samples	36 samples
Total number of samples	8 samples	37 samples	27 samples	57 samples

Table: Results of water testing at Rarotonga community water stations 2013-2016 (Source: MOH)

In both 2015 and 2016, 63 per cent of the samples met the WHO Standards of 0 FCC / 100ml. However, more than twice as many samples were taken in 2016 (57 samples) as compared with 2015 (27 samples). This makes it difficult to directly compare the results for the two years.

Results of MOH water quality testing at the Rarotonga school water stations (UV treatment)

The table below show the results of the water quality testing at the Rarotonga school water stations.

Description	2012	2013	2014	2015	2016
% samples meeting WHO standard of 0 faecal coliform count / 100ml	69%	69%	56%	61%	93%
Number of samples meeting WHO standards of 0 faecal coliform count / 100ml	33 samples	22 samples	9 samples	17 samples	40 samples
Total number of samples	48 samples	32 samples	16 samples	28 samples	43 samples

Table: Results of water testing at water stations at Rarotonga schools 2012-2016 (Source: MOH)

In 2016, 93 per cent of the samples met the WHO Standards of 0 FCC / 100ml. This is an improvement from 2015, when 61 per cent of the samples met the standard. More samples were taken in 2016 (43 samples) than in 2015 (28 samples). This makes it difficult to directly compare the results for the two years.

Comments

To analyse this data further, more information is be needed about the frequency and location of the testing at the community and school water stations. The 2016 results of 63 per cent compliance for community water stations, and 93 per cent compliance for school water stations, are considered unsatisfactory. The status of these components of the indicator have therefore been assessed as 'of concern'. The trend is assessed as static (no change), largely because of the difficulty in comparing across the years due to the different sample sizes.



3. Sufficiency of water supply

MOH have advised that for 2016, there were no water outages for any of the islands. No information comparing the supply of potable water and non-potable water has been provided. The status of this component of the indicator has been assessed as 'on track' with a static (no change) trend.

Other programmes

A project is currently underway to increase the capacity of communities on Nassau, Palmerston and Penrhyn to collect, store and manage their water resources. This project is funded by the EU GIZ programme, and is being managed by the Pa Enua Governance and Climate Change Divisions of OPM.

Indicator 4.2 Percentage of properties using sanitation systems that meet approved standards

Introduction

This indicator measures the proportion of properties which use sanitation systems that meet approved standards. This recognises that inadequate sanitation systems pose a risk to human health, the natural environment, and the tourism industry.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		-			>85%	○
Date		-				
Source	-					

Comments on methodology

This indicator required information about sanitation systems that meet approved standards. The Public Health (Sewage and Wastewater Treatment and Disposal) Regulations 2014 apply to Rarotonga and Aitutaki, but not to the other islands. This means that there are no 'approved standards' that apply outside of Rarotonga and Aitutaki.

MOH is responsible for applying the Public Health Regulations but has not been able to provide the information required for this indicator.

Analysis

Despite the lack of information about the compliance of sanitation systems, it is well known that sanitation is a matter needing attention. For this reason the status of the indicator has been identified as 'of concern' with a static (no change) trend. There has been ongoing concern that discharge from on-site treatment systems is contributing to some of the environmental issues in Muri Lagoon, and that Aitutaki Lagoon faced similar threats. The health of these lagoons is essential for overall environment health and for the ongoing success of the tourism industry. In response to this the government's approach to sanitation on Rarotonga and Aitutaki has evolved since the NSDP and Indicator 4.2 were written. In January 2017 the government launched an 18 month wastewater project (Mei Te Vai Ki Te Vai) to manage wastewater issues in Rarotonga and Aitutaki, with a particular focus on the impact on the lagoons. This project includes:



- Comprehensive community engagement
- Review of the existing literature
- Environmental monitoring and investigation
- Early measures to reduce the rate of deterioration in the lagoon
- A masterplan for addressing wastewater issues for the whole of Rarotonga
- Establishment of a State Owned Enterprise to maintain the infrastructure in the long term.

Concept design for permanent wastewater infrastructure for Muri has commenced. The project has also recommended changes to the regulations for on-site wastewater management.



Goal 5: Build resilient infrastructure and ICT to improve our standard of living

This goal recognises that appropriate infrastructure and access to information and communications technology can improve the standard of living by providing services and supporting economic growth and security. The results for the Information and Communications Technology ('ICT') indicators demonstrate that progress towards this aspect of Goal 5 is 'on track'. Advances in technology and the decreasing cost of broadband and mobile services over the past decade have resulted in high penetration, with access to broadband and mobile networks on all islands. With the introduction of the submarine cable more bandwidth will become available, and the Cook Islands will become more connected. Indicator 5.4 has not been reported on so no conclusions can be drawn about the extent to which other types of national infrastructure and public buildings are fit for purpose. The review of the Cook Islands Building Code is expected to result in more robust standards for new public buildings.

Indicator 5.1 Broadband connectivity index

Introduction

This indicator measure the average broadband speed and penetration rate to determine how connected the Cook Islands is.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result						
Average speed (Kbit/s)		42.7 kbps			-	↑
Broadband penetration		28%			-	↑
Date		2017				
Source	Bluesky Cook Islands					

Comments on methodology

The data for this indicator is currently being collected by Bluesky. The first component of this indicator measures average broadband speed coming into the country and is measured in kilobits per second, rather than megabits per second as stated in the original NSDP methodology; the International Internet bandwidth per inhabitant is calculated as (500mbps/11700 resident population x1000). The target will need to be revised in the next reporting period. The second component of this indicator, broadband penetration, measures the number of broadband users as a percentage of the population. This is a change from the target stated in the NSDP: percentage of households that have broadband connectivity (also known as broadband subscriptions). Penetration rate is the percentage of a country's population that are subscribers. Because a single internet subscription may be shared by many people, the penetration rate will not reflect the actual level of access to broadband internet of the population. For instance, many households that do not have a broadband subscription may still have access to the internet via mobile data, public WiFi hotspots, at the



workplace. Therefore the Cook Islands have 100 per cent coverage, meaning broadband can be accessed on all Islands.

Analysis

All populated islands in the Cook Islands have access to broadband services e.g. via public WiFi hotspots and Bluesky telecentres. There has been a significant increase in broadband penetration since the introduction of O3B satellite service in 2013. Broadband penetration (3258 subscriptions, 28 per cent users per capita) is significantly higher than other Pacific countries given the expected income levels. This has been a significant increase from 7.4 per cent in 2009. Broadband penetration is illustrated in the figure below.

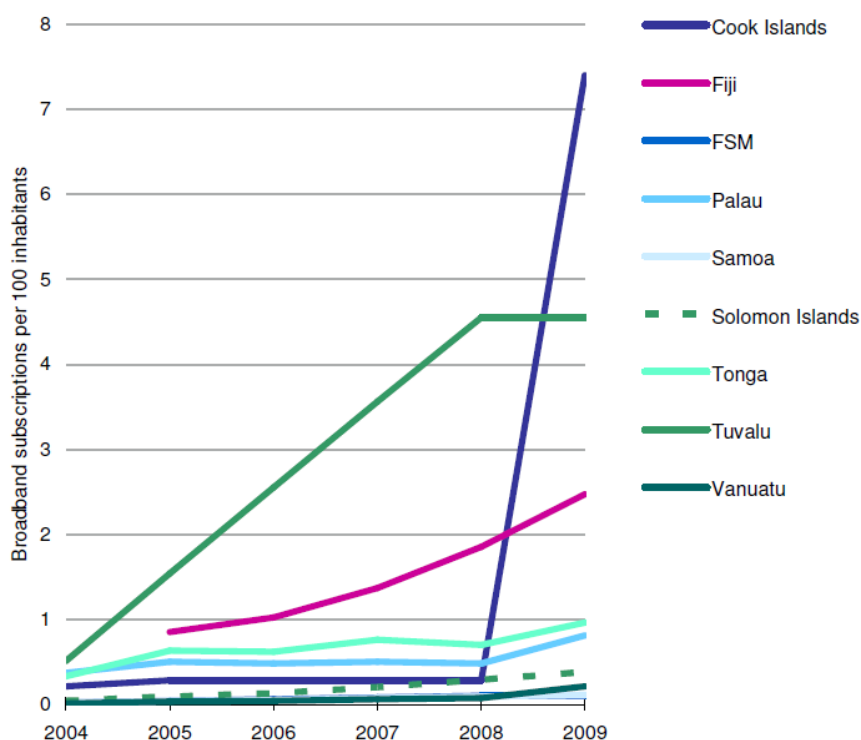


Figure: Broadband penetration from 2004 to 2009 (Source: International Telecommunication Union)

Speed, affordability and bandwidth are expected to improve with the introduction of the submarine cable to Rarotonga. This will not replace the existing satellite network, in fact network resilience will rely on the management of both cable and satellite so that if one fails there is a backup ready to continue services.

Both components of this indicator (average speed, and broadband penetration) have been assessed as 'on track' with a positive trend.

Indicator 5.2 Percentage of average monthly income spent on broadband

Introduction

This indicator measures the average household monthly income spent on broadband to determine the affordability of broadband services.



Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		8%			<5%	O
Date		2017				
Source	Bluesky Cook Islands					

Comments on methodology

The name of this indicator has modified from the NSDP¹³ to reflect the methodology used by Bluesky. Bluesky calculate affordability by expressing the monthly spend on broadband¹⁴ as a percentage of average monthly income. GDP per capita divided by 12 is used as a proxy for average monthly income. Cook Islands resident population¹⁵ has been used to calculate GDP per capita.

It should be noted that in most countries, the income distribution is highly skewed. This means that average income is strongly influenced by high income earners, while most of the population earns less than the average. Few Pacific island nations have detailed information on income distribution, and any information that is available is generally not up to date, with the latest data often being from the early 2000s. This is the key reason for Bluesky's use of GDP per capita as an income proxy. Most of the population would find telecommunication and internet services to be less affordable than the 'hypothetical' average income earner.

Analysis

Approximately 8 per cent of average monthly income is spent on broadband services, and nearly 5 per cent is spent on mobile services.

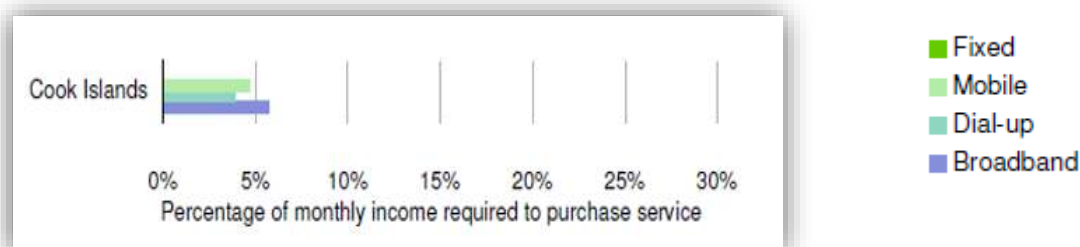


Figure: ICT services affordability (Source: Network Strategies Report 2010)

Cook Islanders are well connected once other measures are considered such as the high number of mobile subscribers, and increases in broadband subscriptions and usage over time. However, the cost of broadband and mobile data is still considered too expensive for many users living in the Pa Enua. The status of this indicator is therefore assessed as 'of concern'.

¹³ In the NSDP as published this indicator was called 'Percentage of median income spent on broadband'

¹⁴ The percentage of average monthly income required to pay the monthly fee of the least expensive available broadband plan.

¹⁵ Sourced from NSO-MFEM September 2016 Vital Statistics Resident population estimate



Indicator 5.3 Mobile connectivity index

Introduction

This indicator measures mobile data speed, mobile penetration, and mobile data usage to determine the extent to which the Cook Islands is connected via mobile technology.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result						
Data speed		2G Pa Enea 4G Rarotonga & Aitutaki			>2mbps minimum 4G	↑
Penetration		100%			>80%	↑
Data usage		120 megs ¹⁶			>3.5GB	↑
Date		2017				
Source	Bluesky Cook Islands					

Comments on methodology

The information for this indicator has been provided by Bluesky. Data rates measure the speed at which data is transferred. 4G (fourth generation cellular communication network) offers speeds that are about 10 times faster than 3G networks and is only available to Rarotonga and Aitutaki residents. The Pa Enea have been on 2G GSM since 2011. Data rates (measures of speed and data) are summarised in the next table below. Mobile phone penetration rate measures the number of active mobile subscribers over a population. Data usage looks at the average data downloaded annually per mobile subscription in gigabytes (GB). However, Bluesky does not collect this information and the methodology has been modified. Data usage now measures the assigned mobile network data capacity. This measures the maximum bandwidth capacity which is 120 megabytes. Bandwidth is expected to increase with the introduction of the submarine fibre optic cable in the near future. An appropriate target will be determined in the next reporting period.

Analysis

Rarotonga and Aitutaki have access to 4G mobile networks which offers speeds of 100 megabytes per second (MBPS) to 1 gigabyte per second (GBPS). This enables users to access high definition video streaming, teleconferencing, online gaming, GPS and location based services, and a better quality internet surfing experience. This contrasts with the 2G mobile network available in the Pa Enea which only offers 40 kilobytes per second (KBPS) limiting services to calls, SMS (short message service) and MMS (multi-media message service). This information is summarised in the table below.

¹⁶ Assigned Mobile Network Data capacity



Mobile Network (G)	Data Rates (speed and data)	Deployment technology	Mobile network enabled applications
4G	100 megabytes per second to 1 gigabyte per second	LTE , WiMax, xDSL	Available on Rarotonga & Aitutaki wireless broadband; HD video streaming, online gaming, VOIP and teleconferencing, and more
3G	384 kilobytes per second to 2 megabytes per second	WCDMA	Digital, data and voice; video calling, file transmission, internet surfing, online TV, telemedicine, view high definition videos on demand, GPS, location based services.
2.5G	40 kilobytes per second	GPRS	Available in the rest of the Pa Enua Digital, voice; improved call service and SMS text and MMS messaging. Improved global connectivity
2G	9.6 kilobytes per second	GSM	

Table: Mobile network technical specifications as per ITU standards [Internet Telecommunication Union]

The Cook Islands have a high mobile penetration rate at 118 per cent, indicating that some users have more than one mobile subscription. The following table sets out the subscription rates for mobile phones, fixed phone lines, internet and broadband in 2017:

Type of telecommunications	Subscribers per 100 inhabitants	No. of subscribers
Mobile cellular	118%	13,831
Fixed telephone lines	56%	6530
Internet	54%	6265
Broadband	28%	3258

Table: 2017 subscription rates for telecommunications (Source: Bluesky)

The calculations are based on a population of 11,700. Notable from this table is the high rate of mobile cellular subscribers when compared with the other options. Mobile cellular telephony covers 100 per cent of the population and hence has a penetration rate of 100 per cent.

There is no information on the average data usage per mobile subscription, however with the advances in mobile network technology from 2G to 4G data usage appears to have increased. With the introduction of the submarine cable this will increase the available mobile network data capacity.

The status of all components of this indicator are assessed as 'on track' with a positive trend.

Indicator 5.4 Percentage of national infrastructure and public buildings that are fit for purpose

Introduction

This indicator measures the extent to which national infrastructure and buildings are fit for purpose.



Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	-				75%	-
Date	-					
Source	-					

Comments on methodology

This data needed for this indicator is not currently available. The intended source is the Public Asset Register which is not currently complete or up to date. For future reporting there is a need to clarify what type of national infrastructure and public buildings will be assessed, and how it will be determined as 'fit for purpose'.

Analysis

This indicator has not been reported on for Year One.



Goal 6: Improve access to affordable, reliable, sustainable, modern energy and transport

This goal focuses on improving access to renewable energy sources and achieving reliable transport between the various islands. The results for the Goal 6 indicators shows that there are some areas where progress towards this goal is 'on track', and some areas 'of concern'. The renewable energy project has already delivered 100 per cent electricity generated from renewable sources for the northern group, and progress is 'on track' for the southern group. Compared with the previous year, there has been a significant decrease in the amount of petrol, diesel and LPG imported. Affordability of electricity is 'of concern' warranting further consideration once information from the HIES 2016 is available.

The number of domestic shipping trips is 'on track' for the southern group, but 'of concern' for the northern group. The number of domestic flights to the southern group and Manihiki is 'on track', but 'of concern' for Penryhn and Pukapuka.

Indicator 6.1 Percentage of electricity generation from renewable energy

Introduction

This indicator measures the percentage of electricity which is generated from renewable energy. This assesses progress towards the national energy target of 100% by 2020.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		100% northern group			100%	🟢
	14.2% Rarotonga	19.2% Rarotonga			100% by 2020	🟡
Date	2015	2016				
Source	TAU (for Rarotonga), and REDD-OPM (for northern group)					

Comments on methodology

The information from TAU for Rarotonga refers to electricity fed into the national grid which is generated from renewable sources. It does not take into account stand-alone solar panels that some households have, particularly since TAU does not currently have storage capacity to link any additional solar panels to the national grid.

Analysis

For the northern group, 100 per cent of electricity generated is from renewable energy. For the southern group, only Rarotonga has the required infrastructure at present. The table below shows progressive increases for Rarotonga in the percentage of the electricity fed through the national grid which is generated from renewable sources.



Year	% of electricity from the national grid generated from renewable energy sources (Rarotonga only)
2014	5.3%
2015	14.2%
2016	19.2%

Table: Percentage of electricity generated from renewable sources for the national grid in Rarotonga (Source: TAU)

Lack of battery storage is currently delaying the switch to renewable electricity sources in Rarotonga. REDD-OPM is working closely with TAU and development partners to secure additional storage. It is anticipated that by 2018, 90 per cent of electricity generated for the southern group will be from renewable sources. The status of this indicator is assessed as 'on track' with a static (no change) trend for the northern group. For Rarotonga, it is assessed as 'on track' with a positive trend.

Indicator 6.2 Annual amount of fossil fuels imported

Introduction

This indicator measures the annual amount of petrol, diesel and LPG imported in order to monitor reliance on fossil fuels.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	14.4M litres (petrol, diesel, LPG) 25.2% change Year over Year	12.8M litres (petrol, diesel, LPG) -11.1% change Year over Year			>2% annual decrease	↑
Date	2015	2016				
Source	NSO-MFEM					

Comments on methodology

This indicator does not include aviation fuel.

Analysis

The findings are set out in the table below:

Total amount of imported petrol, diesel and LPG gases	2014	2015	2016
litres (million)	11.5	14.4	12.8
% change (Year over Year)		25.2%	-11.1%
NZD (million) (CIF - cost, insurance and freight)	\$16.0	\$14.6	\$9.7

Table: Total amount of imported petrol, diesel and LPG gases, 2014 to 2016 (Source: NSO-MFEM)



There was a significant decline of 11 per cent between 2015 and 2016 in the amount of petrol, diesel and LPG imported. This followed on from a sizeable increase (25 per cent) between 2014 and 2015. Further analysis would be required to determine the reason for the decline between 2015 and 2016, including the extent to which it is related to increased use of renewable energy sources for electricity generation. In view of this decline, the status of the indicator has been assessed as 'on track' with a positive trend.

The NSDP (p31) notes that reducing the use of fossil fuels should indicate greater use of renewable resources, as well as more efficient energy use and conservation. Reducing reliance on fossil fuels in favour of other renewable energy sources also has economic benefits.

Indicator 6.3 Percentage of median income spent on electricity

Introduction

This indicator measures the proportion of income that is spent on electricity at the household level. This is to assess the affordability of electricity.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		8.1%			<5%	O
Date		2016				
Source	Income tax data: RMD-MFEM; Electricity prices: TAU					

Comments on methodology

This indicator measures the percentage of real median income that would be spent on purchasing 200 kWh of electricity per month. This is assumed in the NSDP to be the average household consumption of electricity. TAU has provided the domestic energy tariff¹⁷. The methodology used for calculating real median income, and its limitations, is set out under Indicator 2.1 Real median income. There is some mismatch within the methodology, as real median income is individual income and the electricity consumption is household based.

Analysis

For 2016, real median income for individuals has been calculated as \$20,645 (refer to Indicator 2.1). A household which is purchasing 200 kWh per month would be paying \$139.60 per month, or \$1675.20 per year for that electricity. That equates to 8.1 per cent of real median income. The status of this indicator has been assessed as 'of concern' based on the suggestion in the NSDP (p56) that less than 5 per cent of median income should be spent on electricity. However, these conclusions should be re-evaluated once information is available from the HIES 2016.

¹⁷ First 60 units each month - \$0.53 per unit; from 61-300 units each month - \$0.77 per unit.



Indicator 6.4 Transport connectivity index

Introduction

This indicator measures the frequency of domestic shipping and air services to the Pa Enua. This is used to assess the extent to which there is adequate transport between the islands.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result Domestic flights (avg inward flights / week)	Southern group (overall)				3 flights per week	↑
	30.1 Aitutaki	35.6 Aitutaki			-	↑
	6.3 Atiu	7.4 Atiu			3 flights per week	↑
	4.6 Mangaia	4.7 Mangaia			3 flights per week	○
	3.3 Mauke	3.8 Mauke			3 flights per week	↑
	2.3 Mitiaro	3.5 Mitiaro			3 flights per week	↑
	Northern group (overall)				0.5 flights per week	○
	1.2 Manihiki	1.0 Manihiki			0.5 flights per week	○
	0.6 Penrhyn	0.4 Penrhyn			0.5 flights per week	↓
	0.4 Pukapuka	0.3 Pukapuka			0.5 flights per week	○
Result Domestic shipping trips	45 Southern group (21-26 per island excl. Rarotonga & Aitutaki)	44 Southern group (18-22 per island excl. Rarotonga & Aitutaki)			≥11 per island	○
	21 Northern group (10-15 per island)	17 Northern group (6-11 per island)			≥11 per island	↓
Date	2014	2016				
Source	Domestic shipping: Taio Shipping Ltd, Cook Islands Towage Ltd; Air: Airport Authority					

Comments on methodology

Air transport

The Airport Authority provided information from their database, showing the number of domestic flights from the various aerodromes for both 2015 and 2016.



Shipping

The NSDP indicator seeks information about the average number of shipping services per annum to the Pa Enua. The limitations of this approach is that it does not consider full information about the adequacy of domestic shipping services such as regularity, reliability, appropriate frequency and transport capability.

Information about the number of domestic shipping trips to the Pa Enua has been provided by the two domestic shipping companies who serviced the Pa Enua in 2015 and 2016 - Taio Shipping Ltd and Cook Islands Towage.

Analysis

Air transport

The table below shows the number of domestic flights¹⁸ in the 2015 and 2016 calendar years to and from the Pa Enua.

To Aerodrome	2015 Average inward flights per week		2016 Average inward flights per week	
	From Rarotonga	From all islands	From Rarotonga	From all islands
Sthn group				
Aitutaki	29.0	30.1	33.6	35.6
Atiu	4.7	6.3	5.1	7.4
Mangaia	4.6	4.6	4.7	4.7
Mauke	2.9	3.3	3.1	3.8
Mitiaro	1.4	2.3	2.0	3.5
Nthn group				
Manihiki	0.1	1.2	0.1	1.0
Penrhyn	0.2	0.6	0.0	0.4
Pukapuka	0.0	0.4	0.0	0.3

Table: Average number of domestic flights per week to Pa Enua in 2016 (Source: Airport Authority)

The NSDP (p56) suggests that benchmarks for aviation will be established subsequent to a study on transport services. This study has not been undertaken, but the following targets have been adopted for this indicator:

- the southern group - 3 flights per week
- the northern group - 0.5 flight per week (1 flight per fortnight).

Based on these targets, the frequency of the service is 'on track' for the southern group. For the northern group, it is 'of concern' overall though Manihiki is 'on track'.

Shipping

The table below shows the number of domestic shipping trips to the various Pa Enua in 2015 and 2016.

¹⁸ There are occasional international flights to and from the Pa Enua, particularly from Aitutaki, which is not included in this information.



Island	2015 # of trips	2016 # of trips
Southern group	45	44
Aitutaki	2	
Atiu	23	21
Mauke	21	18
Mitiaro	21	22
Mangaia	26	22
Northern group	21	17
Palmerston	12	6
Nassau	10	6
Pukapuka	10	6
Manihiki	15	11
Rakahanga	14	8
Penrhyn	13	7

Table: Domestic shipping trips to Pa Enua (by island), 2015 & 2016 (Source: Taio Shipping Ltd, Cook Islands Towage Ltd)

Aitutaki is serviced directly by international shipping, and is not dependent on domestic shipping for supplies.

It is considered that the southern group is adequately served by domestic shipping, given that there were 44 trips in 2016. Atiu, Mauke, Mitiaro and Mangaia all received 18 or more trips. The status of the indicator is therefore assessed as 'on track' for the southern group.

The northern group was unevenly served by domestic shipping in 2016. Overall there were 17 trips, but Palmerston, Nassau and Pukapuka only received six trips. For this reason the status of the indicator is assessed as 'of concern' for the northern group.



Goal 7: Improve health and promote healthy lifestyles


This goal looks to promote healthy lifestyles by examining health care services, the general health of Cook Islanders and their lifestyles including engagement through exercise and sports. The results for the Goal 7 indicators show mixed progress towards the goal. The rate of premature deaths from non-communicable diseases ('NCDs') is 'off track'. Health spending is below the levels recommended in the NSDP relative to overall government expenditure. The decline in the prevalence of confirmed sexually transmitted infections ('STIs') is 'on track'. The percentage of school aged youth involved in physical activity is 'of concern', as it is below the recommended level of 4 hours per week. Life expectancy for both males and females has remained near constant since 2013 with slight fluctuations including a slight decline between 2014 and 2015. The prevalence of NCDs is a challenge to future gains in life expectancy. It has been difficult to find data for the indicator related to mental health.

Indicator 7.1 Rate of premature deaths from NCDs

Introduction

This indicator measures the rate of premature deaths from NCDs and monitors the rate of annual change with the intent to reduce this rate over time. The four main NCDs are cardiovascular disease, diabetes, chronic respiratory diseases, and cancer.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	23.1%	23.9%			>2.5% annual decrease or consecutive yrs of dec.	
Date	2015	2016				
Source	National Health Information Bulletin 2015 & MOH advice: MOH					

Comments on methodology

MOH defines premature deaths as 'deaths that occur before a person reaches 70 years'. This is based on a WHO outcome indicator which measures the probability of deaths that occur before a person reaches 70 years. The data for this indicator is sourced from the National Health Information Bulletin which is published annually. This bulletin does not include information about the deaths of patients referred overseas, or information about non Cook Islanders.

The rate of premature deaths from NCDs is calculated using the life table methods, entering in the number of deaths by five year age group from selected NCDs among males and females aged 30-69. Due to the small number of deaths in a year, a five year period was selected to avoid as much as possible zero values within five year age groups.

Analysis

The table below sets out the rate of premature deaths from NCDs for 2015 and 2016. This indicates that in 2016 a 30 year adult had a 23.9 per cent probability of dying from the



selected NCDs before reaching their 70th birthday. The probability can be further disaggregated as 30.2 per cent for males, and 17.6 per cent for females. The status of this indicator has been assessed as 'off track' with a static (no change) trend.

Description	2015	2016
Rate of premature deaths from NCDs	23.1% 29% - for males 17% - for females	23.9% 30.2% - for males 17.6% - for females

Table: Rate of premature deaths from NCDs for 2015 and 2016 (Source: MOH)

The table below provides a further analysis of the causes of those deaths. In 2015, 80.5 per cent of all deaths of Cook Islanders in the Cook Islands were caused by an NCD. Heart disease is the main cause of death for the people of the Cook Islands over the past five years. Many of these NCD related deaths are preventable and premature.

Cause of death		% of all deaths
NCDs	Cardiovascular (heart) disease	34.7%
	Diabetes	19.5%
	Hypertension	12.7%
	Cancer	13.6%
	Chronic obstructive pulmonary (respiratory) diseases	8.5%
Non-NCD	Injuries and others	11.0%

Table: Percentage distribution of main causes of death, 2015 (Source: MOH)

The table below shows the increase in NCD related deaths between 2011 and 2015.

Cause of death	2011	2012	2013	2014	2015
NCD	64.8%	72.6%	72.3%	73.3%	80.5%
Other	32.4%	27.4%	27.7%	26.7%	19.5%

Table: Causes of death, 2011 to 2015 (Source: MOH)

MOH has recorded an average of 350 new NCD cases per year between 2012 and 2015. This is in correlation with an increase in unhealthy lifestyle choices including smoking, poor diet, harmful use of alcohol and physical inactivity.



Indicator 7.2 Health spending as a percentage of government expenditure

Introduction

This indicator looks at health spending as a percentage of government expenditure.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	9.17% \$13.6 million	8.55% \$13.8 million			>15%	○
Date	2015/16	2016/17				
Source	Government Budgets: MFEM					

Comments on methodology

This indicator is calculated by taking the MOH annual budget appropriations as a percentage of the gross total appropriations of the local budget. Funding from external sources, including development partners, is not included in this calculation but their contribution is mentioned in the analysis.

Analysis

Between 2015/16 and 2016/17 government funding to the MOH budget remained steady at 8.5 to 9 per cent of the total government annual budget appropriation.

In addition to the government appropriation, MOH received over NZD 675,000 in the 2015/16 and 2016/17 budgets from development partners such as New Zealand, Australia and WHO. Development partner funds are targeted to assist programmes such as:

- health specialist visits (approximately NZD 11,000 - Australia)
- NCD programmes (approximately NZD 11,000 per annum – SPC)
- HIV/TB programmes (approximately NZD 50,000 per annum – UNDP)
- health activities and capacity building for medical professionals (approximately NZD 150,000 per annum – WHO)

Due to the special relationship with New Zealand, effective and efficient overseas medical referral mechanisms have been maintained, also an important component of assistance. Medical referral statistics for 2016 were not available at the time of this report.

The indicator has been assessed as 'of concern', with a static (no change trend).



Indicator 7.3 Prevalence of sexually transmitted infections

Introduction

This indicator measures the percentage of tests annually that come back positive for a STI.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	1.24% of STI tests are positive				>2.5% annual decrease or consecutive yrs of dec.	↑
Date	2015					
Source	National Health Information Bulletin 2015: MOH					

Comments on methodology

The methodology calculates the number of laboratory confirmed STI cases as a percentage of the total STI tests performed for MOH annually.

Analysis

MOH advised that 38 (or 1.24 per cent) of the 3074 STI tests performed in 2015 were confirmed as positive for a STI. The status of the indicator has been assessed as 'on track' with a positive trend, as the number of positive STI tests has been declining since 2009.

The table below shows the laboratory confirmed STI cases by disease between 2008 and 2015. STIs continued to decline during this period from a total of 312 cases in 2008 to 38 in 2015. Chlamydia continued to be the most prevalent type throughout these years with females making over half of the total diagnosed. This is followed by hepatitis B, gonorrhoea and syphilis. There have been no HIV positive tests during this period.

STI	2008	2009	2010	2011	2012	2013	2014	2015
Gonorrhoea	72	56	23	29	8	6	2	1
HIV	0	0	0	0	0	0	0	0
Syphilis	1	2	2	2	7	0	0	1
Candida	39	70	35	30	72	7	4	0
Non Specific Urethritis	0	22	32	20	55	6	0	0
Trichomonas Vaginalis	16	13	18	9	15	9	1	0
Chlamydia	170	161	117	104	89	39	28	30
Hepatitis B	14	6	23	13	23	5	6	6
Total	312	330	250	207	269	72	41	38

Table: Laboratory confirmed new STI cases by disease 2008-2015 (Source: MOH)



Indicator 7.4 Youth engagement in physical activity and sports

Introduction

This indicator measures the extent to which young people (13 to 18 year olds) engage in physical activity and sports.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		36% were active for ≥ 60 mins / day on 5+ days over 7 days (13-18yrs)			≥4 hrs per week avg participation	O
Date		2016				
Source	Global School Health Survey: MOH					

Comments on methodology

The information for measuring this indicator has been taken from a global school based health survey undertaken in 2016 to gain more information about youth behaviour including physical activity, nutrition, dental and general hygiene, and social issues. Around 701 13-18 year old students were surveyed and the survey results included information about the weekly participation in vigorous physical activity. This survey is held every three years and is funded externally.

As the survey is of school students, it does not consider youth older than 16 who are not attending school. This is a limitation as the National Youth Policy 2015 defines youth as being aged between 15-24 years. The Census 2011 results identified that the youth (15-24 years) represented 15 per cent of the total Cook Islands population, with 72 per cent of youth living on Rarotonga. There is a need to consider expanding the collection of data about physical activity to include those aged 17-24 years. Physical activity has been identified as a priority area of the National Youth Policy 2015-2020 for 'Improving wellbeing and welfare'.

Analysis

Of the 701 students surveyed, results showed that 36 per cent of the 13-18 year old students were physically active for a total of at least 60 minutes per day on five or more days during the past seven days. Less than half of those surveyed indicated being engaged in physical activities for more than four hours per week. School programmes in the Cook Islands incorporate physical activities from early childhood levels to secondary. The status of this indicator is assessed as 'of concern'.



Indicator 7.5 Average life expectancy

Introduction

This indicator measures life expectancy at birth - that is the average number of years that a new born could expect to live, if they experienced mortality conditions prevailing at the time.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	Male 70.8 years Female 81.6 years				>6 months inc. or consecutive yrs of inc.	O
Date	2015					
Source	National Health Information Bulletin 2015: MOH					

Comments on methodology

This measure is conventionally calculated using life tables and is based on current age death rates in a given population. Separate calculations are given for male and female. The resulting values are used to estimate the likelihood of someone in a hypothetical population dying before their next birthday. These estimates are considered to be ceiling figures (maximum estimates), because if deaths of Cook Islands residents who die overseas were to be included in the calculations, life expectancies would be lower. Progress for this indicator is monitored by an annual assessment of changes in life expectancy at birth.

Analysis

As shown in the table below, the life expectancy at birth for the Cook Islands in 2015 was 70.8 years for males and 81.6 years for females. Women are living longer than men by 10.8 years. Data from the previous two years has been relatively constant with slight fluctuations.

Sex	2013	2014	2015
Male	71.7	71.8	70.8
Female	79.6	82.0	81.6

Table: Life expectancy at birth (Source: National Health Bulletin 2015)

OECD life expectancy data for 2014 determined that the median age for OECD countries is 79 years for males and 84 years for females. The global health observatory data published by WHO showed that the global life expectancy at birth in 2015 was 69.1 years for males and 73.8 years for females¹⁹. The life expectancy for the Cook Islands hovers between the OECD and WHO international or global life expectancy data. Life expectancy for women living in the Cook Islands appears to be better than Pacific and global data (see table and figure below). However, life expectancy for men living in the Cook Islands is lower compared to New Zealand non-Maori men, and Pacific men²⁰.

¹⁹ WHO global health observatory data

²⁰ New Zealand Period Life Tables 2012-2014: Statistics New Zealand



Location and Year	Men	Women
Global 2015	69.1	73.8
Pacific 2012-2014	74.5	78.7
Cook Islands 2015	70.8	81.6
NZ Non-Maori 2012-2014	80.3	83.9
OECD 2014	79	84

Table: Life expectancy at birth (years) by region

Women generally appear to have slightly higher life expectancy than men across all regions. Cook Island men and women have lower life expectancy compared to Pacific, New Zealand non-Maori and OECD countries.

The status for this indicator has been assessed as 'of concern' due to the slight decline (1.2 per cent) that has occurred in life expectancy for men between 2013 and 2015, and a 2.5 per cent increase in life expectancy for women during the same period. This change is small so the trend has been assessed as static (no change). However, the prevalence of NCDs is a challenge to achieving further increases in life expectancy. Heart disease is the main cause of premature deaths in the Cook Islands and has a major impact on reducing life expectancy.

Indicator 7.6 Number of people diagnosed with mental health disorders annually

Introduction

This indicator measures the number of reported mental health cases in a year. This indicator has been modified since the published NSDP to better match the information available and to be consistent with MOH reporting to WHO.²¹

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	29 cases				-	O
Date	2015					
Source	National Health Information Bulletin 2015: MOH					

Comments on methodology

The health information system managed by MOH does not yet quantify the prevalence of mental health disorders in the Cook Islands. However, the Cook Islands Mental Health and Wellbeing Policy 2015 notes that WHO World Mental Health Survey in 2014 identified global prevalence rates of mental disorder as 13 per cent (3 per cent severe; 10 per cent mild-moderate).

This indicator only reports on the prevalence of new mental disorder cases identified in a given year through the hospital system. There may be additional mental health cases being

²¹ The published NSDP Indicator was 'Percentage of mental health cases actively being treated'



managed by non-government agencies such as Te Kainga and Te Vaerua. It also does not provide information about the levels and degree of treatment for mental health disorders.

The Mental Health and Wellbeing Policy 2015 contains the following definitions of relevance to this indicator:

"Mental disorder - a medical condition that is characterised by significant disturbance of thought, mood, perception or memory and includes any mental illness

Mental illness - a disease of the mind"

A target has not yet been set for this revised indicator.

Analysis

In the National Health Information Bulletin, MOH reports 29 mental illness cases in 2015. This compares with 11 in 2014, and 37 in 2013. The National Health Strategic Plan 2017-2021 identifies actions and targets for improving mental health outcomes including through the implementation of the Mental Health and Wellbeing Strategy 2015, and the Suicide Prevention Strategy 2016-2021. These strategies recognise the need to improve collection of data on mental health so as to improve mental health service delivery, promotion and prevention strategies.

While the data provided for this indicator is not that meaningful, the status of the indicator has been assessed as 'of concern', as it is known that there is need to improve diagnosis and treatment for mental health disorders.



Goal 8: Inclusive and equitable quality education and promote life-long learning opportunities

Improving education outcomes is the key to achieving sustainable development across all sectors, including health, technology, environment, and justice. The results for the Goal 8 indicators show positive progress towards the goal in early childhood and secondary education. The literacy and numeracy rates for year 11 students are high at 93 per cent, and exceed MOE targets. The NCEA level 1 pass rates also exceed MOE targets. Enrolment in early childhood education is high at 98 per cent. Only 27 per cent resident population had vocational or tertiary qualifications in 2011, and this is 'off track'. The Census 2016 will provide some more recent data and give a better indication of trends. Education spending is below the levels sought in the NSDP relative to overall government expenditure.

Indicator 8.1 Literacy and numeracy rates

Introduction

This indicator measures the numeracy and literacy rates of young people in year 11 undertaking the National Certificate of Educational Achievement ('NCEA') level 1. This recognises that the ability to read, write and use a range of mathematical strategies in everyday life are basic skills everyone needs to participate and interact with the world around them.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	Literacy 83% Numeracy 88% (year 11)	Literacy 93% Numeracy 92.8% (year 11)			83%	↑
Date	2015/16	2016/17				
Source	MOE Statistics Report 2016					

Comments on methodology

The rates are based on three year averages and are assessed against the annual targets set by MOE. Literacy for this indicator focuses on the English language. The Cook Islands Maori literacy rate is assessed in Indicator 14.1 Cook Island Maori literacy rates.

Analysis

The table below shows the results for 2015/16 and 2016/17 compared with the targets set by MOE. The targets for subsequent years are also identified:



NCEA L1	2015/16		2016/17		2017/18	2018/19	2019/20
	Target ²²	Actual	Target	Actual	Target	Target	Target
Literacy	90%	83%	83.4%	93%	83.4%	85.6%	86%
Numeracy	90%	88%	83%	92.8%	83%	85%	86%

Table: NCEA Level 1 Literacy and Numeracy (Source: MOE)

Both literacy and numeracy rates have improved for 2016/17 compared with the previous year. The increase now places both literacy and numeracy rates above their annual targets as well as above the Education Master Plan target of 90 per cent by 2023. The status of this indicator has therefore been assessed as 'on track' with a positive trend.

Indicator 8.2 Early childhood education enrolment

Introduction

This indicator measures the proportion of children of eligible age that are enrolled in formal early childhood education programmes (preschool) from the age of eligibility (3 years). This recognises that involvement in early childhood education improves long term education outcomes.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	99% - gross enrolment rate	98% - gross enrolment rate			85%	↑
	97% - net enrolment rate	97% - net enrolment rate			90%	
Date	2015	2016				
Source	MOE Statistics Report					

Comments on methodology

This indicator assesses early childhood education enrolment against annual targets set by MOE. Rates are given as gross enrolment rates and net enrolment rates. The gross enrolment rate is the total early childhood education enrolment (regardless of age) as a percentage of the age eligible population (i.e. three and four year olds). Net enrolment rate is age eligible children enrolled (i.e. three and four year olds) as a percentage of age eligible population. An ideal result is a high net enrolment rate, with minimum difference between net enrolment rate and gross enrolment rate. It is possible for the gross enrolment rate to exceed 100 per cent, which would indicate that there are enrolled children older or younger than the target age of three and four years old.

²² The targets for 2015/16 were set in the MOE Statement of Intent 2011-2015. The targets were reset in the 2016-2019 Statement of Intent. This explains why the 2016/17 targets are lower than the 2015/16 targets.



Analysis

The table below shows the enrolment rates for 2015 and 2016, compared with the targets set by MOE.

Description	2015	2016	Target
Gross enrolment rate	99%	98%	85%
Net enrolment rate	97%	97%	90%

Table: Enrolment rates for early childhood education, 2016 and 2017 (Source: MOE)

Results show that the enrolment rates are well above the targets for the first two years. The movement of gross enrolment rate towards the net enrolment rate suggests that the correct cohort of young people are participating in early childhood education. MOE advises that there are still some communities and locations where participation and regular attendance could improve. MOE are working with early childhood education advisors and communities to address this. The status of this indicator has been assessed as 'on track' with a positive trend.

Indicator 8.3 National Certification of Educational Achievement, level 1 pass rates

Introduction

This indicator measures the percentage (by enrolment) of all year 11 students achieving NCEA level 1. This acknowledges that NCEA Level 1 is an important academic milestone for young people as it is the first qualification at school. NCEA is recognised by employers, and used for selection by universities and polytechnics at higher levels, both in New Zealand and overseas. When NCEA was first developed as a qualification in the early 2000s, it was intended to be an achievable qualification for 70 per cent of the population.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	76.8%	83%			72.5%	↑
Date	2015	2016				
Source	MOE Statistics Report 2016					

Comments on methodology

The indicator is measured against annual targets set by MOE. The Education Master Plan 2008-2023 sets a target for 75 per cent of students to achieve NCEA level 1 by 2023. The target for the New Zealand Qualifications Authority (NZQA) is for 70 per cent of students to achieve NCEA level 1.

Many student progress through the final years of secondary education taking programmes at multiple levels. They may achieve the qualification in a year that does not correlate to their cohort year at school.



Analysis

The indicator results for 2015 and 2016 are shown in the table below, together with the MOE targets.

2015		2016	
Actual	Target	Actual	Target
76.8%	70%	83%	72.5%

Table: Percentage (by enrolment) of all Year 11 students achieving NCEA level 1 (Source: MOE)

These results show that targets have been exceeded and achievement rates have improved between 2015 and 2016. The status of this indicator has been assessed as 'on track' with a positive trend.

Indicator 8.4 Percentage of population with vocational or tertiary qualifications

Introduction

This indicator measures the percentage of the resident population that has vocational or tertiary qualifications, including formal trade qualifications. This recognises the importance of appropriate qualifications in developing a skilled workforce.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	27% of resident population				>40%	🔴
Date	2011					
Source	Census 2011					

Comments on methodology

The information for this indicator is sourced from the Census 2011, but this should be updated once the Census 2016 information is available. Additional information could also be collected via a labour market survey. A labour market survey has already been identified as an appropriate method of collecting information for other indicators (eg Indicators 2.5, 9.3 and 13.3). Such a survey should include questions about vocational or tertiary qualifications.

Analysis

In the Census 2011, more than 27 per cent of the resident population indicated holding vocational or tertiary qualifications. Nearly 11.2 per cent of females had tertiary qualifications, compared to 9.7 per cent of males. For the resident population over 15 years, 24 per cent had a trade vocational or professional qualification. The proportion of people with qualifications was much higher in Rarotonga than in the Pa Enua. The proportion of people with secondary education was more than twice as high in Rarotonga as in the Pa Enua.

The NSDP (p57) suggests that in order for this indicator to be 'on track', more than 40 per cent of the population would need to have vocational or tertiary qualifications. On this basis



the indicator has been assessed as 'off track'. However this should be reassessed once the Census 2016 data is available.

A key constraint for post-secondary studies has been financial support. Incentives such as the scholarships programme, especially the in-country tuition awards, enable Cook Islanders to pursue tertiary and vocational education opportunities. Cook Islanders holding New Zealand citizenship also have access to New Zealand student loans and allowances. Based on census data, there has been a notable increase in the number of masters and doctorate qualifications, from three in 2006 to 172 in 2011.

There are opportunities to gain vocational and tertiary qualifications in-country, through the Cook Islands Tertiary Training Institute ('CITTI') and the University of the South Pacific (USP). Student enrolments at CITTI have increased from 63.5 full time equivalents ('FTE' - 8 hours per day) students in 2014 to 83.1 FTEs in 2015 (31 per cent increase). The core programmes include trades and technology, hospitality and services, hair and beauty and nursing (in collaboration with MOH). CITTI seeks to raise the skills level of the population through expanding post-school training options, increasing the range of qualifications on offer, and connecting training more directly to the needs of local industry. USP continues to provide academic programmes based on demand.

Indicator 8.5 Education spend as a percentage of government expenditure

Introduction

This indicator measures education spending as a percentage of government expenditure.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	13% \$19.4 M	12% \$19.3 M			>20%	○
Date	2015/16	2016/17				
Source	Government Budgets: MFEM					

Comments on methodology

This indicator is calculated by taking the MOE annual budget appropriations as a percentage of the gross total appropriations of the local budget. This includes budget support to MOE from the New Zealand government. Funding from other external sources and development partners is not included in this calculation, but their contribution is mentioned in the analysis.

Analysis

Between 2015/16 and 2016/17, there was a one per cent decline in MOE's share of government's total budget appropriations from 13 per cent (\$19.4 M) to 12 per cent (19.3 M). In addition to the government appropriation, MOE managed approximately NZD 300,000 (2015/16 to 2015/17 budgets) from development partners such as UNESCO (Participation programmes, NZD 240,000) and Turkey (for computers for health and education purposes, NZD 60,000). The funding was to support programme initiatives that impact on education outcomes. The status of the indicator has been assessed as 'of concern' with a stable ('no change') trend.



Goal 9: Accelerate gender equality, empower all women and girls, and advance the rights of youth, the elderly and disabled

This goal focuses on structural and societal barriers that inhibit gender equality. It also seeks to promote and protect the rights of people who are vulnerable i.e. youth, the elderly and those who live with disabilities. The results for the Goal 9 indicators show little progress towards the goal. Women remain underrepresented at the political level accounting for only 15 per cent of Members of Parliament and Islands Councillors. There has been a gender pay gap with men earning more than women but that gap has narrowed between the 2001 and 2011 censuses. The Census 2016 will provide more up to date information and may show a further closing of the gap as 2016 information for the public sector shows that on average women in that sector earn more than men. The indicator relating to youth wellbeing has not been reported on. There is a continuing need to make public facilities such as community centres and commercial buildings more accessible to people with a disability or impaired mobility.

Indicator 9.1 Percentage of political representatives that are women

Introduction

This indicator measures the percentage of Members of Parliament (MP) and Island Councillors that are women.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		15% of MPs and Island Councillors			>45%	❌
Date		2017				
Source	Cook Islands Parliament and Pa Enua Governance-OPM					

Comments on methodology

Seats in parliament or the island council are held for four years so progress can only be measured every four years unless there is a by-election.

Analysis

The table identifies the percentage of Members of Parliament and Island Councillors who were women in 2016:

	Percentage of women (2015)
Members of Parliament	17% (four of 24 seats)
Island Councillors	14% (eight of 56 seats)
Total	15% (12 out of 80 seats)

Table: Percentage of elected representatives who are women at 2015 (Source: Parliament and PEG-OPM)



The status of this indicator is assessed as 'off track'. To improve female representation at the political level, there is a need to take a collaborative approach. This should involve the relevant parts of government with interest in governance and gender issues, and NGOs such as the National Council of Women. With the upcoming review of the national gender policy and strategic plan, this should be a priority area to consider further. As a positive, it is noted that the Speaker of the House is a woman. However, this is an appointed, rather than elected, position.

As well as considering the rates of representation for women, it would be useful to also consider the number of women standing for election at both local and national elections. This would provide information about the extent to which Cook Island women are actively seeking election.

Indicator 9.2 Youth wellbeing index

Introduction

This indicator assesses the relative wellbeing of young people.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		-			60-100% (degree of wellbeing)	-
Date		-				
Source	-					

Comments on methodology

The intended methodology for this indicator is to measure youth wellbeing through a survey which asks youth about the following:

1. Optimism about future opportunities
2. Current self-perception of individual wellbeing
3. Engagement in the community.

The NSDP suggests the questions could be asked of youth through a school health survey. CPPO-OPM has had discussions with MOH and MOE about including appropriate questions in the design of the next school survey.

One of the limitations of relying on a school based survey, is it would not include youth who are not attending school which includes most youth older than 16. This is considered a limitation as the Cook Islands National Youth Policy 2015 defines youth as those who are aged between 15-24 years.

Analysis

This indicator is not reported on for Year One.



Indicator 9.3 Income disparity between men and women

Introduction

This indicator measures the relative pay gap between men and women.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	21% male to female pay ratio (using median income)				>0.95:1	⬆️
Date	2011					
Source	Census 2011					

Comments on methodology

This indicator measures the relative pay gap as a male to female pay ratio²³. The Census 2011 has been used but this should be updated once the Census 2016 information becomes available. The gender pay ratios for the public service in 2016 have also been considered, as the public service is a significant employer. The public service information is based on 1847 total employees (939 female, 908 male), including heads of government agencies (10 female, 36 male) and Pa Enua employees (244 female, 376 male).

Additional information could also be collected via a labour market survey. A labour market survey has already been identified as an appropriate method of collecting information for other indicators (eg Indicators 2.5, 8.4, 9.2 and 9.3).

Analysis

The table below compares the male and female incomes (both median and average) from the censuses in 2001, 2006 and 2011. This will be compared with the Census 2016 once it is available. The income gap between male and female pay remains, however the disparity has been narrowing from 2001 to 2011.

		2001	2006	2011
Median income (gross) - residents 15 years and over with an income	Male	10,152	12,763	11,845
	Female	7,201	10,441	9,362
	Male to female pay ratio	29%	18%	21%
Average income (gross) - residents 15 years and over with an income	Male	14,690	17,171	17,011
	Female	10,495	13,693	13,574
	Male to female pay ratio	29%	20%	20%

Table: Comparison of male and female incomes, 2001, 2006 and 2011 (Source: Censuses)

²³ average (or median) male pay minus average (or median) female pay) / average (or median) male pay * 100



The 2016 gender pay information for the public sector shows that women on average are earning six per cent more than men across the sector. In the Pa Enua, women employed in the public sector earn on average 36 per cent more than the men. Although a third of the heads of agencies are women, on average, they are earning three per cent more than men. This shows that using average incomes, women have achieved of pay parity in the public sector.

In the absence of Census 2016 data, this indicator has been assessed as 'of concern' with an upward trend, based on 2011 information. However the gender pay gap reduced between 2001 and 2011, and has already been closed for the public sector which accounts for one third of the labour market. It is therefore likely that the 21 per cent national gap will have narrowed further.

Indicator 9.4 Number of fit for purpose facilities for the infirm, elderly and disabled on each island

Introduction

This indicator assesses the number of public facilities such as community centres and commercial buildings that are considered appropriate or fit for purpose for the elderly, infirm and disabled on each island.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	Rarotonga: 7 Full access 76 Full/Partial access Pa Enua: 1 Full access (Pukapuka)				≥90% island & community centres with appropriate facilities	O
Date	2012					
Source	INTAFF					

Comments on methodology

INTAFF has provided information about the level of disability access to public community centres. The information provided does not consider the extent to which support programmes are provided to vulnerable people such as the elderly, infirm and disabled.

Analysis

In 2012 INTAFF undertook an audit of 101 publicly accessible buildings on Rarotonga to determine their level of disability access. The results show that 7 per cent of the buildings audited have full disability access.



Location	Buildings audited	#	Services provided	Accessibility
Tupapa	National Auditorium	1	National functions	Full access
Nika'o	Telecom Sports Stadium	1	National sports	Full access
Tupapa	Red Cross	1	Multi-purpose	Full access
Arorangi	Hospital	1	Health services	Full access
Avarua (CBD)	Public Toilets	3	Public conveniences	Full access
Rarotonga	National Library	1	Information/research	Full access/Partial
Rarotonga	Primary/Secondary	13	Primary/Secondary Schools	Full access/Partial
Rarotonga	Community Halls	4	Multi community functions	Full access/Partial
Rarotonga	Church Buildings	16	Faith gatherings	Full access/Partial
Tupapa	Island Hostels	8	Multi-community purposes	Full access/Partial
Rarotonga	Hotels/Resorts	8	Accommodation	Full access/Partial
Rarotonga	Restaurants	7	Dining	Full access/Partial
Rarotonga	Supermarkets/Shops	19	General shopping	Full access/Partial
Avarua	Banks	3	Commercial	Partial
Tupapa	Community Outpatients	1	Health consultations	Partial
Tupapa	Dental	1	Dental services	Partial
Matavera	CI Soccer Association complex	1	Soccer sports	Partial
Avarua	Cinema Theatre	1	Movies	Partial
Tutakimoo	Bluesky	1	Communications	Partial
Avarua	Government Offices	10	Public Services	Partial/None
	Total number:	101		

Table: INTAFF audit of publically accessible buildings on Rarotonga 2012 (Source: INTAFF)

For the purposes of this audit, INTAFF has used the following definitions for determining full or partial access:

- **Full access** – The building is fully accessible to persons with disabilities or the elderly, particularly wheelchair users, from the door entry to the facilities in any public building. The building may have ramps at entrance, or the building is at ground level where a wheelchair user can manoeuvre into the building
- **Partial access** – Part of the building is accessible e.g. the doorway has a ramp at the entrance of building but the convenience facility is not accessible.

INTAFF advise that for the Pa Enua only Pukapuka is considered to have a fit for purpose community centre for the infirm, elderly or disabled. Facilities on the other Pa Enua have significant access and egress challenges.

The Cook Islands Building Code is currently being reviewed and this is expected to mandate improved disabled access for new public buildings.



As part of their 2012 audit, INTAFF assessed 10 government offices in Avarua which provide public services and found that the disabled access was partial or none. This is probably reflective of the age of the buildings but is something that needs to be improved in the future to support progress towards this goal.

There is a lot of work required to ensure that publicly accessible buildings provide adequate disability access. For this reason, the status of this indicator has been identified as 'of concern'.



Goal 10: Achieve food security and improved nutrition, and increase sustainable agriculture

This goal recognises that agriculture is an important part of the future sustainability of the Cook Islands. Local food production supports improved food security and better nutrition. The results for the Goal 10 indicators provide limited information about progress towards the goal, as two indicators have not been reported on. There is limited reliable data to measure the percentage of food purchased that is produced locally or total food production. Information on agricultural and food imports from 2011 indicates increased reliance on imported foods but more up to date data is needed. The use of land for agriculture has been declining due to building development, particularly on Rarotonga. Therefore this indicator is assessed as 'of concern'. There have been zero reported biosecurity outbreaks in 2016/17 and this indicator is assessed as 'on track'. Overall there are mixed results for this goal.

Indicator 10.1 Percentage of all food purchased that is produced locally

Introduction

This indicator measures how much of the food purchased in the Cook Islands (as a percentage) is produced locally rather than imported. This recognises the role of the agriculture in producing food for the local market thereby reducing the demand for imported food. Successfully producing more of the food consumed will help grow the agriculture industry, reduce expenditure on imports and improve food security.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	-				>2% annual increase, or consecutive yrs of inc.	O
Date	-					
Source	-					

Comments on methodology

There is a lack of information for this indicator. Some 2011 data about total agricultural imports has been considered. Once it is analysed, the HIES 2016, should provide more insight into food expenditure trends and the level of reliance on imported vegetables and meat products.

Analysis

According to the Agriculture Census Report 2014, total food imports have increased by 29 per cent from 2001 to 2011. This includes a 62 per cent increase in vegetable imports during the same period. It is likely that this was the result of increased tourist numbers creating greater demand that could not be met by domestic supply. This indicator is assessed as 'of concern'.



Indicator 10.2 Total food production

Introduction

This indicator measures total food production. This recognises the desirability of increasing food production to provide jobs and other economic opportunities to communities, provide quality nutritious foods for locals and tourists, reduce reliance on food imports, and support better health outcomes.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	-				>2% annual increase, or consecutive yrs of inc.	○
Date	-					
Source	-					

Comments on methodology

MOA has provided 2012-13 information about fresh produce sold at the Punanga Nui market and at roadside markets collected through fortnightly surveys. Crop data was collected for Rarotonga every 6-8 weeks via a survey. This information has been reported through the Agriculture Bulletin, Agriculture Field Reports, and a bi-monthly crop survey. However, more recent data is needed for this indicator. MOA intend to use domestic market price and volume data to monitor food production trends for the next indicator report.

Analysis

In 2012-13 it was estimated that 4,300 to 5,000 kg of local food crops were bought and sold at Punanga Nui market weekly. Approximately 180-240 tonnes of local produce were bought and sold in 2012-13 on Rarotonga. These survey results showed a slight increase in local food production to meet local demand, particularly on Rarotonga. However, it is anticipated the Cook Islands will continue to rely on imported produce to supplement local food supply. This indicator is assessed as 'of concern'.

Indicator 10.3 Total land used for agriculture

Introduction

This indicator measures the amount of land used for agriculture. This recognises that changing lifestyles and development pressures, particularly on Rarotonga, are resulting in the conversion of arable land to other purposes.



Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	12.6% of total land area				≥0% annual increase in consecutive years	↓
Date	2011					
Source	Agriculture Census 2011 (report dated 2014): MOA					

Comments on methodology

This indicator uses information from the last Agriculture Census, held in 2011 and reported on in 2014. The first such census was undertaken in 1988, and the second in 2000. It is therefore not expected that data on this indicator will be collected on an annual basis.

Analysis

In 2011, approximately 1,953 ha or 12.6 per cent of the total land area of the Cook Islands²⁴ was being used for agricultural purposes (arable and permanent crops). A high proportion of arable land is not available for agriculture. The 1988 Agriculture Census indicated the total area of agriculture production at 2,800 ha (12 per cent of total land) representing 20 per cent of all arable land. By 2000 this had fallen to 2,390 ha (10 per cent of total land), the fall being attributed to non-agricultural use, mainly private and commercial building construction, sports fields and other recreational uses. The latest statistics in 2011 found that approximately 8.4 per cent of the total land area is arable land, 4.2 per cent is used for permanent crops (such as fruit trees), 64 per cent is forest coverage, and 27 per cent is used for other purposes such as roading or housing.

These statistics show a 2 per cent decrease in the total land used for agriculture purposes from 1988 to 2000, with a further 2.4 per cent decrease between 2000 and 2011. There has been an approximate 0.21 per cent annual decrease in total land used for agriculture purposes from 2000 to 2011. It is likely that this trend will continue as more prime agricultural land is being developed for building purposes, particularly on Rarotonga. This indicator is assessed as 'of concern' with a negative trend as the total land used and reserved for agricultural purposes continues to decline.

Indicator 10.4 Number of reported biosecurity outbreaks

Introduction

This indicator tracks the annual occurrence of reported cases of biosecurity outbreaks for invasive species or diseases. This recognises that one of the main risks to agriculture is biosecurity threats, such as fruit fly, that come from abroad.

²⁴ the total land area of the Cook Islands is 23.261 ha



Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		zero			zero	🟢
Date		2016/17				
Source	Quarantine Office reports: MOA					

Comments on methodology

There are no comments on the methodology.

Analysis

There were no reported cases of biosecurity outbreaks for 2016/17 and this indicator is assessed as 'on track'.



Goal 11: Promote sustainable land use, management of terrestrial ecosystems, and protect biodiversity

This goal recognises the importance of sustainable land management practices, and the conservation and protection of biodiversity. The Goal 11 indicators generally show a lack of progress towards the goal. This is a wide ranging goal and the indicators chosen to measure progress give a very limited snapshot of the state of the environment. The status and trend for wetlands on Rarotonga is 'off track'. The spatial extent of protected land is 'of concern' but improving. All three species considered for the biodiversity indicator are 'of concern' though there has been an improvement for Kākerōri. Achieving Goal 11 is a significant challenge, particularly on Rarotonga, where the development pressures are greatest.

Indicator 11.1 Changes in wetland areas

Introduction

This indicator measures the spatial extent of wetland areas. This recognises the importance of these areas to the natural environment, and their vulnerability to development.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	114.4 Ha wetlands 190.9 Ha swamps Rarotonga only				≥0% annual increase in consecutive years	↓
Date	not specified					
Source	SOE Report (Draft), 2016: SPREP					

Comments on methodology

The information for this indicator is from the draft Cook Islands State of the Environment Report ('SOE Report'), 2016. The date for the information about wetlands is not clear from the SOE Report. The information is for Rarotonga only, but these are the wetlands which are under most pressure from development. The data provides information about the spatial extent of wetland areas, gives some information about the environmental quality of those wetlands.

Analysis

The SOE report notes as follows:

"Rarotonga has 114.4 hectares of wetlands and 190.9 hectares of swamps. The four main types of wetlands in the Cook Islands include freshwater marshes and swamps on Rarotonga, Mangaia, Atiu, Mitiaro and Mauke; permanent freshwater lakes with Lake Tiriara on Mangaia, Lake Tiroto on Atiu, and Lake Rotonui and Rotoiti on



Mitiaro; a tidal salt marsh at Ngatangia Harbour on Rarotonga and mountain streams on Rarotonga.²⁵

The SOE Report should be referred to for more detailed evaluation of the state of wetlands, including recommended responses. The SOE Report summarises its key findings for wetlands as follows:

"Wetlands provide important ecosystem services including water filtration and storm buffering, and are important habitats for taro (*Colocasia esculenta*) cultivation and a rich biodiversity of freshwater species. There are four main types of wetlands in the Cook Islands: freshwater marshes and swamps, freshwater lakes, mountain streams and a tidal salt marsh. While already limited in number and an important component of freshwater habitats, wetlands are under threat from development pressures, invasive species, climate change pressures (saltwater inundation and cyclone-caused flooding) and illegal solid waste disposal. Focused stewardship is needed to maintain the habitat diversity and services that they provide.²⁶"

The SOE Report, identifies the status and trend for wetlands as follows²⁷:

Status: Poor
Trend: Deteriorating
Data confidence: Low

Based on this, the indicator has been assessed as 'off track' with a negative trend.

NES intend to complete a more detailed and up to date analysis of wetland areas on Rarotonga in 2017. This is being done as part of the Ridge to Reef Project and will inform the next indicator report.

Indicator 11.2 Areas of land protected

Introduction

This indicator measures the spatial extent of land which is protected. It recognises that there are areas of land which warrant specific protection from inappropriate use or development due to their significant environmental or cultural values.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	6% of the land area of the Cook Islands				≥0.5% annual increase, or consecutive yrs of inc.	⬆️
Date	2011					
Source	SOE Report (Draft), 2016: SPREP					

²⁵ Cook Islands State of the Environment Report (Draft), Apia, Samoa (p75) SPREP, 2016.

²⁶ *ibid*, p66

²⁷ *ibid*, p66



Comments on methodology

This indicator focuses on the spatial extent of land protected. There is also a need to consider whether the areas are effectively managed for conservation. The information for this indicator is from the draft SOE Report, 2016.

Analysis

The SOE Report uses a 2011 report by the Cook Islands to identify the country's terrestrial protected areas (PAs), as follows:

"There are 14 terrestrial PAs, which total at least 1,407.2 hectares (five PAs are uncalculated), or about six per cent of the Cook Islands' total 240 km² land mass. Terrestrial PA are concentrated in a few locations. Three of the 15 islands in Cook Islands are wildlife reserves (Suvarrow, Takutea and Manuae), almost 40% of the terrestrial PAs are represented by four motu on Pukapuka, and three of Rarotonga's four PAs make up 36% of total terrestrial PAs. The PAs include private nature reserves, conservation areas, entire island and motu PAs (Suvarrow Island and Pukapuka's motu), a wildlife sanctuary (Takutea Wildlife Sanctuary), National Parks and Reserves, and community managed areas.²⁸"

The SOE Report further notes that only three of the 14 terrestrial protected areas are covered by formal government legislation and regulations. They are Suvarrow National Park Declaration, Takutea Island Regulations and Takuvaie Water Catchment Regulations.²⁹

The SOE Report, identifies the status and trend for terrestrial protected areas as follows³⁰:

Status:	Fair
Trend:	Improving
Data confidence:	Medium

Based on this, the indicator has been assessed as 'of concern' with a positive trend.

The Aichi target (Convention on Biological Diversity) is to have 17 per cent of the land mass protected by 2020. A further 11 per cent would need to be declared as protected areas to meet this target. The International Union for the Conservation of Nature (IUCN) defines a protected area as:

"a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long term conservation of nature with associated ecosystem services and cultural values.³¹"

The SOE Report should be referred to for more detailed evaluation of the protected areas, including recommended responses.

²⁸ *ibid*, p127

²⁹ *ibid*, p127

³⁰ *ibid*, p66

³¹ <https://www.iucn.org/theme/protected-areas/about>
(accessed 7/04/2017)



Indicator 11.3 Biodiversity loss

Introduction

This indicator monitors key endangered species which are valued for their contribution to biodiversity.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result						
Kākerōri ³²	Fair status Improving trend 414+ Rarotonga 156 Atiu				Inc. or no change in prevalence of endangered species	↑
Tamanu ³³		Unknown status Deteriorating trend			As above	↓
Pa'ua ³⁴		Fair status Mixed trend			As above	○
Date	2015	2016				
Source	SOE Report (Draft), 2016: SPREP (Data for Kākerōri is based on a 2015 count)					

Comments on methodology

The information for this indicator is from the draft SOE Report, 2016. The SOE Report notes that the Cook Islands has many endangered and endemic species, and chooses three threatened species as case studies - Kākerōri, Tamanu, and Pa'ua.

Analysis

Kākerōri

The SOE Report advised that the latest count in 2015 of the Kākerōri showed 414+ individuals on Rarotonga and 156 individuals on Atiu. The trend was described as 'improving' due to conservation efforts from the Takitumu Conservation Area. Threats remain and continued management for both species and habitat is needed to maintain and increase population numbers.³⁵

For this report, this component of the indicator has been assessed as 'of concern' with a positive trend.

³² Rarotongan Flycatcher, *Pomarea dimidiata*

³³ Polynesian mahogany, *Calophyllum inophyllum*

³⁴ Small giant-clam

³⁵ *op cit*, SPREP, 2016. p123



Tamanu

The SOE Report described the current population of Tamanu as 'uncommon to common'. The trend was described as 'undetermined to deteriorating' noting that limited data was available. Continued management will be required to ensure that the numbers stabilise.³⁶

For this report, this component of the indicator has been assessed as 'of concern' with a negative trend.

Pa'ua

The SOE Report described the current population of pa'ua as 'unknown'. The SOE Report³⁷ describes the trend as 'mixed' as the population varies in the different islands. It is assumed that the population in the northern group is improving, and that in the southern group it is either deteriorating or stable. Focussed management is essential to recover and maintain numbers of this species.³⁸

For this report, this component of the indicator has been assessed as 'of concern' with a static (no change) trend.

Additional information

More detailed evaluations and recommendations for these three key endangered species are found in the SOE Report.

³⁶ *ibid*, p124

³⁷ *ibid*, p125

³⁸ *ibid*, p125



Goal 12: Sustainable management of oceans, lagoons and marine resources

This goal reflects a commitment to ensure our oceans, lagoons and marine resources are protected, managed effectively, and sustainably used for future generations. The results for these Goal 12 indicators shows mixed progress towards the goal. The state of the reef, as measured by coral coverage, is 'of concern' but improving. With the passing of the Marae Moana Act 2017, the extent of the marine protected areas as a percentage of the Exclusive Economic Zone is 'on track'. The tuna catch is well below maximum sustainable yields and therefore 'on track'. Lagoon water quality is 'of concern'. Economic returns from oceanic and lagoon resources are 'on track' but with a negative trend.

Indicator 12.1 State of the reef

Introduction

This indicator measures the percentage of live coral cover as a sign of reef health.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	27% avg coral cover for sthn group	26% coral cover for Rarotonga			Statistically significant improvement; or consecutive yrs of improvement	⬆️
Date	2013	2016				
Source	1. Coral reef survey of Aitutaki, Manuae, Mitiaro, Takutea and Atiu in the Southern Cook Islands 2013 2. Reef Resources Assessment and Feasibility Study of Penrhyn Lagoon 2015 3. Rarotonga fore reef community survey 2016.					

Comments on methodology

Information for this indicator is gained from surveys of selected sites on various islands - Atiu, Manuae, Mitiaro, Takutea, Aitutaki (surveyed in 2013); and Rarotonga (surveyed in 2016). A limitation is the absence of data for all islands in the Cook Islands. MMR is currently collecting data for Penrhyn and Pukapuka for species on the reefs, but not for coral coverage³⁹. While there is no previous data on coral cover on the outer reef at Penrhyn to

³⁹ For Penrhyn (2015), assessments of the status and cover of benthic habitats were conducted using a photo-quadrat approach at the same locations and transects as the finfish assessments, and were conducted immediately after the finfish surveys. The habitat photographs were analysed using SPC software, which is similar to the Coral Point Count (CPC) analysis software by Kohler and Gill (2006). Using this software, five randomly generated points were created on the downloaded photographs. The substrate under each point was identified based on the following 11 substrate categories.



assess changes over time, MMR has noted that the cover of live hard coral at Penrhyn was generally higher than that recorded using comparable methods elsewhere in the region⁴⁰.

The table below shows the Coral Reef Health Criteria developed by Chou *et al*⁴¹, 1994, which can be adopted to Cook Islands reefs. It is a simple method of assessment, however, MMR also uses other more comprehensive methods such as surveys of invertebrate, finfish and benthic habitats.

Percentage of live coral cover	Rating
0-25 %	Poor
26-50%	Fair
51-75%	Good
76-100%	Excellent

Table: Rating for percentage coral cover

Analysis

Reefs play an important role in protecting islands and communities from the impacts of climate change. Reefs are an important habitat for local biodiversity and also a protective buffer against ocean currents and waves. They provide food and medicinal products, support recreational activities, and are a major attraction for tourists.

From the survey conducted in the southern group in 2013⁴², the average coral cover was estimated at 21 per cent for Atiu, 33 per cent for Manuae, 34 per cent for Mitiaro and 22 per cent for Takutea. Though limited historical data and baseline exists for these islands, it seems that the state of the reefs are 'Fair' with good coverage of hard corals. However, Aitutaki reefs showed a significant decline in coral health ('Poor') since the last survey conducted in 2008, particularly on the fore reef. Recent crown of thorns starfish ('COTS') outbreaks are a contributing factor to the decline in reef health in Aitutaki.

The reef around Rarotonga suffered an invasion of COTS from 1995 to 2001. A coral reef survey conducted in 2016 by the Climate Change Division of OPM reported an improvement in mean coral coverage since the early 2000s from one per cent in 2006 to 26 per cent in 2016⁴³. In addition, it was reported that the coral size class data showed a significant increase of larger colonies in 2016 compared to 2006, indicating recovery occurring. This may be partially due to people refraining from fishing due to fears of ciguatera poisoning, allowing herbivorous fish species that are normally targeted for food to facilitate the recovery of reefs.

Subsequent to the Rarotonga survey in 2016, a severe warming of the region from November 2016 to May 2017 resulted in a severe bleaching event noted from Palmerston to Mangaia. Although the impact of this bleaching event is yet to be determined, it is likely that current reef health in the southern Cook Islands has been compromised. Similarly, a severe bleaching event associated with the 2015/16 El Niño event was noted throughout the

⁴⁰ e.g. 27.7±2.0 percent cover at Abemama Atoll, Kiribati (Kiareti et al. 2015); 19.1±2.1 per cent cover at Majuro Atoll, Marshall Islands (Moore et al. 2014a); and 48.6±2.9 % cover at Funafuti Atoll, Tuvalu (Moore et al. 2014b).

⁴¹ Chou, L.M., C.R. Wilkinson, W.R.Y. Licuanan, P.M. Aliño, A.C. Cheshire, M.G.K. Loo, S. Tangjaitrong, A.R. Ridzwan and Soekarno, 1994. Status of coral reefs in the ASEAN region. p. 1-10. In : Wilkinson, C.R., S. Sudara and L.M. Chou (eds.) Proceedings Third ASEAN-Australia Symposium on Living Coastal Resources. Vol. 1: Status Review. Chulalongkorn University, Bangkok, Thailand.

⁴² Coral reef survey of Aitutaki, Manuae, Mitiaro, Takutea, and Atiu in the southern Cook Islands.

⁴³ Rarotonga fore reef community survey 2016, Rongo et.al



northern Cook Islands. Thus, reefs throughout the Cook Islands are likely degraded at present.

This indicator has been assessed as 'of concern' with a positive trend. However, it is noted that there is work in progress for Penrhyn and Pukapuka. In addition, coral cover was reported as 'Fair' for the southern islands surveyed (Atiu, Manuae, Mitiaro and Takutea) with the exception of Aitutaki which was 'Poor'.

Indicator 12.2 Areas of protected Exclusive Economic Zone

Introduction

This indicator measures the extent of marine protected areas as a percentage of the Exclusive Economic Zone (EEZ).

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		Marine protected areas of EEZ 16%			10%	↑
Date		2016				
Source	Marae Moana Office					

Comments on methodology

This indicator assesses the extent of the areas established beyond each island that are fully protected by law under the Marae Moana Act 2017 ('the Act'). The United Nations' definition for 'proportion of marine area protected is "the share of national marine area (territorial water plus exclusive economic zones) that has been reserved by law or other effective means to protect part or all of the enclosed environment". Because the Act has established the entire Cook Islands territorial waters and Exclusive Economic Zone ('EEZ') as a multiple-use marine protected area, there is a need to define what further protection is required to meet the criteria of 'fully protected' for the purposes of this indicator. The Act defines 'marine protected areas' as areas where "seabed minerals activities and large scale commercial fishing in the area are prohibited, but other ecologically sustainable uses are permitted." If not well managed, large scale commercial fishing and seabed mining are potentially harmful activities. This definition is considered sufficient until there are additional potentially harmful activities imminent in the Cook Islands territorial waters and EEZ. Under the Act, these activities may be prohibited through the establishment of further marine protected areas (section 25) or through the development of a National Marae Moana Spatial Plan (section 22) or Island Marine Spatial Plan (section 26).

The global benchmark is Aichi Biodiversity Target 11 which requires that by 2020, 10 per cent of marine areas are conserved through 'effectively and equitably managed, ecologically representative and well connected systems of protected areas and other area based conservation measures and integrated into the wider landscape and seascape'. This will be used as the NSDP benchmark.



Analysis

The total area of the Cook Islands EEZ is 1,997,000km². Marine protected areas around each island extend 50 nautical miles (nm) from the Mean Low Water Mark and total 324,000 km² in area. This accounts for 16 per cent of Cook Islands marine space that is fully protected exceeding the 10 percent global benchmark. This needs to be monitored systematically to ensure compliance across the Cook Islands EEZ especially in the North West region (around Pukapuka). The indicator has been assessed as 'on track' with a positive trend.

Indicator 12.3 Percentage of yield against sustainable benchmarks

Introduction

This indicator measures the reported catch of licensed fishing vessels against 'sustainable limits' established by the South Pacific Community ('SPC'). This acknowledges the use of ocean resources for economic benefits while recognising the need to ensure the sustainability of commercial fishing practices within Cook Island waters.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		Below Maximum Sustainable Yields (tuna catch only)			Below Maximum Economic Yield ⁴⁴	🟢
Date		2015/16				
Source	Annual Offshore Fisheries Report 2015; Government Budget book 1 (2017/18); HYEFU 2016/17					

Comments on methodology

SPC establishes sustainable limits based on scientific research and updates them every two years. For the purpose of this indicator, only the catch of tuna species is considered. Catch estimates are generated using log sheet data from the fishing vessels. Reported catches are raised using Vessel Monitoring System (VMS) data where log sheet coverage is less than 100 per cent. In this instance, log sheet coverage for all trips undertaken in zone is 100 per cent for Cook Island flagged vessels and 89 per cent for foreign flagged vessels⁴⁵.

The maximum sustainable yield limits for the Western and Central Pacific Ocean ('WCPO') are taken from the 2015 Tuna Fisheries Status of Stock report. In June 2017, MMR established national total quota allocations for albacore and big eye tuna. This information is set out in the table below:

⁴⁴ this target will need to be revised for the next indicator report.

⁴⁵ MMR, Cook Islands Offshore Fisheries Annual Report 2015, p4.



Species of tuna	Maximum sustainable yield for Western & Central Pacific Ocean (metric tonnes - mt)	National total quota allocation for Cook Islands - established 2017 by MMR (metric tonnes)
Albacore	76,800	9,750 (12% of the WCPO Maximum Sustainable Yield)
Big eye tuna	108,520	3,500 (3% of the WCPO Maximum Sustainable Yield)
Skipjack	1,891,600	-
Yellow fin	586,400	-
Total	2,663,320	

Table: Maximum Sustainable Yield for tuna in Western and Central Pacific Ocean compared with national quota for the Cook Islands (Source: 2015 Tuna Fisheries Status of Stock report, and MMR)

Analysis

In 2015/16, the overall fishery catch shows an 11 per cent decrease in primary tuna species and other species (by catches) compared with 2014/15. This can be attributed to the decrease in total fishing effort in 2016 (90 vessels) compared with 2015. In 2014/15, the total albacore catch was 3,818mt which decreased to 2,436mt in 2015/16. In 2014/15, the big eye tuna catch was 780mt which decreased to 367mt in 2015/16. Both are well below the national quotas which MMR has since identified for these species (9,750mt for albacore, and 3,500mt for big eye tuna). In addition, skipjack catches had a 5 per cent marginal increase in 2016 compared with 2015.

Species	2014/15			2015/16		
	Longline	Purse Seine	Local	Longline	Purse Seine	Local
Albacore	3,816	0	2	2,434	0	2
Big eye	576	204	0	354	13	0
Yellow fin	1,190	823	71	808	533	117
Skipjack	134	11,874	12	123	12,431	14
Other	541	0	57	363	21	30
Total	6,257	12,901	142	4,082	12,998	163

Table: Fishery catches in the Cook Islands EEZ by species (tonnes) (Source: HYEPU 2016/17)

From a regional perspective, the Cook Islands overall tuna catches in 2014/15 and 2015/16 make a minimal contribution to the total tuna catch for the WCPO. The highest yield of fishery catches for the Cook Islands against regional and national benchmarks has consistently been albacore and skipjack tuna. In 2014/15, albacore catches in the Cook Islands accounted for 4.97 per cent of the total WCPO albacore levels. This decreased to 3.17 percent in 2015/16 which can be attributed to the overall low fishing effort for that year.

The introduction of a quota system for the Cook Islands will provide greater control on the aggregate amount of fish caught and ensure it does not exceed the maximum sustainable yields.



Species of tuna	2014/15		2015/16	
	WCPO MSY	CI national quota	WCPO MSY	CI national quota
Albacore	4.97%	39.16%	3.17%	24.98%
Big eye	0.72%	22.29%	0.34%	10.49%
Yellow fin	0.36%	-	0.25%	-
Skipjack	0.64%	-	0.66%	-
Total	0.70%	-	0.63%	-

Table: Tuna fishery catches in the Cook Islands as a percentage of WCPO maximum sustainable yield, and national quota (for albacore and big eye)

The NSDP (p59) suggests that to be 'on track' the catch should be below the maximum economic yield. Maximum economic yield information is not available. However, the fishery yields are currently below the maximum sustainable yield for WCPO and the national quota for albacore and big eye tuna. The status of this indicator has been assessed as 'on track' and the trend is static (no change).

Indicator 12.4 Lagoon water quality

Introduction

This indicator assesses lagoon water quality. This recognises that lagoon health is at risk from unsustainable land use practices and poor management of lagoon areas.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		Average C-D grade for bacteria levels and water clarity (Rarotonga, Aitutaki and Manihiki)			Average A-B grade for bacteria levels, water clarity and nutrient levels	○
Date		2016				
Source	MMR Water Quality Reports					

Comments on methodology

MMR assesses the lagoon water on Rarotonga, Aitutaki and Manihiki based on three main variables - bacteria levels (count per 100 ml), water clarity (total suspended solids in mg/l) and nutrient levels (score out of 100). The indicator is an average of the grades given to the variables across the test sites. Average grades are assessed based on the pre-defined grading system set out by MMR using a six level scale with 'A' the best score and best outcome, and 'F' the worst. MMR tests on the three islands (Rarotonga, Aitutaki and Manihiki) due mainly to ease of access especially by flights to Aitutaki and Manihiki.



The data provided by MMR for this report does not currently include nutrient levels. MMR is working towards providing this information in future to give a more accurate summary of water quality on Rarotonga, Aitutaki and Manihiki.

Analysis

The table below shows the results provided by MMR. The average grade is based on bacteria levels and water clarity.

Test site	Average grade	Status
Rarotonga marine	A-B	On track
Rarotonga stream	D	Of concern
Aitutaki marine	C-D	Of concern
Aitutaki stream	E	Off track
Manihiki	A	On track
Overall grade average	C-D	Of concern

Table: Grades for water quality at test sites (Source: MMR Water quality reports 2016)

The information in the above table shows that the Manihiki and Rarotonga marine areas are in the best condition, while Rarotonga stream and Aitutaki marine are 'of concern'. Aitutaki marine is 'off track'. This indicates that the streams at the test sites are being polluted by human activity and/or development. The status of this indicator has been assessed as 'of concern' and the trend is static (no change) as the results have not been compared with previous years.

Indicator 12.5 Economic returns from oceanic and lagoon resources

Introduction

This indicator measures the returns on investments from marine exports including fisheries, black pearl farming and deep sea mining.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	\$19.8M	\$19.1M			>2.5% annual increase or consecutive yrs of inc.	↓
Date	2015	2016				
Source	Government Budget Book 1, 2016/17 and 2017/18; HYEPU 2016/17					

Comments on methodology

There are no comments on the methodology.

Analysis

The value of marine exports is averaging \$20 million annually with fishing activities being the major revenue earner. Other marine exports include live fish for aquarium trade, black pearls and pearl shells.



In 2016, total revenue from marine exports decreased to \$19.1M compared to \$19.8M in 2015. In 2016 fishery activities brought in the bulk of the revenue with \$18.7M, followed by black pearls at \$297,000, pearl shells at \$42,000 and trade of live fish at \$22,000. The main benefit to the economy from fishing activities continues to be the revenue from access (treaty) arrangements, licenses, fines and settlements; and the sale of catch quotas.

Figure 5.11 Marine exports 2010 to 2016, (\$m)

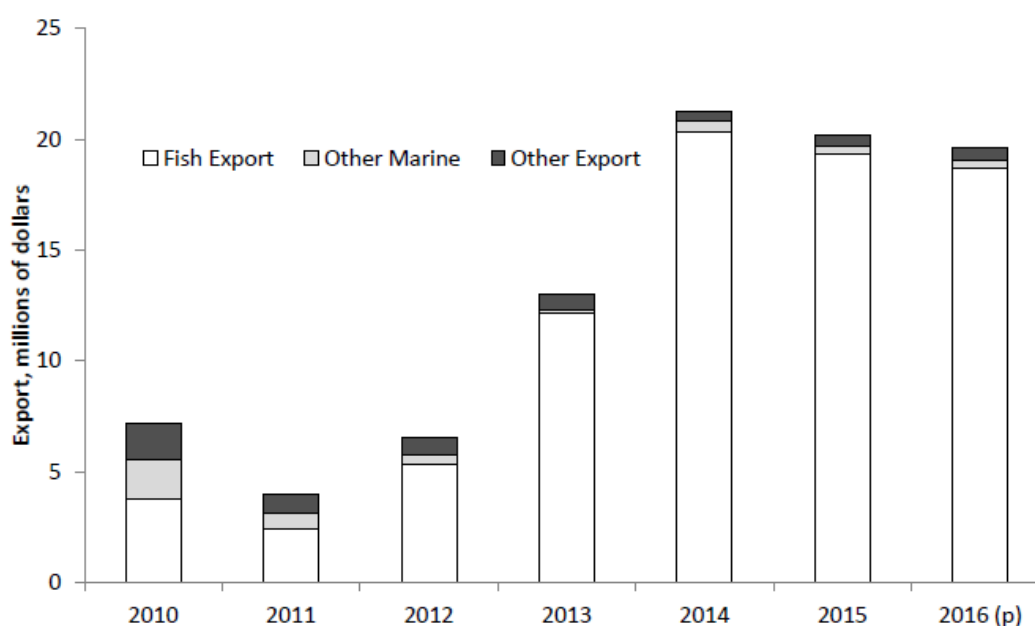


Figure: Marine exports 2010 to 2016 (Source: Budget book 1 2016/17, p53)

Revenue from purse seine fishery is likely to remain the largest source of marine and fish related revenue; with the Cook Islands allocated 1,250 fishing days by the calendar year since 2015 by the Western and Central Pacific Fisheries Commission. For the 2017 calendar year, the average price for a fishing day is expected to be between \$11,500 to \$13,500, depending on the exchange rates which affect the United States treaty (350 days committed) and European Union agreement (125 days)⁴⁶.

Based on the data for 2016 when compared with 2015, this indicator has been assessed as 'of concern' with a negative trend given the slight decrease in revenue.

⁴⁶ Cook Islands Government Budget Book 1, 2017/18, p53.



Goal 13: Strengthen resilience to combat the impacts of climate change and natural disasters

This goal acknowledges the vulnerability of the Cook Islands to the impacts of climate change and natural disasters. It recognises the need to build resilience into people and infrastructure and to ensure an appropriate level of protection from cyclones. The results for the Goal 13 indicators provide limited information about progress towards the goal, as two indicators have not been reported on. The results for the indicator about access to protection from cyclones are 'on track' though the northern group still has some vulnerabilities which will be addressed with the planned construction of cyclone shelters for Palmerston, Nassau, Rakahanga, and Penrhyn.

Indicator 13.1 Resilience index

Introduction

This indicator seeks to assess the overall resilience of the Cook Islands and its people using an index which considers economic, environmental, infrastructural, and social resilience.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		-				-
Economic resilience (Net debt servicing to revenue)	4.2%	4.9%			≤5%	🟢
Date	2014/15	2015/16				
	HYEFU 2015/16 & Economic Advice-MFEM					
Environmental resilience (Coral coverage)	27% average for southern group	26% Rarotonga			Statistically significant improvement; or consecutive yrs of inc.	⬆️
Date	2013	2016				
Source	Coral reef survey of Aitutaki, Manuae, Mitiaro, Takutea and Atiu in the southern Cook Islands 2013; Rarotonga fore reef community survey 2016					
Infrastructural resilience		-			>75%	-
Social resilience		-			>2 hrs/week community and church engagement	-



Comments on methodology

This indicator includes four components that need to be averaged into one indicator:

1. Economic resilience (net debt servicing to revenue - also forms part of Indicator 16.6 Financial responsibility index)
2. Environmental resilience (as per Indicator 12.1 State of the reef)
3. Infrastructural resilience (as per Indicator 13.3 Percentage of public buildings and infrastructure built to hurricane strength standards)
4. Social resilience (community and church engagement).

The economic and environmental resilience components are further outlined under Indicator 16.6 and Indicator 12.1 respectively. As explained under Indicator 13.3, the data for the infrastructure component is not available for this report. The social resilience component requires information which is not currently available about community and church engagement. The NSDP suggests this could be obtained from the labour market survey. However, the purpose of such a survey is usually to capture statistical information about the labour force and including questions about community activities is not directly consistent with that purpose. Information available from the Census 2011 has been considered but it does not provide the level of detail required.

Analysis

Due to the gaps in the required information, no further analysis is provided. No status or trend is provided for the overall index.

Indicator 13.2 Percentage of population that have access to protection from category 3 or higher cyclones

Introduction

This indicator measures the percentage of the population that can be accommodated by designated cyclone shelters built to recommended standards. This recognises the vulnerability of the Cook Islands to cyclones and the need to ensure that the community has adequate protection.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		97.25%			>90%	🟢
Date		2016				
Source	EMCI-OPM, ICI Strategic Plan, Census 2011					

Comments on methodology

There are no comments about the methodology.

Analysis

The table below identifies which islands have existing or planned cyclone shelters (based on the EMCI and ICI information), together with the percentage of the Cook Islands population on each island in 2016.



Island	Percentage of population (Census 2016)	Cyclone shelter(s)
Rarotonga	72.25	Yes
Aitutaki	11.36	Yes
Mangaia	3.31	Yes
Atiu	2.86	Yes
Mauke	1.94	Yes
Mitiaro	1.04	Yes
Manuae	0.00	n/a
Palmerston	0.38	Construction planned for 2017-18
Pukapuka	2.85	Yes
Nassau	0.52	Construction planned for 2018-19
Manihiki	1.43	Yes
Rakahanga	0.53	Construction planned for 2018-19
Penrhyn	1.52	Construction planned for 2019-20
Suvarrow	0.00	n/a

Table: Cyclone shelters by island including percentage of population

These results show that the southern group is adequately provided with cyclone shelters. The northern group has some vulnerabilities but there are plans to address these with the construction of cyclone shelters in Palmerston, Nassau, Rakahanga, and Penrhyn.

EMCI has provided a preliminary copy of the report which reviews and assesses 43 current safety shelters on Rarotonga⁴⁷. The report records that 19 safety shelters had been identified as being in a low risk location, and meeting three other criteria relating to shelter structure, human factors and other factors. These are classified to be suitable as a primary shelter. Seven other safety shelters were assessed to be in a medium risk location, and to meet one or two of the other criteria. These are classified to be suitable as a secondary shelter.⁴⁸ EMCI notes that there is work required to upgrade the various facilities.

The status of this indicator is 'on track' with a static (no change) trend .

Indicator 13.3 Percentage of public buildings and infrastructure built to hurricane strength standards

Introduction

This indicator assesses resilience by measuring the percentage of public buildings and infrastructure which have been built to appropriate standards to withstand cyclones.

⁴⁷ Critical Path Cooperation Cook Islands, 2017, Review of Safety Shelters on Rarotonga (draft report dated 22 August 2017).

⁴⁸ *ibid* pp8,9



Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		-			75%	-
Date		-				
Source	-					

Comments on methodology

This data needed for this indicator is not currently available as the public asset register is not complete or up to date. For the next indicator report there is also a need to clarify the type of public buildings and infrastructure to be assessed for this indicator.

Analysis

This indicator is not reported on for Year One.



Goal 14: Preserve our heritage and history, protect our traditional knowledge, and develop our language, creative and cultural endeavours

This goal recognises the importance of the Cook Islands culture and its prevalence in all aspects of life. It seeks to promote Cook Islands languages and cultural engagement, and to archive and protect cultural heritage. The results for the Goal 14 indicators provide limited information about progress towards the goal. The rates for Cook Island Maori literacy at NCEA level 1 are 'on track' with a positive trend, and have exceeded MOE targets. The Census 2011 information demonstrates a healthy level of engagement in cultural activities at that time but the Census 2016 information is not yet available. Digital archiving of cultural resources is in its initial stages. MOCD is in the final states of completing the National Cultural Policy, which will be consistent with achieving progress towards the goal.

Indicator 14.1 Cook Island Maori literacy rates

Introduction

This indicator measures Cook Islands Maori literacy rates among students at year 11 (NCEA level 1). This recognises that language is a cornerstone of Cook Islands culture and identity.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	84% (NCEA level 1)	90% (NCEA level 1)			≥70%	↑
Date	2015	2016				
Source	Education statistics: MOE					

Comments on methodology

The methodology has been modified from the NSDP to report on results at year 11 rather than year 9. This modification was recommended by MOE and aligns to the data collected for the annual educational statistics bulletin. Information has also been provided about the targets and actual results for grades 4 and 8 to illustrate progress at various levels. It is noted that Maori is a compulsory subject at grades four and eight, but becomes an elective choice at year 11.



Analysis

The table below shows the results for 2015/16 and 2016/17 compared with the targets set by MOE. The targets for subsequent years are also identified.

Level	2015/16		2016/17		2017/18	2018/19	2019/20
	Target	Actual	Target	Actual	Target	Target	Target
Grade 4	65%	75%	68.75%	73%	72.5%	76.25%	80%
Grade 8	70%	57%	73.75%	53%	77.5%	81.25%	85%
Year 11 (NCEA L1)	70%	84%	70%	90%	72.5%	75%	77.5%

Table: Maori literacy rates for Grades 4 and 8, and Year 11

Maori literacy rates at grades 4 and year 11 are exceeding the annual targets. The grade 8 outcome is however of concern as it is below target and has decreased between 2015/15 and 2016/17. A new assessment tool being used by MOE may be impacting on the measure. The new tool provides more detailed information to teachers and schools on students' learning. Based on the year 11 results, the status of this indicator has been assessed as 'on track', with a positive trend.

Indicator 14.2 Average engagement in cultural activities

Introduction

This indicator measures the average engagement of the population in cultural activities.

Results

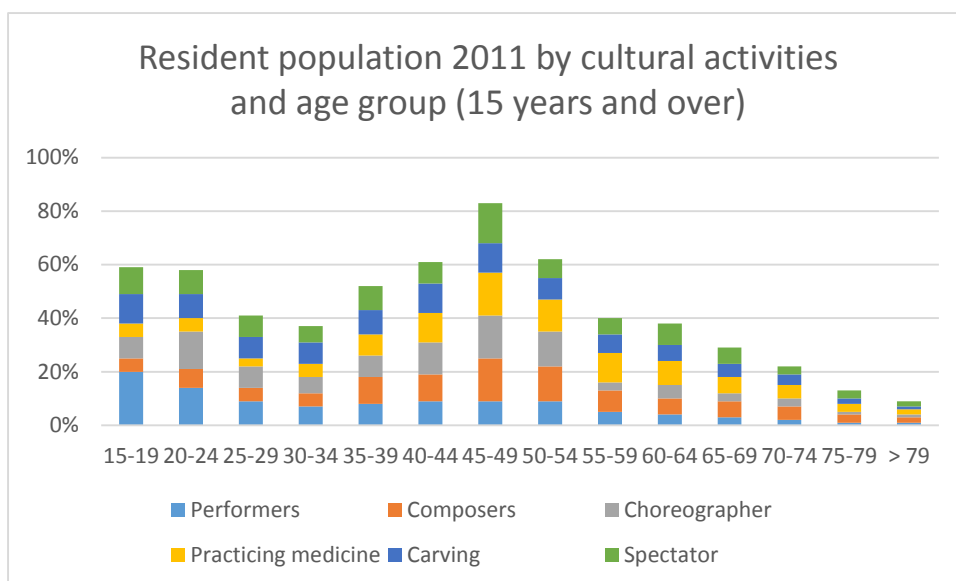
	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		-			>2 hrs/week	-
Date		-				
Source	-					

Comments on methodology

The NSDP suggests using a labour market survey to collect information about engagement in cultural activities such as the arts, tradition and customs, community and church activities. As has been outlined elsewhere such a survey has not yet been undertaken. There are also some limitations in relying on a labour market survey to provide information about the cultural engagement of the population since the purpose of this type of survey is usually to capture statistical information about the labour force. For this report, information from the Census 2011 has been included. This can be compared with the Census 2016 once this is available.

Analysis

The Census 2011 data provides information about the participation of the resident population, aged 15 years and over, in identified cultural activities. The figure below shows the percentages of the various age groups involved in the activities:



The most active age group in cultural activities are those in the older working age group (40-54 years). The top three activities for the group are composing (41 per cent), choreography (39 per cent) and practising Maori medicine (39 per cent). These types of activities would require years of training and commitment to reach this level of maturity. Most would have older mentors - normally family members who would pass on the traditional knowledge to the next generation.

The next most active age group are young people aged 15-24 years. Key cultural activities for this group were performing (34 per cent), choreography (22 per cent) and carving (20 per cent). It is encouraging to see this level of interest among young people. School events feature cultural activities from early childhood to secondary schools. Key national cultural events such as the annual Constitution celebrations, Te Mire Atu (composers' event), and the dancer of the year competitions, help to promote and engage the community, visitors, and especially the young people in learning and appreciating Cook Islands Maori culture.

No status or trend has been assessed for this indicator at this time. Once the Census 2016 information is available, this will allow participation rates to be compared across censuses.



Indicator 14.3 Number of Cook Island articles, artefacts, media and other cultural resources that are catalogued or developed, and digitally archived

Introduction

This indicator measures the progress in cataloguing, developing, and digitally archiving cultural resources.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		3000 items (in progress)			>3% annual increase in digital archives	-
Date		2016				
Source	MOCD					

Comments on methodology

The NSDP (p61) describes the methodology for this indicator as being a simple count of the items digitally archived by MOCD.

Analysis

MOCD has advised that there are 3,000 items with Te Papa Museum in New Zealand that will be digitised. This provides a baseline for comparison with subsequent years. The digitising programme is still at its early stages and significant growth is anticipated.



Goal 15: Ensure a sustainable population engaged in development for Cook Islanders for Cook Islanders

This goal recognises the challenges of out migration, particularly for the Pa Enua. It seeks to support a sustainable resident population, increase local investment, improve quality of life, promote political engagement and improve research about the Cook Islands. The results for the Goal 15 indicators give limited information about progress towards the goal, and several indicators have not been reported on. Loss of population continues to be an issue in the Pa Enua, but the resident population in Rarotonga has increased by 2 per cent since the Census 2011. Ethnic composition of the population is of interest for this goal, however the Census 2016 result for this are not yet available to compare with Census 2011. Voter turnout at the last general election in 2014 was 'on track', indicating a good level of political engagement. It is difficult to draw any conclusions from the slight increase of three additional research applications received by the research committee in 2016 compared with 2015. The indicator does not consider whether the quality of the applications has improved.

Indicator 15.1 Resident population of Cook Islanders

Introduction

This indicator measures the number of Cook Islanders that are resident in the Cook Islands. It recognises the any economy or community is dependent on its population and acknowledges the challenges that occur when there is population decline.



Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result						-
Resident population of Cook Island	8933 (84%) Rarotonga					-
Maori (including part Cook Island Maori)	3174 (96%) Sthn islands					-
	1078 (97%) Nthn islands					-
	13185 (88%) Cook Islands					-
Date	2011					
Source	Census 2011					
Resident population (total resident and % change since 2011)	10,572 Rarotonga	10,767 (2% change) Rarotonga			>1% annual increase, or consecutive yrs of inc.	↑
	3,290 Sthn Islands	3057 (-7% change) Sthn islands			as above	↓
	1,112 Nthn islands	1,078 (-3% change) Nthn islands			as above	↓
	14,974 Cook Islands	14,902 (-0.5% change) Cook Islands			as above	↓
Date		2016				
Source	Census 2016 (preliminary results)					

Comments on methodology

Information has been sourced from the Census about both of the following:

- the number of Cook Island Maori resident in the Cook Islands
- the number of Cook Island residents.

Both sets of data are useful for this goal. While the goal focuses on 'development for Cook Islanders by Cook Islanders', the description of the indicator refers to any community or population being reliant on its population to provide a market, services and support to each other. It is therefore important to also consider the contribution of residents who are not Cook Island Maori to the economy and the community.

Provisional results from the Census 2016 provide information about the total resident population but information about the ethnic makeup of that population is not yet available. Previous censuses have been used to show the resident population by ethnic origin.



The ability of a population to support a sustainable community and economy cannot be determined by absolute numbers. Other demographic characteristics need to be considered including age, sex, education, and employment status. Information from the Census 2016 will provide a more comprehensive overview of population demographics.

Analysis

Ethnic composition

In the Census 2011, Cook Island Maori made up almost all of the resident population with 81 per cent or 12,180 persons. Another 7 per cent (1,005) were part Cook Island Maori, and 12 per cent or 1,789 persons were of foreign descent. The New Zealand European made up the bulk of the other ethnic groups. As expected with the centre of commercial and government activities being on Rarotonga, most of the non-Cook Island Maori residents were located on this island. The proportion of Cook Island Maori and part Cook Island Maori was 96 per cent in the Pa Enua.⁴⁹

Region / Islands	Cook Island Maori			Part Cook Island Maori			Other ethnic origin		
	2001	2006	2011	2001	2006	2011	2001	2006	2011
Rarotonga	7886	8146	8060	676	891	873	862	1189	1639
Southern group	3550	3477	3061	143	126	113	84	128	116
Northern group	1702	1309	1059	52	28	19	35	32	34
Cook Islands	13138	12932	12180	871	1045	1005	981	1349	1789

Table: Resident population by ethnic origin, 2001, 2006 and 2011 (Source: Censuses)

The table below shows the changes in ethnic composition as a percentage. Between 2001 and 2011 the proportion of the population identifying as Cook Island or part Cook Island Maori declined from 93 per cent of the population to 88 per cent of the population. This should be compared with the information from the Census 2016 once it is available.

Region / Islands	Cook Island Maori & Part Cook Island Maori (%)			Other ethnic origin (%)		
	2001	2006	2011	2001	2006	2011
Rarotonga	91%	88%	84%	9%	12%	16%
Southern group	98%	97%	96%	2%	3%	4%
Northern group	98%	98%	97%	2%	2%	3%
Cook Islands	93%	91%	88%	7%	9%	12%

Table: Resident population by ethnic origin (%), 2001, 2006 and 2011 (Source: Censuses)

No assessment is made about the status of this aspect of the indicator.

Resident population

As noted above, as well as knowing the numbers of Cook Island Maori resident in the Cook Islands, it is important to know the total number of residents of all ethnicities. The table below compares the resident population by location between 2011 and 2016. The 2016 figures are preliminary results from the Census 2016.

⁴⁹ MFEM, Cook Islands 2011 Census of Population and Dwellings, Main Report, p12



Location	2011	2016	# chg	% chg
Rarotonga	10,572	10,767	195	2%
Southern islands	3,290	3,057	-233	-7%
Aitutaki	1,771	1,693	-78	-4%
Mangaia	562	494	-68	-12%
Atiu	468	426	-42	-9%
Mauke	300	289	-11	-4%
Mitiaro	189	155	-34	-18%
Northern islands	1,112	1,078	-34	-3%
Palmerston	60	57	-3	-5%
Pukapuka	451	425	-26	-6%
Nassau	73	78	5	7%
Manihiki	238	213	-25	-11%
Rakahanga	77	79	2	3%
Penrhyn	213	226	13	6%
COOK ISLANDS	14,974	14,902	-72	-0.5%

Table: Resident population 2011 and 2016 by location (Source: NSO-MFEM)

There has been a slight overall decline in the Cook Islands resident population (-0.5 per cent) between 2011 and 2016. In that time period, Rarotonga had a 2 per cent increase; the southern islands (excluding Rarotonga) had a 7 per cent decline; and the northern islands a 3 per cent decline. This component of the indicator has been assessed as 'on track' for Rarotonga, but 'of concern' for the Pa Enua.

Indicator 15.2 Percentage of Cook Islands investment (versus foreign investment) in the Cook Islands

Introduction

This indicator measures the percentage of investment in the country which is by Cook Islanders as compared with direct foreign investment. This recognises the importance of Cook Island ownership of the country's assets and equity in the economy.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		-			Not determined in NSDP	-
Date		-				
Source	-					



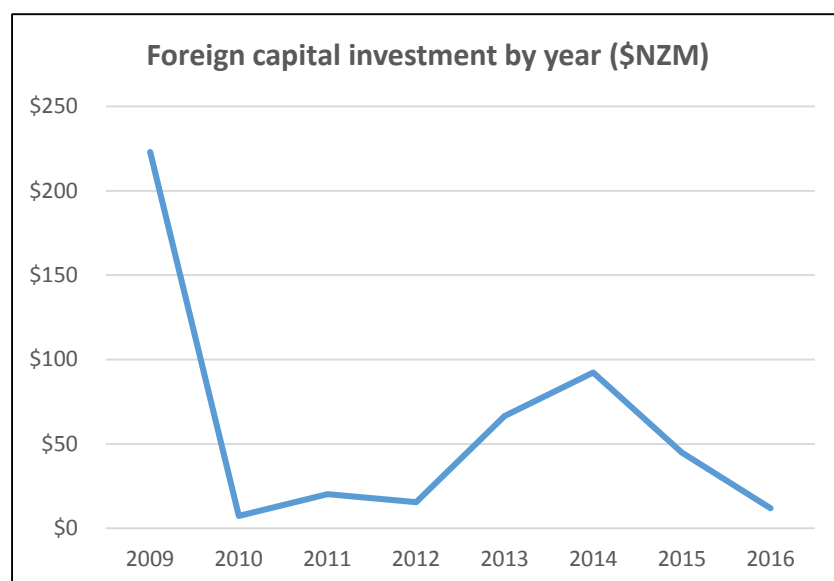
Comments on methodology

The methodology described in the NSDP requires a study to be undertaken to determine the level of direct foreign investment in the Cook Islands and estimate the percentage of assets and businesses owned by non-Cook Islanders. This information is currently not available. In the interim, BTIB has provided information about the total value of capital investment approved for foreign enterprises per year and per sector. BTIB has advised as follows:

- Foreign investment in the Cook Islands is regulated by the Development Investment Act 1995-96 and the associated Investment Code 2003
- Any business which has over 33 per cent non-Cook Islander shareholding is required to register with BTIB but there may be some non-compliance.
- Applications for foreign investment are considered by BTIB. If approved, the business then has to file annual returns with BTIB.

Analysis

The information provided by BTIB about foreign capital investment by year and economic sector could not be used to measure this indicator in the manner described in the NSDP. However, the data did provide an overview of the scale and type of foreign investment occurring. The level of foreign investment recorded by BTIB in 2016, was NZD 11.87M, of which NZD 6.58M was in the tourism sector. The table below shows levels of foreign investment by year since 2009. However, BTIB does advise that the data from earlier years is less reliable.



Source: BTIB

The issue of foreign investment has been considered in more detail in the following three relatively recent reports:

- The Cook Islands - stronger investment climate for sustainable growth. ADB 2015
- Cook Islands Tourism Investment Strategy (draft August 2016). Prepared for the Cook Islands Tourism Corporation by The Stafford Group
- Cook Islands Trade Policy Framework. Cook Islands Government 2015

These documents include recommendations to review the role of foreign investment in the economy, its benefits and costs, and how it should be regulated. In its 2017/18 business plan, BTIB identifies its intention to review the Development Investment Act and the associated code and regulations. One of the outcomes sought in the business plan, is to



increase participation by Cook Islanders in joint ventures. The aim for 2017/18 is for 30 per cent of the total foreign enterprises registered to have a Cook Islander as a business partner.

Indicator 15.3 Quality of life index

Introduction

This indicator assesses quality of life using an index which takes into account median disposable income, leisure time, cultural engagement, youth wellbeing, and job satisfaction.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		-			≥60% Quality of Life score	-
Median disposable income	-\$1027	\$84				↑
Date	2015	2016				
Source	Annual income tax data: RMD-MFEM; & minimum living level from NSO-MFEM					
Leisure time		-				-
Cultural engagement		-				-
Youth wellbeing		-				-
Job satisfaction	77% (degree of satisfaction)	77% (degree of satisfaction)				○
Date	2015	2016				
Source	Public Service Employee Engagement Survey: OPSC					

Comments on methodology

This indicator includes five components that need to be averaged into one indicator:

1. Disposable income (median income less minimum cost of living)
2. Leisure time (median hours of work per week)
3. Cultural engagement (as per Indicator 14.2 Average engagement in cultural activities)
4. Youth wellbeing (as per Indicator 9.2 Youth wellbeing index)
5. Job satisfaction (as per Indicator 2.5 Employee wellbeing index).

Median disposable income has been determined by subtracting the minimum liveable income calculated in Indicator 1.1 from the real median income calculated in Indicator 2.1. The related methodologies and limitations are set out in Indicator 1.1 and 2.1.

The leisure time component depends on obtaining information from a labour market survey. As has been previously explained, such a survey has not yet been undertaken. Information



available from the Census 2011 has been considered but it does not provide the level of detail required.

The cultural engagement and youth wellbeing information required from Indicators 9.2 and 14.2, is not available for this report.

The methodology used for the job satisfaction component is outlined under Indicator 2.5.

Analysis

The table below shows that the median disposable income for 2016 was \$84, which was an improvement from the negative figures for the previous two years. This result is 'of concern' though the trend is positive. However, there are limitations in the data used to calculate real median income and minimum liveable income. The calculation of real median income relies on income tax data which excludes some of the lowest income earners (for which there are no tax records), and which includes fewer taxpayers in the 2016 data pending the filing and processing of outstanding income tax returns. The results obtained for median disposable income should be considered further once more comprehensive data is available from the HIES 2016 and the Census 2016.

Description	2014	2015	2016
Real median income	\$18,219	\$19,678	\$20,645
Minimum liveable income	\$20,229	\$20,705	\$20,561
Median disposable income	-\$2010	-\$1027	\$84

Table: Real median income, minimum liveable income and median disposable income 2014, 2015 and 2016 (Source: Economic Advice-MFEM)

The analysis for the job satisfaction component is outlined under Indicator 2.5.

No conclusion is made about the overall status of this index, due to the gaps in information.

Indicator 15.4 Voter turnout

Introduction

This indicator measures voter turnout (or voting rate) which is the total number of voters as a percentage of total registered voters. Voter turnout rates help to show how people feel about government. This includes the confidence they have in political institutions, the importance they attach to them, and whether they feel their participation can make a difference.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		80.5%			≥75%	🟢
Date		2014 general election				
Source	NSO-MFEM and Chief Electoral Officer					



Comments on methodology

This indicator has been modified from the methodology described in the NSDP which envisaged using a moving average combining participation rates from the latest general and local government elections. NSO-MFEM advised against combining information from local government and parliamentary elections due to the variations in voter eligibility and coverage.

Analysis

The voter turnout for the 2014 parliamentary general election was 80.5 per cent of those registered to vote. The Chief Electoral Officer considers this a high turnout, since voting is not compulsory and the population is very mobile.

The table below shows the voter turnout rates for the last three general elections. The 2014 turnout is 2.5 percentage points lower than highest turnout which was in 2006.

General Election Year	Voter turnout
2006	83.0%
2010	82.0%
2014	80.5%

Table: Voter turnout for general elections, 2006, 2010 and 2014 (Source: Chief Electoral Officer)

The NSDP suggests that the voter turnout needs to be over 90 per cent to be 'on track'. However, few countries can obtain such a high voter turnout without introducing compulsory voting. Based on the advice of the Chief Electoral Officer, the status of this indicator has been assessed as 'on track', and the 'on track' target has been amended to 75 per cent or over.

Indicator 15.5 Number of applications received for research and scholarship in the Cook Islands

Introduction

This indicator measures the number of research applications received annually by the Cook Islands Research Committee. This recognises the value of improving the amount of research being done on the Cook Islands.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	25	28 12% change Year over Year			>5% increase, or consecutive yrs of inc	↑
Date	2015	2016				
Source	Research Register (OPM)					



Comments on methodology

The Cook Islands Research Committee was set up in accordance with the Research Policy 2008. This policy (p2) defines research as follows:

"Research, in this policy, is defined as 'Any creative and systematic work to increase the stock of knowledge or its use or application'.

Research should be distinguished from audit which is an activity conducted to examine practice and outcomes at a particular time and place to inform and improve management rather than provide advancement of knowledge. The research policy does not cover audit unless it is intended that the outcomes of the audit are to be published and thus contribute to advancement of knowledge within a broader community."

Measuring the number of research applications received by the committee provides a quantitative assessment and does not take into account the quality of the particular applications. In addition, it is likely that there is research undertaken without seeking approval from the committee.

Analysis

The following table sets out the number of research permits received:

Year	Research permits received
2015	25
2016	28

Table: Number of research permits received by the Cook Islands Research Committee for 2015 and 2016
(Source: CPPO-OPM)

There were three more applications in 2016 than there were in 2015 - i.e. a 12 per cent increase. It is difficult to draw any meaningful conclusions from this data. However, the status of this indicator has been assessed as 'on track' with a positive trend.



Goal 16: Promote a peaceful and just society and practice good governance with transparency and accountability

To successfully achieve its potential as a nation, the Cook Islands needs to have a peaceful and just society with effective governance as well as a robust justice system that allows people to be safe and lead productive lives. The results for the Goal 16 indicators provide mixed information about progress towards the goal as there was limited data for some indicators. The indicators measuring access to the justice system, and reoffending rates, have not been reported on. In the absence of data from previous years, it is difficult to draw conclusions from the information provided for the indicator about domestic violence rates. The indicator measuring motor vehicle accidents resulting from reckless behaviour is 'off track'.

The average performance of government ministries has improved when compared with previous years and is 'on track'. Financial governance is generally within the agreed parameters and the overall results for the financial responsibility index are 'on track'. Two fiscal ratios did not meet the government benchmarks, and one of these exceeded the benchmark by only a small amount. The low number of parliamentary sitting days means that this indicator is 'off track'.

Indicator 16.1 Justice Accessibility index

Introduction

This indicator looks to measures access to the justice system. This recognises the need to have an accessible and effective justice system which progresses matters in a fair and timely manner.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		-			<6 months median time to resolve cases >85% of complaints	🔴
Date		-				
Source	-					

Comments on methodology

This indicator is intended to measure access to justice based on four components of the justice system:

- criminal (median time to resolve criminal cases)
- civil (median time to resolve civil cases)
- land (median time to resolve land cases)
- court and legal processes (percentage of complaints that were received and how many went into the criminal justice system and onto court).



Analysis

MOJ is currently unable to readily provide the information required to measure this indicator. However, they intend to restructure their database so that they can provide better information for the next indicator report. Further work is also needed to clarify the various components of this indicator as it is currently not well defined and quite complex. The reliance on measuring the median time to resolve cases may not be very informative.

The status of this indicator has been assessed as 'off track' with a static (no change) trend. This status reflects both the lack of data, and the widely recognised problems with land cases.

Indicator 16.2 Rates of domestic violence

Introduction

This indicator measures the annual incidence of reported domestic violence.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	70 out of 232 (30%) domestic incidents reported to Police were of a violent nature				>2% annual decrease, or consecutive yrs of dec.	
Date	2015					
Source	Cook Islands Police					

Comments on methodology

This indicator considers reported domestic violence⁵⁰ incidents on an annual basis from police reports. The following limitations have been identified with the data provided by the Police:

- most of the data is from Rarotonga, with minimal information from the Pa Enua
- inconsistencies in data entry and updating e.g. inconsistent identification of age, date of birth, causes and offenders
- only broad identification of the causes leading to the incident. Police are considering identifying more specific causes for the next indicator report
- information about emotional, mental or financial abuse is not captured. This type of information may be captured by support agencies such as NGOs, church groups, and counsellors during private sessions
- lack of information about follow up programs such as counselling, and anger management programmes to track the progress of repeat victims.

⁵⁰ 'Domestic violence' is now defined in s91 of the Family Protection and Support Act 2017. Related terms are defined in ss92-96 of that Act.



Analysis

A report published by Victoria University in 2007 (Pacific prevention of domestic violence programme: A Cook Islands Report) reviewed two sources of Police statistics on domestic violence: three months of data compiled by the Domestic Violence Unit and the Cook Islands Police Service annual statistics for 2004/05. The limited data available at the time indicated that, on average, around five assaults on a female are recorded per month (average 60 assaults per year). Recorded statistics ranged from two to 10 reports per month.

In 2015, 30 per cent of (70 out of 232) domestic incidents reported to the Police were considered to be of a violent nature, specifically physical violence. In most cases victims of domestic violence are younger than the offender. Most cases (45 per cent) involve people who are in a marriage or partner relationship. In terms of gender, 57 per cent of violent incidents were against women, and 71 per cent of offenders were men. Approximately 28 per cent of violent offences were committed by repeat offenders.

It is difficult to estimate the prevalence of domestic violence in the Cook Islands, as there is no reliable and consistent data available. Anecdotal evidence indicates that domestic violence is widespread, but highly under-reported. The status of this indicator has been assessed as 'off track' with a static (no change) trend as there is no reliable past data to compare with.


It is however noted that an initial increase in reported cases of domestic violence to the police can show that victims of domestic violence are more aware of their rights, have greater trust in the police and judiciary system, and that there is less tolerance in society of domestic violence. The desired long term outcome is the reduction in cases of domestic violence; but the short term outcome of increased reporting can be positive.

Indicator 16.3 Rate of motor vehicle accidents (from reckless behaviour)

Introduction

This indicator measures the extent to which motor vehicle accidents are caused by reckless behaviour such as driving under the influence of alcohol or drugs, or speeding.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	41.6% Rarotonga only.				>2% annual decrease, or consecutive years of decrease	
Date	2015					
Source	Cook Islands Police					

Comments on methodology

The data used for this indicator relates to all motor vehicle crashes reported to Police on Rarotonga for 2015. There are some limitations in the data due to inconsistencies and inaccuracies in data entry and updating, such as inconsistent identification of age, date of



birth, gender, causes, and locations. There are no records of motor vehicle crashes in the Pa Enua. The Police are improving their systems to ensure that more consistent and accurate data will be provided for the next indicator report.

Analysis

In 2015, 41.6 per cent (80 out of 192) of motor vehicle crashes reported to the Police were caused by reckless behaviour. This provides a baseline for comparing with subsequent years.

The table below indicates the different types of reckless behaviour:

Type of reckless behaviour	Percentage	Number
Driving under the influence of drink and drugs	47.5%	38
Reckless or dangerous driving	27.5%	22
Being in charge of a motor vehicle while under the influence of drink or drugs	10%	8
Driving with excess breath-alcohol level or blood-alcohol concentration	8.7%	7
Speeding	3.7%	3
Causing bodily injury or death through reckless or dangerous driving or while under the influence of drink and drugs	2.5%	2

Table: Types of reckless behaviour leading to motor vehicle crashes in 2015 (Source: Police)

Of these 80 motor vehicle crashes:

- 66 per cent of offenders were male, and 43 per cent were aged 16-26 years
- 71 per cent of crashes occurred within the Te Au O Tonga Vaka
- 3 per cent of crashes were fatal, and 16 per cent involved serious injuries
- 74 per cent of crashes involved a motorcycle, including 53 per cent which involved a motorcycle only.

The high rate of motor vehicle crashes from reckless behaviour results in the status of this indicator being 'off track'. Data from subsequent years will indicate the trend.

Indicator 16.4 Reoffending rates

Introduction

This indicator measures the rate of reoffending of previously convicted criminals. This is to track the effectiveness of the correction system and support services at rehabilitating offenders and successfully reintegrating them into the wider community.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result		-			Not determined in NSDP	-
Date		-				
Source	-					



Comments on methodology

For the purposes of this indicator, reoffending is considered to occur when an offender commits a further chargeable offence within a 12 month period. This would be based on all offences registered by the Police each year.

CPPO-OPM has held discussions with Police and MOJ about providing this information but it is not available this year. Currently there are inconsistencies in the way data is collected and recorded by the two agencies. However, both agencies are working to improve the quality of their data including better recording of the progress of an offence from initial reporting, charging, and resolution through the court system. There are some challenges with tracking reoffending due to inconsistent recording of names and use of aliases.

Analysis

This indicator has not been reported on for Year One.

Indicator 16.5 Average performance of government ministries

Introduction

This indicator measures the average performance of the public service as determined by the Public Service Commissioner's Annual Report ('PSC Report') to Parliament.

Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	97% achievement of 68 outputs	100% achievement for all 67 outputs			Assess using OPSC traffic light framework	🟢
Date	2014/15	2015/16				
Source	Public Service Commissioner's Annual Report 2016					

Comments on methodology

The PSC Report for 2016 does not present results achieved by all of the public sector. It includes only the 13 public service agencies⁵¹ that report annually to OPSC. It does not include the 10 Island Governments (currently being managed under the Pa Enua Governance-OPM), the 15 crown or statutory agencies, or the six state owned enterprises.

Analysis

The PSC Report 2016 recorded that all of the 67 outputs identified in the 13 public service business plans were achieved in 2015/16. A few key deliverables were removed due to unforeseeable circumstances such as the lack of funding, delays in the arrival of equipment and changing priorities. This achievement showed a significant improvement from the previous two years. In 2013/14, 13 of the 67 outputs across the public sector were seriously

⁵¹ 11 ministries, OPM and OPSC



at risk of not being achieved⁵². This improved significantly in 2014/15 where it was reported that only two of the 68 identified outputs were at risk⁵³.

MOE and MOH were the two top performing ministries in 2015/16 and improved performance was noted from MOJ and OPSC. Only one ministry's performance was a sufficient concern to warrant the instigation of a performance improvement plan.⁵⁴

The PSC Report 2016 noted that the ministries had identified challenges at the national, organisational, and operational levels. The public service agencies continue to identify lack of organisational and staff capability and capacity as a challenge to delivering on organisational and national goals. There were difficulties in recruiting and retaining suitable employees, particularly in specialist positions requiring high level skills.

The status of this indicator is assessed as 'on track'.

Indicator 16.6 Financial responsibility index

Introduction

This indicator assesses the government's financial management using a financial responsibility index consisting of eight financial responsibility ratios used by MFEM. This recognises the need for the government to manage public funds in a prudent and financially sustainable manner.

⁵² Public Service Commissioner's report 2015, p19

⁵³ Public Service Commissioner's report 2016

⁵⁴ Public Service Commissioner's Report 2016, pp1,2



Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	Six of eight fiscal responsibility ratios met	Six of eight fiscal responsibility ratios met				🟢
Tax Revenue to GDP	27.4	27.2			≤25%	🟡
Personnel Expenditure to Revenue	36.1	33.9			≤40%	🟢
Personnel Expenditure to Structural Revenue	43.3	40.4			≤45%	🟢
Net Operating Balance (\$M)	\$6.16M (1.7 as a percentage of GDP)	\$22.6M (5.4 as a percentage of GDP)			maintain operating surplus	🟢
Net Debt Servicing to Revenue	4.2	4.9			≤5%	🟢
Net Debt Servicing to Structural Revenue	-	5.8			≤7%	🟢
Overall budget balance to GDP	-4.4	4.3			within +/- 2%	🟡
Net Debt to GDP	12.9	18.3			≤30% & 35%	🟢
Date	2014/15	2015/16				
Source	HYEFU 2015/16 and Economic Advice-MFEM					

Comments on methodology

This indicator has eight components that the NSDP suggests should be averaged into one index:

- Tax Revenue to GDP
- Personnel Expenditure to Revenue
- Personnel Expenditure to Structural Revenue (exclude grants, withholding tax, seabed and fishing revenue)
- Net Operating Balance
- Net Debt Servicing to Revenue
- Net Debt Servicing to Structural Revenue
- Overall Budget Balance to GDP
- Net Debt to GDP.

The government has set benchmarks for all these components. These have been used for identifying the status. The targets set in the NSDP (pp63-64) vary slightly from the



government benchmarks. However, the government benchmarks have been preferred in this indicator report as this is consistent with the reporting in the budget process.

Analysis

The table below provides the figures for eight fiscal ratios. The second column identifies the benchmarks set by the government in the 2016/17 budget.

Fiscal ratio	Benchmark ⁵⁵ (2016/17 budget)	2014/15 Actual	2015/16 Actual
Tax Revenue to GDP	≤ 25%	27.4	27.2
Personnel Expenditure to Revenue (Personnel as percentage of Total Revenue)	≤ 40%	36.1	33.9
Personnel Expenditure to Structural Revenue (Personnel as a percentage of Structural Revenue)	≤ 45%	43.3	40.4
Net Operating Balance ⁵⁶ \$M	Maintain an operating surplus 0 (as a percentage of GDP)	\$6.16M (1.7 as a percentage of GDP)	\$22.6M (5.4 as a percentage of GDP ⁵⁷)
Net Debt Servicing to Revenue (Net Debt Servicing as a percentage of Total Revenue)	≤ 5%	4.2	4.9
Net Debt Servicing to Structural Revenue (Net Debt Servicing as a percentage of Structural Revenue)	≤ 7%	--	5.8
Overall budget balance to GDP (Fiscal Balance as a percentage of GDP)	within +/-2%	-4.4	4.3
Net Debt to GDP (Debt as percentage of GDP)	≤ 30 and 35% ⁵⁸	12.9	18.3

Table: Fiscal ratios for 2014/15 and 2015/16 (compared with benchmark) (Source: Economic Advice-MFEM)

The benchmarks, or fiscal responsibility ratios, were set to assist government in maintaining strong financial management in accordance with the MFEM Act 1995-96. For both the

⁵⁵ These are the Fiscal Responsibility Ratios set by government. These are derived from the 1998 Manila Agreement, facilitated by the ADB, and signed by the governments of Italy, Nauru and New Zealand as a condition of debt restructuring.

⁵⁶ For this fiscal ratio, expenditure from development partners has not been included. The Net Operating Balance information has been taken from the government's fiscal update, rather than from the Government Financial Statistics (as this includes development partner expenditure).

⁵⁷ nominal GDP \$415.1M

⁵⁸ The government is committed to staying within the 30% debt target so that there is at least 5% of GDP available in debt financing if there is a major natural or economic disaster before the government breaches the voluntary debt limit.



2014/15 and the 2015/16 years, the only fiscal ratios that did not meet the benchmarks set by the government were Tax Revenue to GDP, and Fiscal Balance as a percentage of GDP.

The 25 per cent benchmark for the Tax Revenue to GDP is exceeded by a small margin (27.4 per cent in 2014/15 and 27.2 per cent in 2015/16). The 2016-17 HYEPU forecasts out to 2019/20 as follows:

"Current forecasts estimate that the Government is forecast to exceed the benchmark by a small margin (26.4 per cent in 2016/17) and will remain slightly above the target going forward.

However, the Government intends to further lower income taxes for the lowest-earning bracket of taxpayers, keeping the effective tax rate close to the 25 per cent target."

The government aims to keep Tax Revenue to GDP around the 25 per cent benchmark to ensure that it is not crowding out the private sector (by overly reducing after tax income / profits which can detract from economic growth) and to prevent over-reliance on tax revenue.

The benchmarks (within ± 2 per cent) for Fiscal Balance to GDP were not met, with a greater deficit (-4.4 per cent) in 2014/15, and a greater surplus in 2015/16 (+4.3 per cent).

The 2016/17 HYEPU forecasts out to 2019/20 as follows:

"The government breaches the fiscal balance in the short term due to large scale infrastructure projects which are financed by a combination of concessional lending and using cash reserves. This is expected to be a relatively short term trend due to the short term nature of the projects in question, as evidenced by declining fiscal deficits from 2016/17, and fiscal surpluses from 2018/19. However, with significant capital investment projects on the horizon, additional expenditure will occur in these years."

The government aims to keep the fiscal balance above the benchmark to ensure that it is not spending beyond its means. Fiscal deficits must be funded by existing cash reserves or debt, which decreases the government's flexibility in reacting to an economic or natural disaster.

Indicator 16.6, the fiscal responsibility index, is to be determined by averaging the results of the eight components, or fiscal ratios (NSDP p63). As noted above, only two ratios did not meet the government benchmarks, and one of these exceeded the benchmark by only a small amount. Overall the status of the indicator has been assessed as 'on track' with a static (no change) trend for the 2015/16 financial year.

Indicator 16.7 Number of parliamentary sitting days

Introduction

This indicator measures the number of sitting days that parliament meets annually.



Results

	Earlier year	Year 1	Year 2	Year 3	Target	Current status & trend
Result	10 sitting days	11 sitting days			>80 sitting days ⁵⁹	⬆️
Date	2015	2016				
Source	Parliament meetings register: Parliamentary Services					

Comments on methodology

The NSDP (p40) suggests that parliament should sit more than 80 days annually for this indicator to be 'on track'. However, Article 29 of the Cook Islands Constitution 1965 only requires parliament to meet once every 12 months.

Parliamentary Services has advised that a sitting is normally for four hours unless:

1. An extension is requested to complete the debate or discussion. The extension (up to an hour or two) will then be included as part of one sitting
2. A suspension call is made when the meeting is continued at another time. This is still considered as part of one sitting.

Where a sitting has been adjourned, then the next meeting will be considered as a new sitting. Two sittings can be called for one day.

Analysis

Parliament is currently in its 48th session, and has met seven times since the general election in 2014. The table below sets out information about the number of sitting days between 2014 and 2017.

Meeting	Date	Number of sitting days	Calendar Year
First	8 Oct 2014	1	
Second	28 Oct to 6 Nov 2014	7	2014: 8
Third	10 to 19 June 2015	8	
Fourth	14 to 15 Dec 2015	2	2015:10
Fifth	7 to 17 June 2016	9	
Sixth	12 to 13 Sept 2016	2	2016:11
Seventh	19 June to 12 July 2017	17	2017:17
Total	8 Oct 2014 to 12 July 2017	46	46

Table: Number of sitting days for Parliament since 2014 election (Source: Parliamentary Services)

This shows that there were eight sitting days in 2014, 10 in 2015, and 11 in 2016. Until recently the lack of clear and stable majority for the ruling party has contributed to the low number of parliamentary sittings.

⁵⁹ Target for this indicator to be revised for the next indicator report.



Parliamentary Services advises that as well as sittings, part of the work of Members of Parliament is taking part in select committee meetings. The role of the select committee is to receive a bill or issue after it has been tabled at parliament and to review, consult and report its findings at the next sitting of parliament. In 2017, there were six select committee meetings.

While it is desirable for the Cook Islands parliament to meet more regularly, there are financial constraints due to the high cost of transporting Members of Parliament from the Pa Enua to Rarotonga for parliamentary sittings. The low number of sittings is, however, a matter for concern, and the status of this indicator is assessed as 'off track'.



Conclusion

This Indicator Report for Year One has reported on the 66 NSDP indicators used to measure progress towards the 16 NSDP Goals. Where possible the information provided is for either the 2016 calendar year, or the 2016-17 financial year, depending on how the data has been collected. The following information summarises what the results for the indicators show about progress towards the related NDSP goal.

Goal 1: Improve welfare, reduce inequity and economic hardship

The results show progress towards the goal, with all indicators being 'on track'. However there are limitations with the data available. The HIES 2016 and the Census 2016 will provide more complete information.

#	Indicator	Status & trend
1.1	Percentage of people under minimum liveable income	↑
1.2	The Gini coefficient	↑
1.3	Real growth in the lowest 20 per cent of incomes	↑

Goal 2: Expand economic opportunities, improve economic resilience and productive employment to ensure decent work for all

The results show progress towards the goal, with all indicators being 'on track'. The identified increase in real median income should be further assessed once more comprehensive information is available from the HIES 2016 and the Census 2016. Real GDP has grown, primarily driven by growth in tourism numbers with support from investment in key infrastructure projects. The dependence on tourism continues to be an economic risk but there has been growth in the contribution of non-tourism related industries. The Total Debt to GDP ratio indicates an appropriate level of economic security and financial stability.

The survey of public sector employees had a low response rate but the responses were generally positive with some concerns about pay and benefits. A wider survey is needed before any conclusions can be drawn about employee satisfaction beyond the public sector.

#	Indicator	Status & trend
2.1	Real median income	↑
2.2	Real GDP (aggregate)	↑
2.3	Growth in tourism [numbers; length of stay]	↑ ○
2.4	Total Debt to GDP ratio	○
2.5	Employee wellbeing index	○
2.6	Growth in non-tourist related industries	↑

Goal 3: Promote sustainable practices and effectively manage solid and hazardous waste

The results do not provide comprehensive information about progress towards the goal. Recycling is 'on track' in Rarotonga and Aitutaki, but 'off track' in the other islands. The hazardous waste indicator has not been reported on.



#	Indicator	Status & trend
3.1	Recycling rate (percentage of total waste diverted to recycling) [Rarotonga and Aitutaki; other islands]	🟢🟡
3.2	Percentage of hazardous waste that is accounted for and managed	-

Goal 4: Sustainable management of water and sanitation

The results provide limited information about progress towards the goal. Census 2011 information indicated a need to increase the number of dwellings on Palmerston, Pukapuka and Nassau with water piped to the inside. There was sufficient water supply for all islands in 2016. The quality of drinking water at Rarotonga school and community water stations is 'of concern' since the relevant WHO standards are not always met. There is a lack of information about the quality of drinking water in the Pa Enua.

The sanitation indicator has not been reported but this is a known area 'of concern'.

#	Indicator	Status & trend
4.1	Percentage of population with access to sufficient and safe water in their homes [Access: Rarotonga, Pa Enua; quality; sufficiency]	🟢🟡🟡🟢
4.2	Percentage of properties using sanitation systems that meet approved standards	🟡

Goal 5: Build resilient infrastructure and ICT to improve our standard of living

The results for the Information and Communications Technology ('ICT') indicators demonstrate that progress towards this aspect of the goal is 'on track'. There is high penetration with access to broadband and mobile networks on all islands.

The indicator about the fitness of other types of national infrastructure and public buildings has not been reported on.

#	Indicator	Status & trend
5.1	Broadband connectivity index [average speed, penetration]	🟢🟢
5.2	Percentage of average monthly income spent on broadband	🟡
5.3	Mobile connectivity index [data speed, penetration, usage]	🟢🟢🟢
5.4	Percentage of national infrastructure and public buildings that are fit for purpose	-

Goal 6: Improve access to affordable, reliable, sustainable, modern energy and transport

The results show some areas where progress is 'on track', and some areas 'of concern'. The renewable energy project is 'on track'. Compared with the previous year, there has been a significant decrease in the amount of petrol, diesel and LPG imported. Affordability of electricity warrants further consideration once information from the HIES 2016 is available.

The number of domestic flights to the southern group and Manihiki is 'on track', but 'of concern' for Penrhyn and Pukapuka. The number of domestic shipping trips was 'on track' for the southern group, but 'of concern' for the northern group.



#	Indicator	Status & trend
6.1	Percentage of electricity generation from renewable energy	▲
6.2	Annual amount of fossil fuels imported	▲
6.3	Percentage of median income spent on electricity	○
6.4	Transport connectivity index [southern group; northern group]	▲ ○

Goal 7: Improve health and promote healthy lifestyles

The results show a lack of progress towards the goal. Non-communicable diseases ('NCDs') continue to be a serious issue and this indicator is 'off track'. Health spending is 'of concern' as it is below the NSDP target relative to overall government expenditure. The decline in sexually transmitted infections ('STIs') is 'on track'. The percentage of school aged youth involved in physical activity is 'of concern'. Life expectancy for both males and females has remained near constant since 2013 with slight fluctuations and is 'of concern'. It has been difficult to find data for the mental health indicator, but it is known that this is an area which needs attention.

#	Indicator	Status & trend
7.1	Rate of premature deaths from NCDs	■
7.2	Health spending as a percentage of government expenditure	○
7.3	Prevalence of sexually transmitted infections	▲
7.4	Youth engagement in physical activity and sports	○
7.5	Average life expectancy	○
7.6	Number of people diagnosed with mental health disorders annually	○

Goal 8: Inclusive and equitable quality education and promote life-long learning opportunities

The results show positive progress towards the goal in early childhood and secondary education. The literacy and numeracy rates for year 11 students, and NCEA level 1 pass rates exceed MOE targets. Enrolment in early childhood education is high at 98 per cent. The percentage of the population with vocational or tertiary qualifications below the NSDP target at the Census 2011. Education spending is 'of concern' as it is below the NSDP target relative to overall government expenditure.

#	Indicator	Status & trend
8.1	Literacy and numeracy rates	▲
8.2	Early childhood education enrolment	▲
8.3	National Certificate of Educational Achievement, level 1 pass rate	▲
8.4	Percentage of population with vocational or tertiary qualifications	■
8.5	Education spend as a percentage of government expenditure	○

Goal 9: Accelerate gender equality, empower all women and girls, and advance the rights of youth, the elderly and disabled

The results show little progress towards the goal. Representation of women at political level is low and 'off track'. The Census 2016 will provide more up to date information about the gender pay gap and may show greater parity as 2016 information for the public sector shows



that on average women in that sector earn more than men. The indicator relating to youth wellbeing has not been reported on. The accessibility of public facilities such as community centres and commercial buildings to people with a disability or impaired mobility is 'of concern'.

#	Indicator	Status & trend
9.1	Percentage of political representatives that are women	🔴
9.2	Youth wellbeing index	-
9.3	Income disparity between men and women	⬆️
9.4	Number of fit for purpose facilities and services for the infirm, elderly and disabled on each island	🟡

Goal 10: Achieve food security and improved nutrition, and increase sustainable agriculture

The results show little progress towards the goal, and there is a lack of information about the percentage of food purchased that is produced locally or total food production. Information that is available indicates increased reliance on imported foods. The decline in the total land used for agricultural purposes is 'of concern'. There were no reported biosecurity outbreaks in 2016/17 so this is 'on track'.

#	Indicator	Status & trend
10.1	Percentage of all food purchased that is produced locally	🟡
10.2	Total food production	🟡
10.3	Total land used for agriculture	⬇️
10.4	Number of reported biosecurity outbreaks	🟢

Goal 11: Promote sustainable land use, management of terrestrial ecosystems, and protect biodiversity

This is a wide ranging goal and the indicators chosen to measure progress give a very limited snapshot of the state of the environment. The status for wetlands on Rarotonga is 'off track' with a negative trend. The spatial extent of protected land is 'of concern' but improving. All three threatened species considered for the biodiversity indicator are 'of concern'. Achieving Goal 11 is a significant challenge, particularly on Rarotonga, where the development pressures are greatest.

#	Indicator	Status & trend
11.1	Change in wetland areas	🔴
11.2	Areas of land protected	⬆️
11.3	Biodiversity loss [three species]	⬆️⬆️🟡

Goal 12: Sustainable management of oceans, lagoons and marine resources

The results show mixed progress towards the goal. The state of the reef, as measured by coral coverage, is 'of concern' but improving. The extent of the marine protected areas as a percentage of the Exclusive Economic Zone is 'on track'. The tuna catch is well below maximum sustainable yields and therefore 'on track'. Lagoon water quality is 'of concern'. Economic returns from oceanic and lagoon resources is 'of concern' with a negative trend.



#	Indicator	Status & trend
12.1	State of the reef	⬆️
12.2	Areas of protected exclusive economic zone	⬆️
12.3	Percentage of yield against sustainable benchmarks	🟢
12.4	Lagoon water quality	🟡
12.5	Economic returns from oceanic and lagoon resources	⬇️

Goal 13: Strengthen resilience to combat the impacts of climate change and natural disasters

The results provide limited information about progress towards the goal, as two indicators have not been reported on. Access to protection from cyclones is 'on track'. The northern group has some vulnerabilities which will be addressed with the planned construction of cyclone shelters.

#	Indicator	Status & trend
13.1	Resilience index	-
13.2	Percentage of population that have access to protection from category 3 or higher cyclones	🟢
13.3	Percentage of public buildings and infrastructure built to hurricane strength standards	-

Goal 14: Preserve our heritage and history, protect our traditional knowledge, and develop our language, creative and cultural endeavours

The results do not provide comprehensive information progress towards the goal. The rates for Cook Island Maori literacy at NCEA level 1 are 'on track' with a positive trend. The Census 2011 information demonstrates a healthy level of engagement in cultural activities at that time but this needs to be updated once the Census 2016 information is available. Digital archiving of cultural resources is in its initial stages.

#	Indicator	Status & trend
14.1	Cook Island Maori literacy rates	⬆️
14.2	Average engagement in cultural activities	-
14.3	Number of Cook Island articles, artefacts, media and other cultural resources that are catalogued or developed, and digitally archived	-

Goal 15: Ensure a sustainable population engaged in development for Cook Islanders for Cook Islanders

The results give limited information about progress towards the goal, and several indicators have not been reported on. Loss of population continues to be 'of concern' with an overall decline, but the resident population in Rarotonga has increased slightly (by 2 per cent) since the Census 2011. Ethnic composition of the population is of interest for this goal, but 2016 information is not yet available. Voter turnout at the last general election in 2014 was 'on track'. There has been slight increase of three additional research applications received by the research committee in 2016 compared with 2015.



#	Indicator	Status & trend
15.1	Resident population of Cook Islanders	↓
15.2	Percentage of Cook Island investment (versus foreign investment) in the Cook Islands	-
15.3	Quality of life index	-
15.4	Voter turnout	○
15.5	Number of applications received for research and scholarship on the Cook Islands	↑

Goal 16: Promote a peaceful and just society and practice good governance with transparency and accountability

The results provide mixed information about progress towards the goal due to limited data for some indicators. Access to the justice system has not been reported on but has been assessed as 'off track'. Reoffending rates have not been reported on. It is difficult to draw conclusions from the information provided about domestic violence rates. The rate of motor vehicle accidents resulting from reckless behaviour is 'off track'. The average performance of government ministries is 'on track'. Financial governance is generally within the agreed parameters and the overall results for the financial responsibility index are 'on track'. The low number of parliamentary sitting days means that this indicator is 'off track'.

#	Indicator	Status & trend
16.1	Justice accessibility index	○
16.2	Rates of domestic violence	○
16.3	Rate of motor vehicle accidents (from reckless behaviour)	○
16.4	Reoffending rates	-
16.5	Average performance of government ministries	○
16.6	Financial responsibility index	○
16.7	Number of parliamentary sitting days	↑