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COOK ISLANDS HERALD

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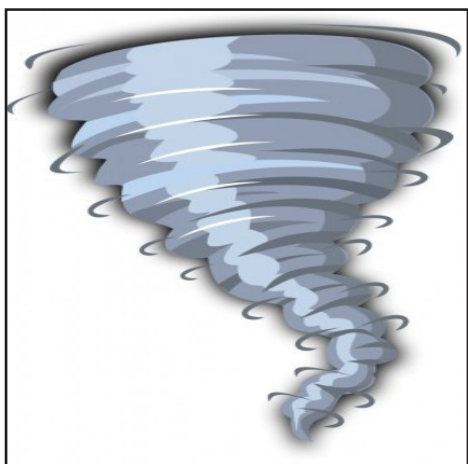
Apology

"In the 11 December, 2013 issue of Cook Islands Herald there was an article on page 12 which referred to the agreement negotiated between the Cook Islands Government and TOA Petroleum whereby the Government underwrites TOA Petroleum's profitability for 8 years. The article referred to that settlement as an "in-house deal" and implied, as a result of it, Mr Porter has "sponged" off the taxpayers.

George Pitt, the author of the article, and the Cook Islands Herald, wish to clarify to readers that the agreement reached between TOA Petroleum and the Government was in settlement of proceedings lodged by TOA Petroleum against the Government for breach of contract. The payments made by the Government have been made under that settlement agreement. Mr George Pitt and the Cook Islands Herald apologise to Mr Porter and to TOA Petroleum to the extent the article may be read to imply that the settlement was not made at arm's length, and any payments made by the Government were gratuitous or exceeded what was payable under the settlement agreement."



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ABM advises the risk of powered equipment, such as the eastern South Pacific cell phones. Your cupboard region getting more than the should be stocked with food average 11 tropical cyclones that will keep. Your trees and is 47%. Good to know but it shrubbery trimmed so branches does mean we can expect don't fly into your home.

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Grey power member withdraws all funds from bank

By Charles Pitt

The Herald was informed Wednesday morning that one member of Grey Power has withdrawn all her funds from her bank rather than risk government unilaterally seizing her money to pay some \$4,000 in back taxes.

Her action follows MFEM's seizure of back tax owed from the bank accounts of four Grey Power members recently, the latest being Mrs Simiona of Tupapa who had over \$3,000 seized from her bank account without her knowledge or any prior warning from MFEM or her bank. This incident was reported on local TV news by her husband Teariki.

How the CIP party faithful react to this latest round of incidents remains to be seen but some party faithful are beginning to openly voice concerns at the way the parliamentary wing is allowing officials to treat the elderly.

The Simionas were staunch supporters of the CIP but now say they will no longer vote CIP at the elections.

Bishop first to break CIP ranks over pensioner backtax

Grey Power furious and withdrawing savings over bank raids

While many of the Cook Islands Party caucus are disgruntled about their Governments treatment of the Grey Power members over the contentious issue of back taxing Aitutakian Cabinet Minister Teina Bishop has registered his displeasure publically. Others with deep reservations are the Deputy Prime Minister Teariki Heather, Kiriau Turepu and Nandi Glassie with Finance Minister Mark Brown and Prime Minister standing by their Ministry of Finance and Economic Management hatchet men Richard Neves and Treasurer Andrew Haigh.

When PM Puna returned from his 13th overseas trip for 2013 last Thursday Heather and Turepu met him at the Airport and raised the back tax issue suggesting the Government could save face by exempting the Grey Power from the back taxing of their New Zealand pensions as a Christmas good will present. To their disappointment, the Prime Minister demonstrated no response to the suggestion.

There was a hope Puna would make the announcement on Tuesday, the day before Christmas to avoid the Opposition getting wind of the politically damaging discovered and interpreted clause 3 on page 6 of the agreement signed by New Zealand Prime Minister John Key and Cook Islands Prime Minister Jim Marurai in 2009.

In the meantime MFEM has commenced withdrawing monies owed from pensioner's bank accounts by special arrangement with the Banks. On Friday night's CITV local News long time CIP stalwart Teariki Simiona lambasting the Government because Inland Revenue had deducted \$3000 from his wife Nancy's bank account. This is the third

pensioner to experience this extreme measure by MFEM's mad tax men who have statutory powers to do so.

On learning of this politically damaging indiscretion Minister Teina Bishop has broken the CIP silence of the majority of his opposing colleagues and stated "This nonsense has to stop immediately. Dehumanising our elderly is sacrilegious."

In addition Bishop said this is a serious undermining breach of the Cook Islands Party constitution which under the Mission Statement which says (g) *to create a nation founded upon Christian principles in which love and respect for one another and goodwill to all thrive and in which the youngest, the aged and the less fortunate are well cared.*

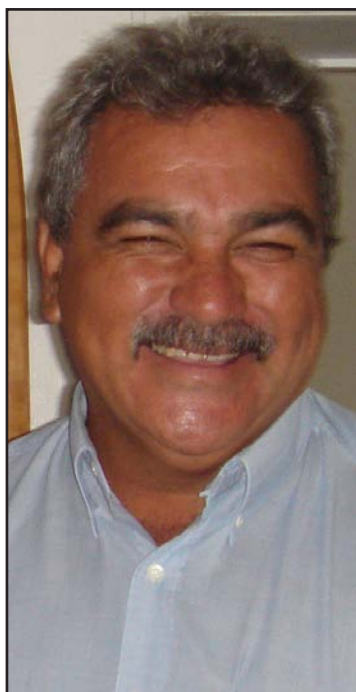
Under the next section called Goals and Objectives (i) *to promote the Christian spirit of caring, of loving one another, of kindness, respect and goodwill to all especially towards those who are in so much need of such love and caring- the very young, the elderly and those less fortunate than others.*

(Bishop disclosed recently that when the Cook Islands Party was formed, there was a meeting held at the old Beachcomber building where the party endorsed just one policy item, which was to take care of the elderly).

"Is this a Christian action, this is Christmas, where is the morality in raiding the pensioner's bank accounts?" asked Bishop.

Bishop accompanied by Tupapa MP George Maggie visited a Tupapa residence to confirm money had been withdrawn by Treasury to pay for back tax. Bishop then contacted Haigh who reluctantly confirmed money had been withdrawn without any notice.

Bishop on legal advice claims Treasurer Andrew Haigh has



Teina Bishop

no statutory right to confiscate people's money from Bank accounts without notice which raises the issue of litigation. Superseding all laws is the Constitution that protects the property and assets of people except if sanctioned by a Court order.

Bishop will file a declaratory application to the High Court and if Haigh has over stepped his authority, Bishop insists Haigh be sacked immediately. Bishop continued to reiterate, "To confiscate pensioner's money like this is so wrong in a Christian country, especially at Christmas; it's nothing short of an abomination and a psychological abuse of the elderly."

Now that Bishop has publically stated his disagreement and separation from Puna and Brown's blind mindless support of Neves' grave robbing pursuit of the pension back tax, it paves the way for other CIP MPs to make a similar courageous step.

Invading pensioner bank accounts has infuriated Grey



Andrew Haigh

Power executives Tupe Short and Dennis Tunui who are giving notice to all CIP Members of Parliament who support the PM's unrelenting stance against the elderly; they will be repaid in kind at the next General Elections. Tunui said Grey Power members are shocked at the lack of confidentiality and protection of their funds deposited in the Banks.

"This new aggressive tactic of the government is placing a lot of stress on the elderly about the security of their savings, their money isn't safe in the Bank, not only is this CIP government cruel, they don't care about people."

Both Short and Tunui claim Minister Brown has given assurance in writing no pensioner will be prevented from travelling if they hadn't paid their back tax. "This has proved to be the opposite; it shows everyone who is running this country."

As of Monday 23 December many Grey Power members are withdrawing all their savings from their Banks. - George Pitt

Proof Nenevanomics no media fabrication

For some months this publication has refuted the glowing glossy financial public relation reports the Ministry of Finance and Economic Management Richard Neves has been dishing out to the public. Desperate to justify an extension to his three year contract which ends in July 2014 neneva Neves has made exaggerated gestimates of the country's finances in his efforts to impress his bosses.

When MFEM Minister Mark Brown was happily crowing about a \$6 million surplus recently, the Herald stated a correct reading of the data indicated a deficit of up to \$2 million or even more. How correct that has proven to be. Nenevanomics is well entrenched in the bowels of MFEM.

As previously stated Neves may have hypnotic persuasion over his gullible Finance Minister Brown and be able to hood wink the politicians many of whom can't understand a balance sheet, but for all his sleight of hand magic we remain unimpressed and are willing to stand by our convictions.

Without a seasoned and experienced accountant on his team, Neves and his fellow economists are a one sided bunch who like weather forecasters try to predict outcomes based upon the flimsiest of evidence. Their performance is embarrassing for the obese salaries they are paid, any wombat can be a guessanomic. The Cook Islands can be assured of one certainty; we aren't getting value for money.

When the annual Budget was passed midyear it was trumpeted with self congratulations. Our response was the CIP Government was pitching too high which would strain the structural integrity and intelligence of the budget. This politics of supply in a very fragile economy would predictably be unsustainable as pursuing a short term gamble and guestimating projected revenues pointed to the Budget doomed to fracturing.

This is exactly what's happening, now we are being bored with MFEMs latest press (last week) release of frivolous



Richard Neves - The real Prime Minister pulling the strings behind Puna's back

excuses such as "The number has been revised due to a number of reasons," Then they list a number of primary school maths rhetoric.

Tourism's slower growth than initially anticipated is one of them. MFEM has finally had their ego bubble pierced and the rocks in their heads are being excavated slowly at least in a more sensible direction. There is admission by MFEM the government will "need to consider cost saving policies and initiatives as part of future budget planning to offset the negative forecasts."

And who has the balls to front up to cabinet and tell them that, Mr Neves? First tell Cabinet what everyone including the Grey Power pensioners know, government is running on empty.

When it comes to money the CIP are a government that cannot be trusted. They got their calculations wrong last year, panicked then introduced the unpopular Withholding Tax only to discover to their embarrassment it not only raised a lot more than expected but it was totally unnecessary. This year their overconfident up talk about surpluses has proven to be wrong once more and are now spin doctoring excuses for their incompetence.

How can we be certain they have got it right this time? We

can't, therefore they cannot be trusted. No amount of unsophisticated propaganda will sway the public into a stupor that fails to discern the absolute unprofessional fiscal antics of a bunch of grossly overpaid foreigners.

This Government exhibits no evidence of increasing tax revenues by development or broadening the base therefore it's only a matter of time before serious shedding (cost saving policies) is nonnegotiable. And that means reducing the unsustainable bloated public service.

Neves desperate efforts to impatiently kick start the multimillion dollar Te Mato Vai is driven by his fear he will get be exposed for his incompetence in the handling of the country's funds. Te Mato Vai will momentarily provide a money spinning smoke screen for neneva Neves seriously flawed understanding and practise of sovereign fiscal responsibility.

This short sighted live for the moment government will have temporary fiscal relief that will see them reject MFEM's recommendations for the adoption of prudent measures. The recent tax reform measures are another piece of Nenevanomics evidence. To have a mono based tax source propels

the Cook Islands into high risk fiscal vulnerability. The narrow short sighted unprofessional cognitive of the overpaid MFEM inner circle have entrenched the country into consumer based revenue sourcing. As a consumer based tax economy we are highly exposed to external market forces.

By mid 2014 the western financial markets will hit a wall of calamity imploding the fragile financial institutions of our biggest western nations. This time the Cook Islands will not be ripple effected but tidal wave forces will expose our fragility, lack of foresight and over confident dependence on tourism. Our failure to diversify our tax base will be to our detriment and without reservation warrant the immediate dismissal of Neves and his co-architects of Nenevanomics.

Time and performance have proven the superficial Richard Neves is a novice opportunistically promoted prematurely; he is well over his head in matters of fiscal administration.

Will Neves acknowledge the Herald's published views of the budget are totally correct in the context of the latest MFEM release? Or will he continue to scoff at the accuracy of the Herald? - George Pitt

Study reveals Tax Review Process was flawed

By Charles Pitt

A study carried out by the Office of the Prime Minister into the process by which the recent Tax review was carried out discloses that mistakes were made and that there are a number of concerns about how the review was developed.

This report has not been made public until now.

While the report commends MFEM on taking the initiative in leading the Tax Review, the report lists the following as a concern;

-The consultation process was neither inclusive or comprehensive,

- There was a lack of supporting evidence-in too many instances assertions were made that either lacked evidence or were either blatantly wrong or inaccurate; and

-The presentation of facts was unbalanced-the review often glossed over the risks of its recommendations, not allowing for an informed or balanced discussion of policy alternatives.

The report says the findings of its study comes after the reforms have been approved, however, its findings will ensure we learn from the mistakes of the past when making decisions about moving forwards.

Space does not permit the full details to be reproduced here, however, the following are some notable extracts from the report.

Methodology

1.Composition of the Review team

Lack of diversity among review team reflected in gaps in analysis. Persons with strong background in finance and economics. No representatives from civil society or other schools of economic thought. A significant oversight. Team was papa'a with no-one of Cook Islands origin or upbringing. Therefore, some instances in Tax review report where there are generalizations about Cook Islands society that are inaccurate or completely erroneous.

2.Consultations

Parties not able to participate in the process for developing the review. Perception that review a "fait accompli." Southern group consultation conducted in English.

3.Vetting of options

Other options could have been canvassed. Unbalanced assessment of suggested reforms-disturbing. Public and politicians not properly informed of the potential risks of the options. MFEM's role is to pre-empt discussions by raising risks in the first instance rather than waiting for the public to do this. MFEM have behaved more like salespersons rather than facilitators of informed discussion. This conduct does not serve the political or public interest.

Review of Tax Principles

1.Efficiency and neutrality

Tax increases to be non-distorting however, this is at odds with the taxes on alcohol and cigarettes where the intention is to distort and change economic behavior or consumer patterns. Research has shown that provision of basic household necessities suffer when more income is spent on alcohol and cigarettes. Failure to mention this in the Tax Review report is not sound practice in the provision of policy advice.

2.Increased reliance on domestic taxes-VAT

Not clear why greater reliance on VAT is a positive thing. Domestic taxes may be raised by other means, VAT is only one of them.

3.Tax neutrality

Makes sense in a developed country but seems counter to the aims and aspirations of any developing country. As a developing country we need to aspire to growing government revenues to finance our development. The principle of tax neutrality seems at odds with what we are trying to do as a nation.

Value added tax changes

1.Impacts on small business

VAT will increase the cost of business for smaller businesses who are not VAT registered and cannot offset VAT payments. These will be passed on to consumers, most often lower

income families who are already struggling and have little disposable income.

2.Price elasticity of the Cook Islands as a destination

The Tax review asserts the Cook Islands is not a cost competitive tourist destination and that an increase in costs due to VAT will unlikely impact the industry. This assertion is challenged, no proof this is the case, rather the opposite is increasingly true. NZ tourists have been found to be extremely sensitive to prices. Their thrifty nature being well known and frustrating. Very concerned this assertion was made with little or no research or evidence and believe this to be borderline irresponsible by the authors of the report.

3.Absence of mention of the cost of living

The cost of living is a significant issue. There is a growing number of poor and people living in hardship on Rarotonga. Increases in welfare payments not necessarily targeting those in hardship. Increase in VAT will only make problems worse. A comprehensive review of the tax system should assess the impact on the cost of living and the welfare of citizens. The Tax review is negligent in this area.

Next issue: we will complete our report on the findings of the OPM study in the next issue of the Herald.

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Our Frontpage model



Frontpage model for this week's edition of the Herald is Miss Iulia. Iulia is back in Rarotonga for xmas break and is lovin every moment of it. Check out our website www.ciherald.co.ck and facebook page: www.facebook.com/ciherald



KA INANGARO MAATA IA: TETAİ INGOA KUKI AIRANI TUKE UAKE RAI NO TE MARINE PARK

Kua rau-maire ia ete Parai Minita ote Kuki Airani ko Henry Puna tetai kimikimianga ingoa tuke uake rai ei akairo note Marine Park ote Kuki Airani. I teia mua-mataiti kua rauka mai tetai tutu-akairo note Marine Park i anga ia e June Hosking e i teiane i ka anoano ia tetai ingoa tuke uake rai ei tapiri atu kite pae ite tutu-akairo.

I teiane i, kote maata ote Marine Park mei tetai 1.1 mirioni kua kiromita ote Tuanga Moana ote Pae Apa-tonga ote Kuki Airani nei. Te rave ia mai nei rai te akanoonoo anga papu ote marine park ete akakena anga, e kua irinaki ia e ka oti mai i nga tuatau openga ote mataiti 2015.

"Kapiti mai te turu pakari a toku kavamani, te aronga mana ete katoatoaanga ote iti-tangata, e pera te turu ate Tua-Akatanotano, ka riro te Marine Park ei akamaroiroi kia rauka ua rai te akatupu puapinga mei to roto ite tuanga ote pae ote turoto, te tautai e tote takere-moana mate kore e tamanamanata ite au meitaki natura, i roto ite moana, te au akau e to runga ite au enua", i akakite ei te Parai Minita.

Kia vai ua rai tana i tuatua, kote akakoroanga maata i teiane i koia, kia rauka mai tetai INGOA no to tatou marine park – ko tetai mea maatamaata rava atu i roto i teiane i ao!

Ko teia tarere, nate katoato e noo ana kite Kuki Airani nei e pera te iti-tangata Kuki Airani e noo ana ki tetai atu au enua ke mai i vao ake.

Ka topiri te tarere ite ora 5 Varaire ra 17 Tianuare 2014 e i mua ake ite openga ote epetoma a muri ake, kua rauka ite Parai Minita ite iki mai ite ingoa i iki ia – mate uriuri kapiti atu kite Ruru Minita ete Peretitani ote Are Ariki. Kote tangata nana te ingoa i re mai, ka oronga ia atu ki iaia e \$250 moni Nu Tiren.

Kote ingoa i iki ia kapiti atu kite tutu-akairo ka taangaanga putuputu ia ki runga ite au apinga, te au mea nenei ia, te kakau, te au akakitekiteanga tuatua, te au akakitekiteanga i runga ite roro uira, e vaitata rai e ki runga pouroa ite au mea ka piri atu kite Marine Park.

Ina! Tetai ingoa kia kapiti atu kite tutu-akairo! Peea atu ei? Ka manga pakari rai, ko ta matou ia! Kare e akakotinga ia te maata ote au ingoa taau ka inangaro ite tuku mai no reira kimikimi pakari e kia o atu koe ki roto ite tareanga!

Te pati ia atu nei kia tuku mai i ta kotou au tamanakoanga kite: Communications Coordinator, Cook Islands Marine Park, PO Box 649, Avarua, Rarotonga, Cook Islands; TIS Office (i rotopu i te Tamarind House e te Fishing Club); email Jaewynn@wovenpacific.com; me e au uanga taau kia ringi atu ia – Jaewynn McKay numero 21 144; cell 55 486; mekore te email i runga nei.

Letter to the Editor

Broken promises

Dear Editor
When the Grey Power went and had a meeting with Mark Brown, we asked him if any of us leaving the country would have to pay the two years back tax. He said no we don't have to.

Well a Grey Power woman was leaving and that day she received a letter saying she had to pay the \$4,000 back tax. She was leaving for New Zealand and she got the letter at 11 o'clock, and she said how

is she going to do that? She was leaving soon. The poor woman was in tears when she went to see Dennis.

So what do you think of the Minister Mark Brown? Is that the way to treat your own people? Are they desperate for money?

This government doesn't care about its own people but themselves. I don't know how Minister Mark Brown can show his face on TV or the newspaper, smiling. He's all false to me. Shame, shame, on you.
Grey Power, one voice, one choice.

Buy back Telecom shares best bet



Telecom Cook Islands

Rather than allow Digicel to buy out Telecom New Zealand's 60 percent shareholding in Telecom Cook Islands it is an asset government should buy back if the opportunity presents itself. If the politicians can be kept at bay and it remains a monopoly in the nation's interest it's well worth the investment.

Criticism over TCI charges are misguided as comparative rates to Australia and New Zealand are out of context as well as the comparisons to other more populated Pacific nations. While the range of services TCI offers may not match those of our neighbouring island nations, ours are the most affordable despite the monopolistic privilege of TCI.

Digicel may have reached saturation point in Samoa and Tonga where they have little competition and need to expand into new frontiers to maintain their growth statistics.

Despite the marketing gimmicks, incentive bonuses and enticements to grow the penetration and connectivity percentages in the likes of Samoa there is a point of affordable saturation. There were giveaways of motor

vehicles, substantial cash prizes as well as electronic gadgets. Cell phones were virtually given away to generate wider use of the services but that to has a point of affordability.

Being a multination company Digicel has vast deep pocket resources to make their introductory presence highly receptacle with excitable anticipation. Digicel are marketing masters of hype that peak public appeal and approval ratings but fall short with the affordable matrix. If there was ever a grand master of unconcealed blatant brandwashing incorporating every compliance physiological subliminal influences, it is Digicel.

Digicel even blatantly lied extensively that it was 4G when it was only 3G. Despite being exposed by the Regulator Director as being fraudulent Digicel escaped any disciplinary measures from the Government due to their political connections.

In terms of a global context TCI rates extremely high. Expectations mainly by our expat community are overbearingly unrealistic. The attraction of the Cook Islands is its unique lifestyle

and people, that more than cancels out the shortcomings. One cannot have the offerings of what they never had elsewhere plus expect the Cook Islands to introduce that which was left behind. Having the best of both worlds is a dream that will remain a dream.

Affordability is based on purchasing power and by comparison as an example the average wage earner in Samoa has to work 13 hours to purchase an equivalent internet package the average Rarotonga wage earn works only five hours for. This is similarly repetitive for comparisons with Fiji and Tonga telecommunication charges. In terms of affordability the Cook Islands is streets ahead.

With the introduction of O3b that will deliver high speed internet TCI will be able to roll out more consumer services.

Digicel have done their due diligence and will not need to make any effort to increase connectivity, household wise it's most likely 100 percent. They know it's a golden goose that lays little golden eggs every day. After Digicel made a pitch in 2009 their take it or leave it offer was turned down. Not a

problem, Digicel surfaced in Fiji then set about making inroads into Voda phone's market share. If they get a Cook Island presence Digicel will paint the Island red and spread the hype and brandwashing technology till we become red as well.

Left to run under the direction of a competent Board of Directors and an switched on CEO TCI is an enterprise that should never be relinquished to off shore owners.

If Telecom NZ are in the mood to sell their shares the Cook Islands public should have first refusal to match Digicel's price. Our National Superannuation Fund (CINSF) laws should be amended to allow them to purchase TNZ shares, and then a later stage a proportion of these shares can be on sold to the public to increase the return of CINSF's investment.

With TNZ out of the picture and as a National asset with a legislated monopoly TIC can then review all service charges removing the TNZ component thus reducing rates across the board.

George Pitt (former TCI Chairman and former resident in Samoa)

Solar Farm to generate electricity for Grid

The Aponga Uira's (TAU) announcement last week that the costly technical modifications at the power station in Avatiu valley will pave the way for private enterprise the opportunity to become an Independent Power Producer (IPP) is a commercial innovation that will contribute to reducing Rarotonga's dependence on fossil fuels.

This elevates the Cook Islands to being a leader in renewable electricity generation (REG) in the Pacific. The Tokelau Islands have converted to solar electricity generation, but TAU intentions are a significant advancement in renewable technology.

Waiting in the wings for some months is a commercial identity who has anticipated TAU and the Energy Commissioner would adopt this position in pursuant of Government's REG goals by 2020. In an exclusive interview with a spokes person for the group The Herald was told they are mildly surprised by the sudden announcement. Their preparations and planning was geared around a mid 2014 announcement but are supportive of the announcement so they can confirm and finalise some decisions.

The Group plans to establish a four hectare electricity generating solar plant capable of producing five mega watts or eight million units a year. (Average household uses 240 units/month) This translates into the equivalent of using two million litres of diesel reducing TAU's current consumption of 7.5 million litres per year.

The monetary savings of the two million litres saving is \$3.8 million. Purchase 8 million units at 45 cents is \$3.6 million, giving TAU a net saving of \$200,000. (Net result, TAU reduces its diesel consumption by two million litres and gains \$200,000.)

As land in suitable locations is available, the Group plan to expand in two hectare blocks. While secrecy and confidentiality



are very important at this stage the Group has serious concerns about the perceived conflict of interest in the TAU Board of Directors. They point out TAU Board member Steve Anderson in particular as he is a business competitor in this field of electricity.

With TAU moving into private enterprise partnerships and commissioning further large installations of their own including the calling of tenders for contractors to supply and install the equipment Anderson should immediately voluntarily resign from the Board rather than have pressure applied to the Government to have him stood down.

The Group also plan to bid for TAU tenders and are concerned at Anderson having insider information. They claim to have access to new technology that they doubt others on Rarotonga have, they claim they have invested in research and consultants and want to protect their acquired knowledge from any potential competitor from getting it for free.

The Group have anticipated independent production of electricity and have been

preparing for it. The quantity of equipment being purchased has resulted in a very competitive price with the manufacturer who will also have a shareholding for five years that is renewable. Extensive ground work has also been carried out in Samoa and it is expected the results and performance of the Rarotonga project will get the endorsement from the Samoan authorities.

While the Group will not disclose the location of the project other than it is between Rutaki and the Vaimaanga development site on the inner road. Landowners prefer the option of shareholding in exchange for land leasing. Their location puts the Group as a potential supplier for any future development on the Vaimaanga site. A further site closer to the Rarotongan Resort and Spa could also be a partial provider to them.

The Group claims their finances are in order ready to go, they also claim a Bank is so impressed with their business modelling and prospectus they are willing to provide loan facilities. It depends how fast the Group wants to expand. With limited foreigner involvement

the Group does not need to expose their business plan to Business Trade Investment Board. The Group considers insider trading rife in the Cook Islands and is making every effort not to become commercially exposed to competitors.

The Group were happy with TAU's proposed unit purchase price of 45 cents stating it's generous. They have a profitable bottom line well below that amount ensuring the Group will be very competitive. The Group expects a rush of unprepared attempts to cash in on the IPP scheme only to find they will not be competitive leaving a lot of cheap equipment unsellable.

Just because one becomes a IPP that is no guarantee TAU will buy their electricity, warns the Group who see TAU as an electricity broker in the future. Traditional electricity production will soon become a historical fact due to the improving technology and the hardware being mass produced, hugely reducing the costs.

The cost of producing one unit of electricity will eventually be reduced to less than 20 cents before margins are added.

- George Pitt

Kia Orana and welcome to the second issue of Te Mato Vai Facts and News!

This issue is dedicated to providing a summary of the Draft Te Mato Vai Water Supply Master Plan for Rarotonga prepared by AECOM that is now available for viewing on www.watsan.gov.ck

The master plan is extremely detailed and draws on a number of reports and proposals that have been previously prepared for the Cook Islands government on the water system in Rarotonga.

The Project Management Unit (KEW – Kupa Engineering and Water Limited) has gone through the draft master plan and has asked AECOM for clarification on a number of points and issues. It's likely that members of the public will also have issues they want more details about and we encourage these issues to be raised at the public consultations that will begin in the week beginning Monday 13th January 2014. These public meetings will be led by Deputy Prime Minister and Minister of Infrastructure and Planning, Hon Teariki Heather. A full

schedule of these meetings will be advertised from next week.

Also published today is the master "Questions and Answers" relating to the Te Mato Vai project. Every question the project team receives is logged and answered and this process will continue for the duration of the project. The answers will be regularly updated on www.watsan.gov.ck (until the Te Mato Vai website is up and running).

The Te Mato Vai project is committed to keeping the public informed and to the transparency of facts, figures and information and, that is why we have released the draft master plan and other documents.

The first physical sign of work on Te Mato Vai – the upgrade of the Rarotonga water supply – will be when employees of China Civil Engineering Construction Corporation complemented with locals start laying the new 'ring main' in February 2014 which will distribute water around the island after the project com-

Facts & News Issue 02



TE MATO VAI

*The Cook Islands Water Partnership with the
People's Republic of China and New Zealand*

Draft Master Plan Consultation Summary

missioning

The new main will be bigger in diameter than the existing one and so will be capable of carrying sufficient water.

The present main is 150mm in diameter; the new main will be 200mm in diameter for 46 kilometres of its length and 250mm for 7 kilometres. The ring main will be the feeder line

around the island which will supply water to a parallel sub-main 80mm in diameter, from which customers – households, resorts, schools, churches and other consumers will be supplied. Laying the ring main is able to proceed while consultation and detailed design work continues on other aspects of the upgrade.

Overall planning for the

upgrade has been based on peak water demand and projection of Rarotonga's population to the year 2031. Using figures gathered in the 2011 census, and extrapolating those figures forward, the Ministry of Statistics has calculated a population of 16,700 in 2031.

Using that figure the water project has been designed to provide 200litres of water per person per day for households. By way of comparison a 44-gallon drum holds 220-litres.

As a further comparison, similar organised water supply systems around the Pacific range from 180 to 250 litres per person. The average New Zealand system design allows 180-litres per person.

Water to resorts has been calculated on the basis of 400 litres per bed per day, other users like schools, churches and industries are allocated a bulk supply measured in cubic metres of water.

As an indication of how porous and wasteful the present system is, it's estimated that about 1700-litres per person per day is going into the system at the intakes with about 70-percent of that not reaching the

consumers tap. It's further estimated that most of that is being lost on household and private property, which is an area that will need attention to ensure the efficient use of water in the future.

The first half dozen of the Chinese workforce will arrive on Boxing Day. But the bulk of the workers (there will be fewer than 40) and their equipment won't arrive until towards the middle of January.

While the pipes and other materials that will be used in the ring main construction have been made in China, the standard of materials, design of the work and the construction methodology, it will need to meet on completion is based on New Zealand standards.

The upgrade of the water system has a contract period of thirty months.

It may be worth reminding everyone that the aim of Te Mato Vai is to provide clean potable water via an efficient and reliable distribution system with minimal loss, to the people who either live or are visiting Rarotonga; and to manage that process and the system in a cost effective way.

Introduction

The draft master plan for the upgrade of the Rarotonga water supply is now complete and ready for consultation with stakeholders including the public.

This master plan and Te Mato Vai, the water project it describes and outlines, stems from a commitment by the Cook Islands Government to provide a reliable supply of potable drinking water to the people of Rarotonga by 2015/2016.

The project was formally announced last year at the Pacific Leaders Forum in Rarotonga and will be delivered by a water partnership formed between the governments of the People's Republic of China, New Zealand and the Cook Islands.

The master plan is extremely detailed. It was prepared by the international Civil Engineering company AECOM based in Australia and New Zealand and draws on a number of reports and proposals that have been previously prepared for the Cook Islands government on the water system in Rarotonga.

Basically the plan is a draft 'blueprint' that looks at refurbishing the current water system by upgrading the 12 intakes around the island, installing or increasing storage facilities at those intakes, treating the water collected to make it fit to drink, and upgrading the distribution system which takes the water to consumers.

It also proposes having additional storage at intakes where an abundance of water is available and keeping that water in reserve in an untreated state, for times of drought when it can be fed into the system; it also suggests that stored water could be used for electricity generation and irrigation.

The report includes a wide range of suggested improvements to the supply of water to Rarotonga including dealing with the estimated 40 – 70% of water that is leaking from the system between the intakes and consumers. It is likely that much of those leaks are taking place on private property, after the water is delivered from the distribution system to the consumer's property.

The report talks about ways of administering the new and improved water system, and maintaining it for future generations and training staff to carry out those duties; creating work requiring new skills for local people.

Metering of water is suggested partly to keep a track of where the water is going and helping track down leaks; but also to assist with any charging system that may be introduced to help cover the ongoing costs of the new system.

While the majority of the system will continue to be gravity fed, it may be necessary to provide pumps to get water to higher areas of the island.

Now that the draft plan has been completed, it will be possible during the consultation period to add, amend or delete items from it before it is handed over to KEW – Kupa Engineering and Water – the New Zealand/Samoan engineering company that has been chosen to manage Te Mato Vai through to completion.

The final Master Plan will become KEW's 'bible', the docu-

ment that it will work from to deliver a completed 'Te Mato Vai' to the Cook Islands government.

Rarotonga Water Supply Draft Master Plan - Summary

The Government is embarking on a multi-million dollar upgrade of the water supply system on Rarotonga with the goal of delivering a reliable supply of safe drinking water to all properties connected to the existing network by 2016.

To meet this policy objective, Government has formed Te Mato Vai – the Cook Islands water partnership with the People's Republic of China and New Zealand. The cost of Te Mato Vai has been estimated to be in the region of \$60 million. Funding for the project will come from a combination of Cook Islands Government budget funding, a \$15 million grant from the Government of New Zealand, and a \$23.5 million loan from China (at two per cent interest over 20

years) to finance the upgrade of the ring main.

Government has sourced a general budget support loan from the Asian Development Bank's Economic Recovery Support Programme, some of which has already been used to rebuild part of the water network (Project City).

Whilst the latest draft of the Water Supply Master Plan for Rarotonga estimates the total cost of Te Mato Vai projects to be in the region of \$72.1 million, the final cost of the project will be confirmed once the master plan is approved and is likely to be less than \$64 million.

The Water Supply Master Plan has been drafted by global engineering company AECOM to set the overall water system concept for Rarotonga including design scope, the level and type of water treatment, and the total project cost. Kupa Engineering and Water Consulting Ltd (KEW) will form the Project Management Unit which will oversee the daily operations of upgrading the water supply network.

The master plan is currently

out for consultation and is expected to be approved in early 2014. The Water Supply Master Plan for Rarotonga will be consulted on widely in the coming months.

The upgrade to be carried out in Rarotonga will involve the refurbishment/reconstruction of 12 water intakes, the creation of extra storage capacity, replacement of all trunk mains and ring mains and the construction of water treatment plants.

The current water supply on Rarotonga is untreated which can result in health issues when drinking tap water – many locals and visitors rely on bottled or filtered water.

Te Mato Vai aims to make supply more reliable by reducing waste, allowing more economic growth, and help in preparing for longer droughts that are likely to occur due to climate change.

The extra storage facilities proposed by Te Mato Vai will also provide buffers between rain events and help to pressurize the system.

Te Mato Vai is the largest single infrastructure project in the

Te Mato Vai, a water partnership delivering healthy water for all

Cook Islands since the International airport construction in 1974. The reliable supply of healthy potable (drinking) water will provide for growth in tourism, the population of Rarotonga, and for the improved health of local communities.

A survey undertaken by the Asian Development Bank (ADB) identified an overhaul of our water supply and improving quality is long overdue. Results of the 2009 survey indicated that 97 per cent of all households said the water was brown or dirty after heavy rain. In addition the survey showed that nearly 80 per cent of households do not drink water straight from the tap because of the quality and they think it's unsafe to drink.

The master plan's objective is to identify the deficiencies in the water supply network caused by deterioration of the existing network, changes in population growth and legislation; and analyse the deficiencies under current and future peak conditions, to determine appropriate solutions and costs to upgrade water supply.

Te Mato Vai will provide immediate tangible benefits for the local community:

An asset which is optimal in design so that it provides a reliable water source to all connected properties and continues to be economic to maintain and operate over the design life.

Reliable treatment facilities that keep the local communities safe from pathogens, protozoa and viruses in drinking water.

Governance of the water network structured so that the Cook Islands are in a position to best manage this asset economically, politically, socially and environmentally.

This project will also leave a legacy within the Cook Islands through the creation of more local jobs and the upskilling of local people to operate and maintain the improved water system. Another legacy identified by the master planners is the education of the local community on the importance of safe drinking water, its preciousness as a resource and how, at a community level, they can seek to sustain it.

After consultation with stakeholder groups of Te Mato Vai and through a hydraulic analysis, AECOM has identified 69 projects as part of the renewal and upgrade of Rarotonga's water distribution network.

Identified projects include the ring main upgrades proposed by the China Civil Engineering Construction Corporation (CCECC) and the following network upgrade projects:

- All of Rarotonga's intakes and trunk mains have been recommended for refurbishment and replacement with the exception of the Takuvaine intake which was completed as part of the

Project City upgrades.

- Treatment works and storage reservoirs are required at each of the 12 intakes.

- The installation of pressure reducing valves (PRVs) on the intake lines, flow meters and backflow prevention devices to facilitate effective management of the network.

A number of smaller and peripheral projects have been identified including:

- The continuation of the private water tanks subsidy scheme.
- Detailed investigation into Rarotonga's groundwater resources.

- The installation of local booster pumps to supply properties with low pressure at high elevation.

- Initiatives to address customer side leakage across Rarotonga.

Cabinet has endorsed the overall structure for the governance of the project, and partners were notified in late December 2012. This involves the project Governance Group, a project steering group, and a stakeholders group. Partner representation will be on the Governance Group and the Project Steering Group.

The latest draft of the Water Supply Master Plan recommends an additional \$12.3 million worth of projects including extra storage at the Takuvaine and Turangi intakes expected to cost around \$3 million each. It also includes the \$3 million water tank subsidy (\$1500 per property).

The ring main upgrade to be carried out by CCECC will cost an estimated \$23.1 million and construction is likely to commence mid February 2014.

Water storage reservoirs are also a construction and design priority and have been costed at \$14.1 million. Following this, the replacement of trunk mains, at an estimated cost of \$11.3 million, will also begin.

The final construction priority is water treatment plants which AECOM suggests could cost in the region of \$5.2 million. The final cost will depend on what water treatment options are chosen.

Each of Rarotonga's 12 water intakes will be upgraded/reconstructed under Te Mato Vai at a total cost of around \$1.7 million.

The installation of PRVs would cost approximately \$504,000 and meters and backflow prevention devices are expected to cost \$4.2 million.

Supplying safe, reliable and affordable water for our people is the overarching goal of this water partnership. Currently there is no charge for the public water supply in the Cook Islands. The possibility of charging for the delivery of water that meets international quality and health standards and is reliably delivered is being con-

sidered by Government.

The Cook Islands government will own and establish a water provider and fund the organisational development programme necessary to ensure that staff are equipped to operate the new system to the standard required by the end of the construction and transition period.

Community input is still needed on some aspects of the project such as the water treatment options proposed under the master plan.

Local business and employment opportunities are also issues KEW will be seeking your input on. Over the coming weeks and months public consultation meetings will be held around Rarotonga. You are encouraged to attend, to ask questions, and provide your views.

For any queries about the project please contact a member of the KEW team on 28 851 or email: info@kew.com. A copy of the most recent draft of the master plan can be found on www.watsan.gov.ck

Delivering healthy water for all

Water needs to be safe to drink. Government is committed to its policy of supplying reliable drinking water to all properties connected to the Rarotonga water network by 2015. The objective of Te Mato Vai, the Cook Islands Water Partnership with the People's Republic of China and New Zealand, is to upgrade the aging water distribution network over a period of 3-5 years.

Global engineering company AECOM has developed the Water Supply Master Plan for Rarotonga.

The master plan has been released for consultation and is expected to be approved in early 2014.

- AECOM has identified 69 projects to be undertaken under in conjunction with Te Mato Vai at an estimated cost of \$72.7 million. The final cost of Te Mato Vai will be confirmed once the master plan is approved.

- The project's scope includes the upgrade of Rarotonga's 12 water intakes; creation of extra storage capacity; replacement of all trunk mains and ring mains; and construction of water treatment plants.

- This master plan provides much needed detail to enable Kupa Engineering and Water Consulting Ltd (KEW) to start

consulting and engaging widely on a range of issues.

- Consultations with the public will include land access, disruptions, environmental impact, water treatment options and local business and employment opportunities.

- The project will upgrade the current water supply system which is at the end of its useful life – it's leaking, unsafe and unhygienic.

- This is also a way to adapt to climate change by mitigating expected drought risks (lower leakage, conservation and bacteria in the water).

- It is estimated that up to 70 per cent of our current water supply is lost through pipe leakages before it gets to our homes. The master plan estimates that this leakage makes up about 29 per cent of the total estimated daily demand of 14,300 cubic metres of water.

- Other factors contributing to a variable water supply include increased demand from commercial users, a lack of incentives to conserve water, and changing rainfall patterns.

- Rarotonga households use an estimated 15 per cent of the total daily demand for water. This is based on the census population figure of 10,600 with a per capita demand of 200 litres per day.

- The master plan estimates that agriculture makes up 32 per cent of the demand on water.

- Tourism contributes to an estimated 9 per cent of the total demand, based on the 2011 census peak tourist occupancy of 3300 beds and a per capita demand of 400 litres per day.

- Commercial demand is estimated to total 1700 m³ per day – or about 15 per cent of the total demand.

- A survey undertaken by the Asian Development Bank (ADB) identified an overhaul of our water supply and improving quality is long overdue. Results of the 2009 survey indicated that 97 per cent of all households said the water was brown or dirty after heavy rain.

- The same survey also showed that nearly 80 per cent of households do not drink water straight from the tap because of the quality and they think it's unsafe to drink.

- A water treatment system will make it safe to drink and

reduce sickness. Clean water is a key factor in achieving improved public health, especially for low income households, women and children.

- Supplying safe, reliable and affordable water for our people is the overarching goal of this water partnership.

- Currently there is no charge for the public water supply in the Cook Islands.

- The possibility of charging for water that meets international quality and health standards and is reliably delivered is being considered by Government. An option under consideration is one where a 'free amount of water' is determined, and a 'user pays' system is applied to domestic, small business and large commercial operations once the 'free' amount has been used.

- The Te Mato Vai project was announced at the Pacific Islands Forum hosted in Rarotonga, in August 2012 (<http://watsan.gov.ck/water-partnership>). A copy of the most recent draft of the master plan can be found on www.watsan.gov.ck

A legacy project master plan

The Government of the Cook Islands recognises the need for a master plan to realise its commitment to supply reliable potable (drinkable) water to all properties connected to the Rarotonga network by 2015/2016.

The master plan has been developed by AECOM, a global engineering company that started in May. This plan sets the overall water concept for Rarotonga including design scope and the level and type of water treatment that will meet the needs of Government and the people. Te Mato Vai is the name given to the Cook Islands water partnership with the People's Republic of China and the Government of New Zealand that aims to reliably deliver healthy drinking water on Rarotonga by 2016. Rarotonga's 12 water intakes will be upgraded as part of one of the largest infrastructure projects in Cook Islands history, estimated to cost in the region of \$60 million. Government budget funds will be complemented by \$15 million in grant funding from New Zealand, and a \$23.5 m soft loan from China to finance the ring main.

According to the master plan, the two projects of greatest significance are the construction of storage reservoirs at Rarotonga's intakes and the renewal of the trunk mains. AECOM's initial hydraulic analysis assumes that these proposed upgrades will result in a fully pressurized water system that will also reduce

water loss and the intrusion of air and contaminants into the water network. A complete upgrade of the ring mains will also be carried out by the China Civil Engineering Construction Corporation (CCECC) at an estimated cost of \$23.1 million. Consultations over the coming months will include water treatment options recommended in the master plan.

- Initial estimates put the cost of construction of water storage reservoirs at \$14.1 million. Government has set a target of 36,000 cubic metres of water storage on Rarotonga – the equivalent of three days' supply at peak demand.

- At present, 11 existing reservoirs contribute to an estimated 3600 cubic metres of storage capacity.

- The Takuvaine reservoir contributes 2500 m³ to water storage; however, it is reportedly in poor condition.

- The Akaoa reservoir with a 10,000 cubic metre capacity has been decommissioned and the Muriavai intake which serves the reservoir is considered under the master plan to be a source for emergency supply only.

- AECOM has recommended that additional storage be built at Takuvaine and Turangi due to plentiful water supply at a cost of \$3 million for each project. It has been suggested that funding for the extra projects could be investigated in relation to their potential for pumped storage for hydroelectric and irrigation use.

- Reconstruction of trunk mains which extend from the intakes to the ring mains is expected to cost around \$11 million. Intake refurbishment is estimated at \$1.7 m.

- Several water treatment options are available to Government. At present treatment plants could cost around \$5.2 million.

- At present, with the exception of the Papua intake, the only measures for water treatment in the existing network are the coarse-gravel screens at 8 intakes.

- The master plan recommends a five part water treatment strategy:

- Coarse-gravel (roughing) filters
- Storage of untreated water
- Mechanical filtration
- Disinfection (by chlorine and/or UV light)
- Distribution (with residual chlorine and water quality monitoring)

- Coarse-gravel filters would be barrier to larger debris and suspended matter that may damage downstream equipment as well as harbour pathogens.

- Following the coarse filters, water will be stored in reser-



voirs located at each intake.

- A mechanical filtration step is required to further remove fine debris and suspended matter from the drinking water. AECOM has presented two options – the minimum requirement of screen filters and the optimum option of membrane filters.

- The master plan recommends that water then be treated by UV disinfection followed by chlorination. At minimum, chlorine should be used to provide primary disinfection in the distribution system.

- Water quality monitoring for chlorine residual is recommended in the distribution system.

- AECOM suggests further cost saving could possibly be made by combining catchments and treatment.

- A copy of the most recent draft of the master plan can be found on www.watson.gov.ck

A priority timeline for Te Mato Vai

The Rarotonga Water Supply Master Plan sets out priorities for meeting the objective of Te Mato Vai to supply safe, reliable potable water to all properties connected to the water network by 2016.

Te Mato Vai aims to upgrade and reconstruct Rarotonga's water intakes; construct new water storage reservoirs; replace trunk main and ring main systems; and construct water treatment plants.

- The first priority is to increase the reliability of supply which will be achieved through the construction of the storage reservoirs at the water intake sites.

- AECOM, the global engineering company responsible for developing the master plan, recommends that the first 4 storage reservoirs be constructed should be at Avana, Turangi, Takuvaine and Taipara.

- The replacement of the trunk mains and ring mains

would then increase the reliability of supply.

- The second priority is to provide a safe potable water supply through the construction of water treatment plants.

- Before treatment plants are commissioned, the replacement of the ring mains and trunk mains will need to commence first.

- The ring mains will be rebuilt by the China Civil Engineering Construction Corporation (CCECC) from February 2014. This project is estimated to cost around \$23.1 million and has the longest duration for construction.

- CCECC will be hiring local people and businesses to complement their workers. Government has agreed that about 40 CCECC employees will work on the upgrade to the ring mains.

- The storage reservoirs are considered a construction and design priority as they can be put in service to increase the reliability of water supply before 2016.

- After completion of the proposed ring main upgrades, AECOM recommends works should be scheduled in such a way that the projects delivering the greatest water supply benefit are prioritised.

- AECOM recommends the following projects as a high priority:

- The installation of water storage at Avana and Turangi due to the consistent yield and high elevation of the intakes.

- Upgrades to the Kia Orana reservoir at Takuvaine due to the intake's location as the primary source serving the Project City area and the reported poor condition of the existing reservoir which sits at a low elevation.

- Installation of water storage at Taipara intake to improve the security of supply and pressure on the southern coast.

- Construction of the trunk mains will start while the storage reservoirs construction continues. Access road construction is also required

as a permanent access to the intake sites.

- The construction of treatment plants will be the last to commence and will only be commissioned once all the other components of the network have been completed.

- The master plan includes material and construction standards which will complement the existing New Zealand, Australian and Chinese construction standards under which the projects will be undertaken.

- The Ministry of Infrastructure and Planning (MOIP) has undertaken substantial work during and after Project City to ensure quality and standards have been produced for the water supply.

- The recently completed Project City is a substantial upgrade of the network in Avana. Meters have been fitted to properties in the area, but they are not used for charging purposes. Water meters will be installed as one of the extra projects included in the construction programme.

- AECOM has recommended that pressure reducing valves (PRVs) be installed on the trunk mains to balance pressures around the island and provide a way of managing the draw on each intake. Flow metres and backflow prevention devices will also facilitate effective management of the network.

- Booster pump requirements to increase water pressure at high elevations will depend on further investigations.

- AECOM has recommended additional storage at Takuvaine and Turangi due to their plentiful water supply at an extra cost of \$3 million for each scheme.

- Also included in Te Mato Vai master plan costs is the \$3 million water tank subsidy (\$1500 per property) which will continue as an independent project.

- The most recent draft of the master plan can be found on www.watson.gov.ck

Akatomoanga:

Kua oti i teianei te Kaveinga-Metua (Tamanako) no te akameitaki atu i te turanga o te vai o Rarotonga nei. Ka tuku ia atu te reira ki roto i te Iriiri-Kapua te ka rave ia ki te au tangata e te au kamupani te ka arapaki ia e teia parani. Ka o katoa mai te katoa anga o te iti tangata. Ko teia Parani Metua e te Te Mato Vai, koia te paranianga no te vai pera no te au akatakaanga rikiriki, kua tupu mai te reira no roto i te inangaro maata o te Kavamani Kuki Airani kia rauka i te tuku atu ki vao i tetai turanga meitaki tikai no te vai inu ki te iti tangata o Rarotonga nei e kia oti i roto i te mataiti 2015/2016.

Kua tuku ia te karere no teia porokaramu i te mataiti i topa ki roto i te Upouanga Maata a te au Tama-Akatere-Au o te Pa Enua Pasifika tei rave ia ki Rarotonga nei. Ka akatupu ia teia porokaramu no te vai na roto i te vaerua taokotai i rotopu i te Kavamani Tinito, te Nu Tireni e te Kuki Airani.

Ka kitea ki roto i teia Kaveinga nei te au iriiranga rikiriki. Kua akateamamao ia mai oki teia e tetai kamupani tei ope tona rongu ki roto i teia nei ao. E kamupani Tivira-Iriiri Matini teia tei karanga ia e ko te AECOM. Kua akatinamou ia tona opati maata ki Autireiria e Nu Tireni. Kua iki katoa mai aia i tetai au ripoti e tetai au tamanakoanga tukeke tei rave ia ana no te Kavamani

Kuki Airani i roto i te au kimianga ravenga no te akameitaki i te turanga o te vai o Rarotonga.

Kua akataka ia teia parani ei 'tango-kaveinga'. Kua 'atu ia mai ki roto i teia parani te akaou anga i te au Koro-Vairanga Vai e 12 tei patu takapini ia ki Rarotonga nei. Kua tauru katoa ia mai te patu akao'u anga me kore te akamaata atu anga i te au vairanga o te reira au koro. Kua pera katoa i te parani anga no te tamā anga i te vai kia meitaki te turanga ei vai inu no te tangata. Ka akameitaki katoa ia atu te au paipa tei riro ei akatae i te vai ki roto i te ngutuare o te katoatoa.

I roto i teia Kaveinga kua tamanako katoa ia e kia patu akao'u ia mai tetai au ngāi a'ao vai kia vaiata atu ki te au Koro-Vairanga Vai i te mea e te kitea ia mai nei tetai maata anga vai i tetai au tuatai i reira. Ka taporoporo ia te reira vai. Kare e tamā vave ia. Ka tāpapa ia te reira vai no te tuatai marō. I reira pamū ia atu ei ki roto i te au paipa vai. Kua irinaki katoa ia e ko teia vai ka tau katoa te reira kia ta-angaanga ia no te tā-anuanu i te au mafini akataka uira, pera katoa no te au angaanga tanutanu.

I roto katoa i te Ripoti e maata ua atu rai te au tamanakoanga tukeke no te akamatutu i te tukutuku atu anga i te vai ki te iti tangata o Rarotonga.

TE MATO VAI

Te Kaveinga Metua (Tamanako) no te Mato Vai – E akakouanga teia i te au akakoroanga no te Iriiri-Kapua

Kua kitea mai e mei tetai 40-70 patene o te vai te rūti nei te reira i roto i te kōā mei te au Koro-Vairanga Vai e tae ua atu ki te au ngai o te taviri-paipa vai o te iti tangata. Te anoano maata ia nei teia tukau ki rapakau ia. Kua irinaki ia e ko tetai maata anga o teia vai e rūti nei, tei roto te reira i te ngutuare o tetai au tangata. Ko te au tae anga vai teia mei te au paipa mamaata ki roto i te au ngutuare.

Kua taiku katoa te Ripoti i tetai au akanoonoo anga no te akateretere i te ta-angaanga anga i te turanga ou o te vai. Ka anoano ia

teia kia rave meitaki ia no te au uki o apopo. Kia tereni katoa ia tetai au tangata ei rave i te reira au angaanga. Kua arapaki katoa ki runga i te au taren angaanga te ka anoano ia e to tatou iti tangata no te au angaanga ou te ka rauka mai na roto i teia porokaramu.

Kua tamanako katoa ia mai e kia tamou ia tetai au Pia-Vaito-Vai ki runga i te paipa o te katoatoa. Ka riro te reira i te rekoti e, eaa ra te maata o te vai e tae nei ki roto i te au ngai tukeke. Ka kitea katoa mai e tei ea te au paipa e tae ua nei te vai ki vao. Kia marama katoa tatou e ka riro

te reira Pia-Vaito-Vai ei turu i tetai ua atu akautā anga tiati me tupu ake. Ka riro rai te reira tiati i te tupae i te au akapouanga, kare rava e ope mai anga, no te akapapu anga e kia tae te vai turanga meitaki ki to tatou iti tangata.

Noatu e ko te maata anga o te vai e akatae ia nei na roto i te au paipa e, no te teitei o te au Koro-Vairanga-Vai i uta i te au o i rinui ei tona tae, penei rai e ka anoano ia tetai au pāmu na te uira e akataka ei turaki i te vai na roto i te au paipa kia taena te au ngutuare i runga i te tiketike.

I teia nei kua oti te Kaveinga Metua i te 'atu ia. Ka rauka i reira i teia tuatai o te Iriiri Kapua i te tauru akao'u atu, i te akatuke, me kore i te kiriti atu i tetai au tuanga no roto i te parani tei kore i anoano ia i mua ake ka oronga ia atu ei te parani ki te kamupani KEW – koia te Kupa Iriiri Mafini e te Vai. E kamupani iriiri mafini teia no Nu Tireni - Samoa tei iki ia mai kia riro e nana e akateretere i te porokaramu Te Mato Vai e tae ua atu ki te tuatai e oti mai ei.

Ka riro te Kaveinga Metua akamana ia me oti mai ei bililia na te Kupa Iriiri Mafini e te Vai (KEW). Ko tona kaveinga teia ei akapapu e kua tau meitaki e kia oti meitaki te porokaramu Te Mato Vai, ka oronga

ia atu ei ki te Kavamani o te Kuki Airani.

Te Kaveinga-Metua (Tamanako) no te Vai o Rarotonga – Ko te Akakou anga teia

Te tomo nei te Kavamani ki roto i tetai akapouanga moni te ka ope-mai raurau ua atu ei nga mirioni tāra. Ko te akakoroanga mari ra no te akameitaki ma te akamatutu i te turanga e te akateretere-anga o te vai o Rarotonga. Te akakoro ia nei e me tae ki te mataiti 2016, kia papu meitaki te turanga o te vai e kua tau kia inu ia no te oraanga o tetai ua atu tangata tei tamou ia tona paipa ki runga i te tae-anga vai o te katoatoa.

Ei akapapu i teia kaveinga, kua akatinamou ia e te Kavamani te porokaramu Te Mato Vai. E parani teia no te Tauturu-Taokotaianga i te Vai o te Kuki Airani i rotopu i te Kavamani Tinito, te Nu Tireni e te Kuki Airani. Kua tamanako ia e ka taena tetai \$60 mirioni no te akatupuanga i te porokaramu Te

Te Mato Vai, e taokotaianga angaanga kapiti kia rauka te vai ma note katoatoa

Mato Vai. Ko te au akapouanga no teia akakoroanga ka rauka mai te reira mei roto mai i te au pute moni taokotai a teia au patireia. Koia oki e tuanga ta te Kavamani Kuki Airani mei roto mai i tana au Akapapaanga Moni, e \$15 mirioni moni tauturu na te Kavamani Nu Tirenī e e \$23.5 mirioni tarau na te Kavamani Tinito. (e 2 patene initereti te ka akautā ia ki runga i teia tarau anga no tetai 20 mataiti). Ko te moni teia no te tutaki i te akapouanga no te akameitaki atu i te paipa mamaata takapini i te enua.

Kua rauka i te Kavamani i te tarau mai i tetai akapapaanga moni tauturu tei na roto i te Porokaramu Tupae i te Pae Kimi Puapinga a te Pangika Kimi-Puapinga o Atia. Ko tetai tuanga o teia moni kua taangaanga takere ia te reira no te mono akao'u atu i tetai tuanga o te au paipa vai tei karanga ia te reira porokaramu e ko te 'Ropianga i te Oire' (Project City). I roto i te tamanako anga ou tei rauka mai no roto i te Parani Metua-Tamanako no te Turanga o te Vai o Rarotonga kua irinaki ia e ka pou ki runga i Te Mato Vai tetai \$72.1 mirioni. Inara ko te tino moni tikai te ka pou no teia akakoroanga kare te reira e rauka kia akapapu ia mai i teia atianga, kia oti rava te Parani Metua i te akamana ia.

Kua riro oki e na te kamupani Tivira-Iriiri Matini tei karanga ia e ko te AECOM i 'atu i te takainga mua o te Parani Metua no te Tupae i te Vai o Rarotonga. Kua peka oki te rongo o teia kamupani ki teia nei ao. Nana i tango i te tu o te turanga o te vai e te au akateretereanga tei irinaki ia e kua tau no Rarotonga. Kua ō ki roto i teia 'atu anga o te parani te pararauare anga o te au mea tei anoano ia, te ririnui e te tu o te au ravenga tāmā i te vai, pera te katoa anga o te pou ki runga i teia porokaramu. Ka riro i reira te kamupani KEW – koia te Kupa Iriiri Mafini e te Vai ei Kopapa-Akateretere i te au tuanga angaanga tukeke i te au ra ta-takitai no te akameitaki atu anga i te turanga o te vai.

I teianei kua tau te tuata, te tuku ia nei te Kaveinga Metua ki roto i te Iriiri Kapua e kua irinaki ia e ka papa mai te reira ma te akamana ia i te mea o te mataiti 2014. Ko te Parani Metua no te Tupae i te Vai o Rarotonga ka tuku maora ia atu te reira i roto i nga marama e tu mai nei kia marama te katoatoa.

Ko te akameitaki atu anga i te turanga o te vai o Rarotonga kua tauru ia mai te

akao'uanga me kore te patu akao'u anga o te au Koro-Vairanga Vai e 12. Koia katoa te patu anga i tetai au ngai vairanga vai takake, te mono atu anga i te au paipa mamaata, pera te akatu anga i tetai Koro-Tāmā anga i te vai.

Ko te vai e tuku ia mai nei ki te katoatoa kia ta-angaanga ia i Rarotonga nei kare te reira e tāmā ia ana. Ka riro te reira i tetai au tuata ei akatupu i te maki me inu tika ia te vai no roto mai i te paipa. I teianei ko tetai maata anga o te ititangata pera ki te au turoto te irinaki nei ratou ki runga i te vai moina te ka oko ia mai no roto i te toa. No te mea kua oti anake te reira i te tāmā ia.

Te akakoro nei Te Mato Vai kia rava te maata o te vai tei anoano ia no te ititangata na roto i te akaiti mai anga i te maata o te vai e rūti nei. Me rauka teia ka riro te reira i te akaititūti i te pae kimi puapinga. Ka riro katoa i te akateatamamao ia tatou no te au tuatau roa i te marō anga te enua. Papu roa e ka tupu teia no te mea te kitea nei te tuianga o te reva.

Kua irinaki ia e ko te maata atu o te au Koro-Vairanga Vai mei tei tamanako ia i roto i te porokaramu Te Mato Vai, ka riro te reira ei tupae i te au tuatau kare e ua ana. Ka riro katoa te reira i te akatinamou i te ririnui i te tae anga o te vai i roto i te paipa.

Mei te tuatau mai i akatu ia ei te ngai akatōanga pairere i Rarotonga nei i te mataiti 1974, ka tai nei te Kuki Airani ka tomo akao'u ki roto i tetai porokaramu toko-kimi-puapinga maata rava atu mei te reira te tu, koia oki ko teia Mato Vai. Ka riro te rava o te vai mā te ka tuku ia mai na roto i te paipa ei inu no te ititangata ei pange i te tupu anga o te akamatutu anga o te Pae Turoto. Koia katoa te katoa anga o te ititangata e noo nei ki runga i te tua o te enua, e ka riro ei tupae i te oraanga meitaki o te katoatoa.

I roto i tetai kimikimianga oonu a te Pangika Kimi Puapinga o Atia (ADB) kua kitea mai e kua roa kino te tuatau ia tatou i te tapapa anga kia akameitaki akao'u ia te turanga o te vai – i te pae tikai o te rava kore e te repo o te vai. I roto i te kimikimianga o te mataiti 2009 kua rekoti ia e ko tetai 97 patene o te au ngutuare tei uri manako ia atu, kua akakite ratou e ka repo, me kore, ka tau i tiokereti te kara o te vai me topa tetai ua maata. Kua kitea katoa ia mai e ko tetai 80 patene o te au ngutuare tei kimikimi matatio ia atu, kare ratou e inu ana i te vai no roto tika mai i te paipa. Kare atu

mari ra no te turanga taukore o te vai e kua irinaki katoa ratou e kare te reira e meitaki no te oraanga tangata.

Ko te akakoroanga maata o te Kaveinga Metua mari ra ko te kimi matatio anga e tei ea tikai te au tuanga e riro nei i te tamanamanata i te tae anga o te vai e te rava kore o te vai e tuku ia nei na roto i te au paipa. Penei oki e kua pē teia au paipa e noo nei i roto i te one. Te i'oi'o katoa ia nei te au ture akaare pera te vai to i te neke anga e te maata o te tangata i runga i te enua. Kua kimi matatio ia rai te rava kore o te vai i te au tuatau e kua anoano maata i te vai, ma te akara mamao ki te au mānono anga i te au tuatau ki mua no te vai. Ka riro teia au uriangā manako katoatoa i te tauturu i te iki anga mai i te au ravenga no te tupae i te au manamanata tukeke o te vai. Na te reira katoa e paunu i te maata o te moni te ka anoano ia no te akameitaki anga i teia tuanga nei.

Na roto i Te Mato Vai ka rauka i te akatupu viviki i tetai au ravenga tupae te ka kitea ia e te mata tangata e ka riro i te akameitaki i te oraanga o te katoatoa. Ko tetai au akaraanga:

- E au taonga tiratiratu teia tei 'atu ia no te ititangata ei akapapu e ka rauka i te ititangata tei ātū i to ratou au paipa ki runga i teia akateanga vai i te irinaki ki runga i te reira; e kia maata te puapinga te ka rauka mai, ma te mānā katoa o te au akapouanga no te tiaki e te akateretereanga i te vai kia tau ki te roa o te oraanga tei tamanako ia no teia porokaramu;

- Ka rangarangatū te turanga o te au Koro-Tāmā Vai ei paruru i te oraanga o te ititangata mei te au manumanu tari-maki (pathogens), te au animara iti-poeopoe (protozoa) e tae ua atu ki te au mea e totoa ana i te maki (virus) na roto i te vai inu;

- Kua tarai ia te Akateretereanga o te vai kia rauka i te Kuki Airani i te akatere i teia au taonga nei i raro ake i te Pae Kimi Puapinga, i roto i te akateretereanga Poritiki, i roto i te piri-anga o te ititangata, e tae rava atu ki te taporoporoanga i to tatou aorangi.

I roto i te akatupu anga o teia porokaramu nei, ka rauka katoa mai tetai tua-tāpapa matutu tikai nona i roto nei i te Kuki Airani. Koia oki e maata ua atu rai te au ngai angaanga ka rauka mai i roto nei i te pat-

ireia. Ka akamatutu katoa ia te tereni anga i tetai au tangata no te raveanga i te au angaanga o te vai e tae ua atu ki te akapapu anga e ka tinamou ua rai te tiratiratu o te turanga e te akanoonoanga o te vai.

Kua kitea katoa ia mai e te au Taunga 'atu parani e ko tetai tuanga puapinga maata rava atu i roto i teia Kaveinga nei koia oki ko te apii e te akamarama anga ki to tatou ititangata i te meitaki o te inu i te vai turanga meitaki. Pera katoa te oonu i te puapinga o te vai, e ka akapeea te ititangata i te taporoporo marie anga i te reira. Me oti te Iriiri Kapua ki te au tangata, te au kamupani e te ititangata tei arapaki ia e Te Mato Vai, e me oti i te kimikimi matatio i te turanga tikai ka tau no te ropianga i te vai, kua iki mai te AECOM koia te kamupani Tivira-Iriiri Matini, e 69 au tuanga angaanga ta-takake te ka anoano kia rave ia no te akao'u e te akameitaki atu anga i te turanga o te au paipa tei koropini ia Rarotonga no te tu'a anga i te vai.

Tei roto i teia au tuanga angaanga nei te akamatutu akao'u anga i te au paipa mamaata tei tuku ia mai tei tamanako e tetai Koporeitini Tivira Iriiri Mafini no tetai ua atu Pātūanga (Civil Engineering Construction Corporation(CCECC)) mei Tinito mai. Ko teia i raro nei te au tuanga angaanga no te akamatutu i teia akakoroanga: •Kua tauru ia mai te au Koro-Vairanga Vai katoatoa o Rarotonga nei ki roto i te tamanakoanga e kia akameitaki katoatoa ia, e me ka anoano ia, kia akao'u me kore kia mono katoa ia atu te au paipa mamaata mei ko mai i te au Koro-Vairanga Vai - mari ua ko to Takuvaine no te mea kua oti takere te reira i te rave ia i raro ake i te porokaramu 'Ropianga i te Oire Maata' (Project City).

- Ka anoano ia tetai Koro-Tāmā Vai no te au Koro-Vairanga Vai ta-takitai e 12.

- Kia tamoumou ia tetai au Roka Vaito Ririnui o te Vai (Pressure Reducing Valves (PRVs)) ki runga i te au paipa a'ao ka tuku ei ki vao (intake-lines), pera te Pia-Vaito i te tae anga o te vai (Flow meters), pera katoa tetai au Paruru-ārai Vai kia kore e taoki ki roto i te vairanga (Back-Flow Prevention Devices) – te ka riro i te akamatutu i te akateretereanga i te tuku koropini anga o te vai ki te ititangata.

E au tuanga rikiriki no te ope o te au tuanga mamaata tetai tei kitea mai. Koia oki:

- Kia tinamou rai te porokaramu no te tauturu atu anga i te ititangata kia oko i te tangika a'ao vai no te ngutuare;

- Kia kimikimi oonu ia atu te turanga o te vai-enua o Rarotonga;

- Kia tamoumou ia tetai au pāmu ei akaririnu i te tae anga o te vai ki roto i te au ngutuare i runga i te tiketike.

- Kia rave ia tetai au kimikimi anga no te maata o te vai e rūti nei i te au tangata e taangaanga nei i te vai takapini ake ia Rarotonga nei.

Kua ariki te Ruru Minita i te akanoono anga no te akateretere anga i teia porokaramu. Kua tuku katoa ia te akakite anga ki te au pātana i roto ia Titema 2012 no te reira. I roto i teia akaareanga nei te Kopapa-Akateretere o te Kaveinga, pera tetai Kumiti Akatikatika, pera katoa te Taokotainga o te au Kamupani/Tangata te ka Arapaki ia. Ka mata katoa ia ki roto i te Kopapa-Akatere o te Kaveinga e te Kumiti Akatikatika o te Kaveinga i te Pātana turuturu i teia porokaramu.

I roto i te 'atu anga openga o te Kaveinga Metua no te Tupae i te Turanga o te Vai kua tamanako ia mai e ka anoano akao'u ia tetai \$12.3 mirioni no te akatu i tetai Koro-Vairanga Vai ki Takuvaine e Turangi tei irinaki ia e ka pou mei tetai \$3 mirioni i te vairanga okotai. Tei roto katoa i teia tino moni te \$3 mirioni tuanga moni tupae no te oko tangika no te au tangata takai tai(e \$1500 i te ngutuare okotai).

Kua tamanako katoa ia mai e ka pou mei tetai \$23.1 mirioni ki te Koporeitini Tivira Iriiri Mafini no tetai ua atu Pātūanga (CCECC) mei Tinito mai, no te akameitaki i te turanga o te au paipa mamaata. Ka akamata teia angaanga i roto ia Peperuare 2014.

Ko te au ngā'i Vairanga Vai Tāpapa ka 'atu e oti ka patu ia te reira na mua e kua tamanako ia e mei tetai \$14.1 mirioni te ka pou no teia tuanga. I muri ake ka anoano ia kia mono ia atu te au paipa mamaata e i te tamanako anga ka pou rai tetai \$11.3 mirioni. Ko te au patu-anga openga koia oki ko te akatu anga i te au Koro-Tāmā anga Vai. Kua tamanako mai te kamupani Tivira-Iriiri Matini (AECOM) e ka taena rai tetai \$5.2 mirioni te ka pou no te reira. Ko te akapouanga tika-tikai no teia tuanga ka tiaki atu te reira kia oti i te iki ia mai te tu o te Koro-Tāmā Vai tei anoano ia no Rarotonga.

Ko te au Koro-Vairanga Vai katoatoa o Rarotonga e 12 ka akameitaki ia me kore ka akaū ia te reira i raro ake i te porokaramu Te Mato Vai. Ka pou no teia tuanga mei tetai \$1.7 mirioni.

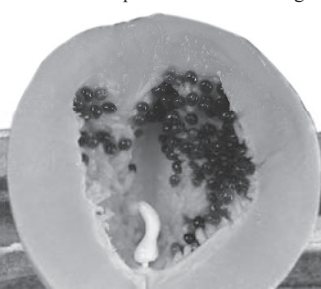
Ko te au angaanga no te tamoumou anga i te Roka Vaito Ririnui o te Vai (PRVs) ka pou mei tetai \$504,000. Ka pou katoa tetai \$4.2 mirioni no te Paruru-ārai Vai (Back-Flow Prevention Devices).

Ko te akakoroanga maata o teia taokotai anga i rotopu i teia au Pātana Tupaeanga Vai, koia oki kia rauka te vai mā no te oraanga, kia rauka i te irinaki i te turanga o te vai, e kia rauka katoa i to tatou ititangata i te akapapu e ka peke ia ratou te au akapouanga mei te mea e ka akautā ia mai no te vai. I teia tuatau kare e tiati ia ana te vai i roto nei i te Kuki Airani. Te uriuri nei ra te Kavamani i te manako e me ka tau rai kia tiati ia te vai. Penei ka riro te reira i te akapapu i te turanga, te mā o te vai pera katoa kia ngoie i te akatae anga ki roto i te ngutuare. Ko te turanga tau o te vai no te oraanga tei akanoo ia e to teia nei ao ta te Kavamani e anoano nei no te oraanga o te ititangata.

Ka akatinamou te Kavamani Kuki Airani i tetai kopapa no te akatere i te au angaanga o te vai. Ka noo rai ra te reira kopapa ki raro ake i te mana o te Kavamani. Ka riro katoa te Kavamani i te tutaki i te au porokaramu a teia kopapa ei akapapu e ko te au taunga angaanga kua rakei ia ratou ki te au tu karape te ka anoano ia no te ropi anga i teia porokaramu ou kia rauka te turanga e titau ia nei - me oti te au angaanga katoatoa ma te tuku ia mai teia akakoroanga ki te rima o te Kavamani.

Ka anoano katoa ia te ititangata kia tomo mai ki roto i te akatupu anga i teia Kaveinga. Ko tetai tuanga tau no tatou katoa oki ko te au angaanga no te Koro-Tāmā Vai tei raranga ia ki roto i te Kaveinga Metua.

Te akara matatio katoa nei te kamupani KEW – koia te Kupa Iriiri Mafini e te Vai – i te au tuanga tau no te au kamupani e tetai au ngai angaanga na te ititangata Kuki Airani. I teia au epetoma e te marama e tu mai nei e au Iriiri-Kapua tetai na te katoatoa te ka rave ia ki runga ia Rarotonga. Te akamaroi-roi ia atu nei te katoatoa kua tae mai me te uiui mai kia marama tikai koe. E tikaanga katoa ia noou i te tuku i toou au manako ki mua i te katoatoa.



Mei te mea e e au manakona anga toou no teia Kaveinga, me ka tika, taniuniu atu i tetai mema o te kamupani KEW – ki runga i te numero 28851. Me kore i-mere atu na runga i te: info@kew.com.ws. Ka rauka katoa ia koe tetai kapi no te Kaveinga-Metua (Tamanako) ou i runga i te kupenga-uira www.watsan.gov.ck.

Kia rauka mai te vai ma no te iti tangata katoatoa

Ei vai mā no te oraanga te titau ia nei. Te irinaki katoa nei te Kavamani ki tana porokaramu tei papau ia kia rauka i te akatu i tetai turanga tiratiratu no te vai. Kia rauka mai ei vai mā te ka tuku ia mai no te iti tangata katoatoa i Rarotonga nei me ope te mataiti 2015. Ko te tango o Pētao Vai pera te Pirianga Pātana o te Kuki Airani, te Kavamani Tinito e Nu Tirenī, koia oki ko te akamatutu akao'u anga i te turanga o te au paipa, te vairanga e tetai au tuanga keke o te vai e kia oti te reira i roto i tetai 3-5 mataiti.

Kua riro na te kamupani Tivira-Iriiri Matini (AECOM) i te 'atu i te Kaveinga Metua no te Pae o te Vai o Rarotonga nei. Kua tuku ia atu teia Kaveinga ki te katoatoa e te irinaki ia nei e ka akamana ia te reira i te mua o te mataiti 2014.

• Kua iki mai te kamupani Tivira-Iriiri Matini (AECOM) e 69 au tuanga o teia Kaveinga Te Mato Vai te ka anoano ia kia akatupu ia. Kua tamanako ia e ka pou mei tetai \$72.7 mirioni no te rave anga i te reira. Me oti te Kaveinga Metua o te Mato Vai i te akamana ia, ka papu mai i reira te katoa anga tikai o te moni te ka akapou ia.

• Ko te pararauare o teia Kaveinga, koia oki, ka 8 mai te akamatutu anga i te au Koro-Vairanga Vai e 12 i Rarotonga nei; Ka akatu akao'u ia tetai au Vairanga Vai Tāpapa; E ka akatu ia tetai au Koro-Tāmā Vai.

• Kua manono ia teia Kaveinga Metua kia rava te au akatakaanga e kia tauru katoa ia mai te au tuanga rikiriki, e rauka ei i te kamupani Kupa Iriiri Matini e te Vai (KEW) i te rave i te au Iriiri Kapua ma te tauru mai i te iti tangata ki roto i te au tuanga tukeke e managanui o teia akakoroanga.

• I roto i te au Iriiri Kapua te ka rave ia ki te katoatoa, ka tauru ia mai tetai ua atu arapaki anga ki runga i tetai ua atu enua, te au tu tamananana no te vai o te iti

tangata, te au tuanga ka 8 mai te Pae Taporoporo, te au tamanakoanga no te tu o te Koro-Tāmā Vai, te au tuanga tei tau kia oronga ia na te au pitinīti Kuki Airani e tae ua atu ki te au angaanga moni tukeke ka rauka mai na te iti tangata.

• Kua vaiata te oraanga tei akataka ia no te turanga o te vai o teia ra i te ope. Te tae ua nei te vai ki vao mei roto i te paipa. Kare katoa te turanga o te vai e tau no te oraanga meitaki o te tangata. No reira te akakoro nei teia Kaveinga kia akameitaki akao'u ia, ma te tāki mai i te turanga o te vai ki runga no te iti tangata.

• Ka ātūi katoa teia Kaveinga ki runga i te tāpapa anga tatou i te tauuianga o te reva, na roto i te akateamamao anga i te au ravenga no te tuatau marō (kia akaiti ia mai te vai e rūti nei, kia taporoporo ia te vai e kia tamate ia te manumanu kikino i roto i te vai).

• Kua tamanako ia e ka taena tetai 70 patene o te vai e rūti nei i roto i te au paipa putaputa e vai nei, i mua ake ka tae atu ei ki te au ngutuare. Kua tamanako te Kaveinga Metua e ka taena i teia vai e rūti nei tetai 29 patene o te vai e manono ia nei ei tupae i te oraanga tangata i te au ra ta-takitai. Koia oki, mei tetai 14,300 kua-metua vai.

• Ko tetai au tumu kare e tinamou ana te ririnui o te vai o roto i te paipa e tae mai nei, koia oki te maata ua atu nei te anoano o te au pitinīti pera ki te au taokotaianga kimi puapinga no te vai. Kare katoa oki e au ravenga no te akamaroiroi i te tangata kia taporoporo i te vai. Kapiti atu ki reira ngātā tikai i teia nei i te akara mamao no te tuatau tikai e topa putuputu mai ei te ua.

• I roto i te au ngutuare o Rarotonga nei, ko te maata o te vai tei tamanako e ka anoano ia no te ra ta-takitai koia oki e 15 patene. Ko te katoa anga o te tangata tei tāre ia e 10,600. Kua tu'a ia i reira tetai 200 rita vai tei tamanko ia i te ra okotai no te au tangata ta-taikitai.

• Kua tamanako ia mai e te Kaveinga Metua e mei tetai 32 patene o te vai e ta-angaanga ia nei no te au angaanga tanutanu.

• I roto i te tāre anga manuiro o te mataiti 2011, kua kitea mai i te tuatau maata tikai o te manuiro e, kua taena tetai 3,300 au roi tei ta-angaanga ia e te turoto. Me paunu ia ka kitea mai e, e 9 patene o te vai te aere nei ki te pae turoto. Ko te aiteanga te ta-angaanga nei te au manuiro

taki tai mei tetai 400 rita vai i te ra.

• Kua tamanako ia mai e ka taena ki tetai 15 patene o te katoa anga o te vai te aere nei ki te au tuanga kimi puapinga. Ko te aiteanga ka pou rai tetai 1,700 kua metera vai te ka pou ki te pae kimi puapinga i te ra.

• I roto i tetai kimikimi anga a te Pangika Kimi Puapinga o Atia (ADB) i te mataiti 2009, kua kitea mai e ka roa kino te tuatau no te akameitaki atu i te turanga o te vai. Kua akakite tetai 97 patene o te au ngutuare tei ripoti ia mai e kare te turanga o te vai e meitaki ana i muri ake i te au tuatau ua ririnui. Ka tau te kara o te vai ki te tiokereti!

• Kua ripoti katoa mai te reira kimikimianga e mei tetai 80 patene o te au ngutuare tei ui manako ia atu, kare ratou e inu ana i te vai paipa. No te mea kare te vai e tau no te oraanga tangata.

• Ka riro te Koro-Tāmā Vai i te akameitaki i te turanga o te vai kia tau no te taena ma te akaiti mai i te maki ka tupu no roto i te vai. Me mā te vai ka riro te reira i te akamatutu i pae o te oraanga, to tatou iti tangata tikai tei raro rava te moni angaanga. Pera katoa te oraanga o te tamariki e te iti vaine.

• Ko te tango o te pirianga Pātana no te Tupae i te Vai, koia oki kia meitaki te turanga o te vai, kia rauka i te irinaki i te au akateretereanga e kia rauka katoa i to tatou iti tangata i te tupae i te au akapouanga no te vai me ka anoano ia ake.

• I teia tuatau kare e tiati ia ana te vai i roto nei i te Kuki Airani.

• Te uri nei te Kavamani i te tamanakoanga e kia tiati ia rai te vai. Penei ka riro te reira i te akapou i te turanga mā e te meitaki o te vai kia aite ki tei akanoo ia no teia nei ao. Ko tetai tamanako anga koia oki, kia akataka ia tetai “tuanga vai tutaki kore”. Me taka te reira, ka tiati ia i reira te au ngutuare, no te pitinīti rikiriki e tae ua atu ki te pae kimi puapinga - me pou ake ta te reira ngutuare “tuanga kare e tutaki ia” i te ta-angaanga ia.

• Ko te Kaveinga Te Mato Vai kua tuku ia te karere no te reira ki vao i te tuatau o te Uapouanga Maata a te au Tama-Akaterere-Au o te Pa Enua Pasifika tei rave ia ki Rarotonga nei i roto ia Aukute 2012. (<http://watsan.gov.ck/water-partnership>). Ka rauka mai tetai kapi o te Kaveinga Metua Tamanako ou mei runga mai i te kupenga-roto-uira: www.watsan.gov.ck

Ka vai teia Kaveinga Metua ei Tu'a Tapapa

Kua marama te Kavamani Kuki Airani i te puapinga ka rauka mai i roto i te 'atu ia anga mai o teia Kaveinga Metua. Koia oki ka riro ei tarai i te mataara no te akatupu i tana papauanga kia rauka i te tuku atu i tetai turanga meitaki tikai no te vai inu ki te iti tangata o Rarotonga nei e kia oti i roto i te mataiti 2015/2016.

Kua 'atu ia teia Kaveinga Metua e te kamupani Tivira-Iriiri Matini (AECOM) e kua peka teia kamupani ki te ao nei tei akatupu ia i roto ia Me. Kua tauru ia ki roto i teia Kaveinga te akakou anga i te tūtū no te turanga o te vai o Rarotonga. Kua 8 atu te pararauare anga o te au mea tei anoano ia, te ririnui o te taenga e te tu o te au ravenga tāmā i te vai ta te Kavamani e te iti tangata i anoano. Kua topa ia te ingoa Te Mato Vai no te Pirianga Pātana i rotou i te Kavamani Kuki Airani, te Kavamani Tinito e Nu Tirenī ei tupae i te vai o Rarotonga kia taena ki tetai turanga meitaki me ope te mataiti 2016. Ka akameitaki ia atu te au Koro-Vairanga Vai e 12 o Rarotonga. Ko tetai angaanga maata rava atu teia te ka akatupu akao'u ia i roto i te tua tāpapa o te Kuki Airani. Kua tamanako ia e ko te maata o te moni te ka akapou ia mei tetai \$60 mirioni. Kapiti atu ki te moni Akapapaanga a te Kavamani Kuki Airani, e \$15 mirioni te ka oronga ia mai e te Kavamani Nu Tirenī pera ki te \$23.5 mirioni tarau mei ko mai i te Tinito. E moni initereti mama oki teia.

I roto i te akataka anga a te Kaveinga Metua, ko nga tuanga mamaata o teia akakoroanga koia oki ko te patu anga i tetai au Vairanga Vai Tāpapa ki te pae i te au Koro-Vairanga Vai katoatoa i Rarotonga nei. Kapiti atu ko te akao'u anga i te au paipa mamaata takapini i te enua. I roto i ta te AECOM iriiri anga i te tu o te paipa-anga vai o Rarotonga, kua tamanako ia e ka riro teia au akameitaki anga atu i te turanga o te vai ei topiri i te reva auraka kia 8 ki roto i te au paipa. Ka riro te reira i te popani i te au putaputa o te paipa, te paruru i te matangi auraka kia tomo ki roto i te taenga vai, te akaiti mai i te vai e rūti nei, me ta paruru i te manumanu kikino auraka kia tomo ki roto i te vai. Ka riro te

Koporeitini Tivira Iri-

iri Matini no tetai ua atu Pātūanga (CCECC) mei Tinito i te rave i te au angaanga no te akameitaki atu i te au paipa mamaata katoatoa e ka pou mei tetai \$23.1mirioni no teia tuanga nei. Ka rave ia te Iriiri Kapua no runga i teia au tuanga a teia au marama e tu mai nei. Ka tauru katoa ia atu te tu o te Koro-Tāmā Vai tei tamanako ia mai i roto i te Kaveinga Metua ki roto i teia au uri anga manako.

• I roto i te au tamanakoanga mua kua irinaki ia e ka pou mei tetai \$14.1 mirioni no te patu anga i te au Vairanga Vai Tāpapa. Kua akakoro te Kavamani kia rauka i te akatu i tetai au koro no te vairanga i tetai 36,000 kua metera vai tāpapa no Rarotonga nei – ko te maata te reira i te vai te ka anoano ia i roto i tetai toru ra no te tuatau manono rava ia atu te vai.

• I teia tuatau e 11 au Koro-Vairanga Vai te akaputu nei ratou i tetai 3,600 kua metera vai.

• Ko te Koro-Vairanga Vai i Takuvaine mei tetai 2,500 kua metera Vai tana e akaputu ana. Inara kua ripoti ia mai e kare te turanga o teia vairanga vai e meitaki ana.

• Ko te Vairanga Vai o Akaoa tei matau i te akaputu i tetai 10,000 kua metera vai, kua topiri ia te reira. Ko te Koro-Vairanga Vai i Muriavai tei riro ana i te angai i te vairanga vai i Akaoa, kua iki te Kaveinga Metua i te reira kia riro ua ei tupae i te iti tangata i te tuatau rava kore o te vai.

• Kua tamanako te kamupani Tivira-Iriiri Matini (AECOM) e kia patu akao'u ia tetai Vairanga Vai Tāpapa ki Takuvaine e Turangi no te mea ko nga kauvai teia e pakari nei te vai i te tae. Kua tamanako ia e ka pou mei tetai \$3 mirioni no te akatu anga i te vairanga okotai. Kua tamanako katoa ia mai e kia akara ia teia akapouanga e turanga kimi puapinga no te akaanuanu matini akataka uira, pera katoa no te angaanga tanutanu.

• Ka pou mei tetai \$11 mirioni no te akatu akao'uanga i te au paipa mamaata mei ko mai i te au Koro-Vairanga vai ki te au paipa e takapini nei i te enua. Ko te akao'uanga i te Koro-Vairanga Vai ka pou mei tetai \$1.7 mirioni.

• E raurau ua atu rai te au tu Koro Tāmā Vai tei tuku ia ki te Kavamani. I teia tuatau kua tamanako ia e ka pou mei tetai \$5.2 no te rave i te reira.

• Takake mei te Koro-

Vairanga Vai i Papua i te mea e te tāmā ia nei tona vai, ko te ravenga ua rai no te tāmā i te vai i roto i tetai au Koro e 8, koia oki ko te ta'au anga i te vai ki te rikiriki toka.

• I roto i te Kaveinga Metua kua tamanako ia mai tetai parani no te tāmā anga i te vai. I roto i teia parani e 5 ona takainga:

- Kia taau ia te vai na roto i te rikiriki toka;

- Kia akaputu ia te vai ki roto i tetai vairanga – auraka ra kia tāmā ia;

- Kia akatae ia te vai na roto i te ta'au tāmā anga a te matini;

- Kia ta-vairakau ia te tāmā anga o te vai (korōfīni (chlorine) me kore tunu i te manumanu ki te vera o te ra (UV))

- Me akatae ia te vai na roto i te paipa (kia paunu ia te iti o te korōfīni ka anoano ia, ma te i'oi'o meitaki i te turanga o te vai)

• Ka riro te tāmā anga ki te rikiriki toka ei arairai i te au tita mamaata, pera te au rakau te ka apaina mai e te vai. Ka riro oki te reira i te takinokino i te au matini me kore i te au paipa i runga i te ara vai. Ka akaputupu katoa te reira i te au manumanu e te animara rikiriki te ka akatupu mai i te maki no roto i te vai.

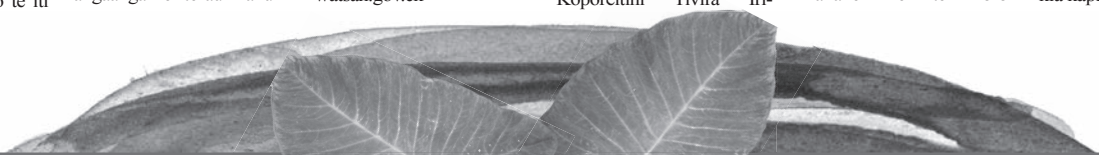
• Mono atu ki muri i te tāmā anga ki te rikiriki toka, ka akaputu ia te vai ki roto i te au Vairanga Vai Tāpapa te ka akatu ia ki te pae mai i te au Koro-Vairanga Vai.

• Ka anoano ia tetai matini tāmā i te au tita rikiriki e te au tita tei pānu mai na raro i te kauvai ki roto i te vai inu. Kua tuku mai te AECOM e rua tamanakoanga – Koia oki, ko te turanga ngoie ua i te ta'au anga i te vai kia na roto te reira i te kupenga. Meitaki atu ra kia ātāe ia te turanga mā rava atu o te vai koia te tāmā anga na roto i te ta'au rikiriki tikai.

• Kua iki te Kaveinga Metua e me oti teia turanga, kia tunu ia te au manumanu e te au animara e toe ra i roto i te vai na roto i te vera o te ra i mua ake ka kairo ei ki te korōfīni. Ko te vairakau korōfīni te tuanga openga rava te reira ka anoano ia no te tāmā i te vai i mua ake ka pamu atu ei na roto i te paipa ki te iti tangata.

• Kua tamanako ia e kia akarakara matariki ia te toe-toenga me kore te ota o te korōfīni i roto i te au paipa akataeanga vai.

• Kua tamanako katoa te AECOM e ei ravenga kia akaiti ia mai te akapouanga moni kia kapiti ia te tāmāanga i te



vai ki roto rai i te au Koro Vairanga Vai.

- Ka rauka tetai kapi o te Kaveinga Metua ou mei runga i te kupenga roro uira : www.watsan.gov.ck

Ko te Ara-kaveinga kia manono ia ei akatupu i te Te Mato Vai

Tei roto i te Kaveinga Metua no te Tupae i te Turanga o te Vai o Rarotonga te au mānōnōanga kia rauka i Te Mato Vai i te oronga mai i tetai turanga tiratiratu no te vai, e kia rauka i te irinaki ki runga i te turanga o te vai ei inu, ma te paipa atu i te reira ki te au ngutuare vai-paipa e kia oti i te mataiti 2016.

Kua akakoro Te Mato Vai i te patu akao'u ma te akameitaki atu i te au Koro-Vairanga Vai katoatoa o Rarotonga nei; Ka patu akao'u ia tetai au Vairanga Vai Tāpapa; Ka mono ia atu te au paipa mamaata mei ko mai i te au Koro Vairanga Vai e te au paipa takapini i te enua; Ka akatu ia tetai au Koro Tāmāanga Vai.

- Ko te takainga mua mari ra ko te akapapu anga e ka rauka i te iti tangata i te irinaki ki runga i te vai paipa o te enua. Ka rauka teia na roto i te akat-

uanga i tetai au Vairanga Vai Tāpapa ki te pae i te au Koro-Vairanga Vai katoatoa.

- Te tamanako nei te kamupani Tivira-Iriiri Matini (AECOM) tei riro ei 'atu i te Kaveinga Metua e, ko nga Koro Vairanga Vai Tāpapa mua e 4 te ka akatu ia, kia akatu ia te reira ki Avana, Turangi, Takuvaine e Taipara.

- Me mono ia i reira te au paipa mamaata mei ko mai i te au Koro-Vairanga Vai e tae ua atu ki te au paipa mamaata e takapini nei i te enua, ka maata i reira te vai ka tae mai.

- Ko te rua o te takainga, kia rauka i te tuku atu na roto i te paipa tetai vai inu turanga meitaki tikai, na roto i te akatu anga i tetai au Koro Tāmāanga Vai.

- I mua ake ka akamata ia ei te au Koro Tāmāanga Vai i te angaanga, kia mono ia atu te au paipa mamaata takapini i te enua inara kia oti roa te reira i te rave ka tuku mai ei i te vai tāmā ia na roto i te paipa.

- Ka akamata te kamupani Tinito CCECC i te akao'u ma te akameitaki i te au paipa mamaata i roto ia Tianuare 2014. Ka pou rai mei tetai \$23.1 mirioni no teia tuanga e ko te tuanga angaanga roa rava atu teia i te rave i roto i te Kaveinga Metua.

- Ka tarau katoa mai te Ko-

poreitini Tivira Iriiri Matini no tetai ua atu Pātūanga (CCECC) mei Tinito mai i tetai au tangata no konei. Ka irinaki katoa ratou ki runga i te au pitinitu ei tupae i ta ratou au tangata angaanga. Kua ariki te Kavamani e kia tari ia mai mei tetai 40 aronga angaanga a te Koporeitini Tivira Iriiri Matini no tetai ua atu Pātūanga (CCECC) te ka angaanga ki runga i teia tuanga o te Kaveinga.

- Ko te au au Vairanga Vai Tāpapa ka anoano maata ia te reira kia akatu ia no te mea ka riro teia au vairanga i te akaputu i te vai kia rava e kia ta-angaanga ia i mua ake i te mataiti 2016.

- Me oti te au paipa takapini i te enua i te akamatutu ma te akao'u ia kua tamanako mai te kamupani Tivira-Iriiri Matini (AECOM) e kia akataka ia te turanga o te au angaanga katoatoa kia riro e ko te au Koro te ka rauka i te tuku mai i te maata anga o te vai, kia na mua te reira i te rave ia mai.

- Kua tamanako katoa mai te kamupani Tivira-Iriiri Matini (AECOM) e ko teia au tuanga angaanga no te Kaveinga i raro nei, kia akanoo ia te reira ei au tuanga angaanga te ka inangaro ia kia oti na mua ake i te katoa anga:

- Kia akatu ia te Vairanga Vai

Tāpapa o Avana e Turangi na mua no te mea tei runga te Koro-Vairanga Vai o reira i te teitei e e maata katoa oki te vai e rauka mai ana no reira mai;

- Kia akameitaki ia te Vairanga Vai Tāpapa o te Kia Orana i Takuvaine no te mea ko teia te Koro-Vairanga Vai e taangaanga ia nei no te 'Ropianga i te Oire Maata' (Project City). Kapiti atu kua kino rava te turanga o teia Vairanga Vai e noo nei ki runga i te one akaaka.

- Kia patu ia tetai Vairanga Vai Tāmā ki Taipara ei akameitaki mai i te turanga o te vai ma te akaririnu mai i te tae anga o te vai i te tua tonga o Rarotonga nei.

- Ka akamata te akamatutu i te turanga o te au paipa mei ko mai i te au Koro-Vairanga Vai i te tuatau e akatu ia mai ra te au Vairanga Vai Tāpapa. Ka anoano katoa ia tetai au mataara tinamou ki te au Koro Vairanga Vai katoatoa.

- Ko te au ngai openga i te akatu mari ra ko te au Koro-Tāmāanga Vai e ka tuku ia mai te reira ki runga i te paipa vai me oti pouroa te au tuanga tukeke i te rave ia.

- Tei roto katoa i te Kaveinga Metua te au apinga ka ta-angaanga ia pera te turanga tiama o te reira au apinga no

te ropianga i teia parani kia tau ki te turanga tei anoano kia āru ia e tei akatinamou ia no Nu Tireni, Autireiria e Tinito no te raveanga i te reira tu angaanga.

- E maata ua atu rai te au angaanga ta te Minitiri o te Au Toko-Kimi-Puapinga e te Paranianga (MOIP) i ropi i te tuatau i rave ia ei pera katoa i muri ake i te 'Ropianga i te Oire' (Project City) ei turu i te au manonoanga kia rauka i te tuku mai i tetai turanga vai meitaki tikai.

- I roto i te 'Ropianga Oire i te Maata' (Project City) tei oti ua ake nei kua rave ia tetai akameitaki anga maata no te turanga o te vai o Avarua. Kua tamoumou ia tetai au Pia-Vaito-Vai ki runga i te paipa o tetai au ngutuare inara kare teia au ngutuare tiati ia ana no te vai ta ratou e ta-angaanga nei. Ko tetai oki teia i te tuanga i roto i te akamatutu anga i te turanga o te au paipa koropini ia Rarotonga tei tauru ia ki roto i te Kaveinga Metua.

- Kua tamanako ia mai e te kamupani Tivira-Iriiri Matini (AECOM) e kia tamoumou ia tetai au Roka Vaito Ririnui o te Vai (PRVs) ki runga i te au vairanga e te au paipa mamaata takapini i te enua ei rekoti i te maata o te vai e tae mai nei mei roto i te au Koro-Vairanga Vai ta-takitai. Ka riro katoa te reira i te akateretere meitaki i te maata

o te vai tei tau kia tuku ia mai ki roto i te paipa o te katoatoa. Ka riro katoa te Roka Vaito Ririnui o te Vai (Pressure Reducing Valves (PRVs) ei tauturu i te akatere anga i te turanga o te vai.

- Ko te tamoumou anga i tetai au pamu no te turaki i te ririnui o te vai kia taena te au ngai teitei, tei runga ua te reira i te au kimikimianga matatio e rave ia nei.

- Kua tamanako katoa mai te kamupani Tivira-Iriiri Matini (AECOM) e kia akatu akao ia rai tetai Vairanga Vai Tāpapa ki Takuvaine e Turangi i te mea e te maata ua nei te vai e rauka mai nei no teia nga paipa. Ka pou rai mei tetai \$3 mirioni no te akatu anga i te Vairanga okotai.

- Kapiti katoa atu ki roto i te Kaveinga Metua o Te Mato Vai, te \$3 mirioni tupae i tetai ua atu tangata tei anoano i te oko tangika vai no te ngutuare (e \$1,500 i te ngutuare okotai) ka rave ua ia atu rai teia ei tuanga takake mei teia Kaveinga.

- Ko tetai ua atu tei anoano kia rauka mai tetai kapi nana no te Kaveinga-Metua (Tamanako) ou ka rauka mai te reira mei runga mai i te kupenga-roto-uira: www.watsan.gov.ck



TE MATO VAI Questions & Answers

No	Question	Answer
1	What is the intent of the Cook Islands Water Partnership?	The goal of the Water Partnership is to reliably deliver potable (drinking) water to the boundary of all buildings connected to the existing network in Rarotonga by 2015/16. This Water Partnership is about delivering healthier and safer drinking water to households, businesses and wherever people work; it's about protecting and promoting the well-being of Cook Islands residents and our visitors. To achieve this, all aspects of the current water network will be upgraded. UV and sand filtration will be introduced to ensure water meets international drinking water standards. Storage throughout the network will be improved to ensure continuity of supply during dry or drought conditions. It will be the largest infrastructure initiative undertaken in the history of the Cook Islands, upgrading or replacing every piece of water infrastructure and will contribute directly to the improvement of livelihoods and economic growth. A partnership fosters shared effort to achieve this goal.
2	What is the current situation with water on Rarotonga?	The water of Rarotonga is subject to variability in terms of quality and reliability of service, this is due largely, to the age and condition of the water infrastructure. Many people currently rely on community filtered water stations for their day-to-day drinking water.
3	How long will the work take?	Current planning, which is subject to change has the project completed by 2016/17.
4	Who will do what?	The China Civil Engineering Construction Corporation (CCECC) will carry out the ring main project with its own workers as well as providing local employment through employment of labourers and purchase of materials and services. Other components of TMV will be tendered and contracted out using Cook Islands government systems, including the detailed design and construction of trunk lines, storage, treatment plants and the refurbishment of Rarotonga's intakes.
5	How much will it cost?	Current estimates have varied between 50 and 70 million, the budgeted cost of the project is \$60-63million.
6	Will the user have to pay?	Supplying safe, reliable and affordable water for all is the overarching goal of the Water Partnership. This comes with a cost. Currently there is no charging for public water supply in the Cook Islands. This does not place a strong incentive on conservation or encourage rain water harvesting which are important factors in total cost. The introduction of cost recovery for a water treatment and distribution system that meets international quality and health standards and is able to be reliably delivered will be considered by the Cook Islands Government in parallel to the infrastructure project.
7	How does the Water Partnership link to other infrastructure projects (for example, Sanitation, Renewables)?	The National Sustainable Development Plan (NSDP) sets out broad goals for development in the Cook Islands and drives the coordinated planning and implementation of infrastructure projects. Wherever practical the Cook Islands Government will ensure works are carried out in the most cost effective and least disruptive manner. For example, coordinating the renewal of underground services and road works. Sanitation program aims to protect public health and preserve the marine environment. Along with water supply, these are important factors in sustaining our tourism industry.
8	What will be the economic benefits of the water partnership?	Economic growth requires efficient and effective services such as water and power. This is especially so in tourism a competitive service based sector. A growing economy and improved public health is expected to lead to increased standards of living for residents.

No	Question	Answer
9	How long has this project been in the pipeline?	The ADB completed an infrastructure master plan in 2009 which listed the project and was based on broad consultations. China and the Cook Islands signed a “Framework Agreement on Cooperation” in some parts of the project as early as 2009, and have done a lot of preparatory work. Chinese designs have been reviewed by engineering specialists from the ADB, EIB, and NZ and more recently by the Te Mato Vai master planners AECOM. The project has featured in the CI Gov budget since 2012.
10	Do we actually need a new island-wide water reticulation system?	Yes, we need to upgrade the existing one which is at the end of its useful life; it’s leaking, unsafe and unhygienic.
11	Do we really need a water treatment system (filtration, UV, chlorine, fluoride)?	Yes, to make it safe to drink and reduce sickness. Clean water is a key factor in achieving improved public health, especially for low income households, women and children.
12	Do we need improved water collection systems (dams, intakes, bores etc)?	Yes, to make supply safer by reducing contamination at source and more reliable by reducing waste, allowing more economic growth (consumption is growing with tourism) and preparing for longer droughts that are likely to occur due to climate change.
13	Do we need improved water storage facilities (reservoirs, tanks)?	Yes, to make supply more reliable by providing buffers between rain events and to pressurize the system. Government has set a target of 36,000 cubic metres of raw water storage to cover two to three days’ peak demand in times of drought or system failures.
14	Do we need improved water pumping systems, and what will they cost to run?	Maybe not, the whole system can still be a gravity fed system given the available elevation above sea levels of the 12 intakes which are more than 40 meters. Once the demand and consumption rate of the users are at the right level then the whole system will be reliable, cheaper and easier to operate. Controls have to be inserted at certain areas to ensure correct pressures are received by households.
15	Are the public willing to pay extra for these services, and how much, and by what mechanism?	A 2009 survey (Asian Development Bank) estimated that over 50% of consumers are willing to pay. Results of the PMU Survey will answer this. People need to be informed of the benefits to be able to decide. Supplying safe, reliable and affordable water for our people is the overarching goal of this water partnership. This comes at a cost. Currently there is no charge for the public water supply in the Cook Islands. The possibility of charging for water that meets international quality and health standards and is reliably delivered is being considered by the Cook Islands Government. An option under consideration is one where a ‘free amount of water’ is determined, and a ‘user pays’ system is applied to domestic, small business and large commercial operations once the ‘free’ amount has been used. A water charge could also provide an incentive to conserve this valuable resource.
16	Are we better off with central, distributed, or individual collection/ storage/treatment/ pumping systems? How have these options been evaluated?	In general terms, a central system is likely to be more cost-effective because there are economies of scale (installation and maintenance) and costs are spread over the largest number of consumers. Individual systems open risks of inequality with wealthy consumers investing where low income households cannot (22% of Rarotonga’s population live below a basic needs poverty line). Evaluation of the current system was undertaken in the master plan process which has endorsed the current model as the most suitable for Rarotonga.
17	What backup would exist in the event of failure of a centralised system?	A centralised system is essential in any country but needs to be reliable. The current rainwater tank subsidy project complements the centralised system, but the tank project should not be considered as a sole water supply system because of the current fluctuation in climate change. Other backup should also be considered such as: (i) borehole pumping system but are all temporarily given the cost of electricity and therefore operation costs will be much higher than a well maintained and operated gravity fed system; (ii) Desalination plants are also another option, but very expensive and the level of expertise required for operation of such plants are not yet available here.
18	What are the land issues (and possible costs) around the area required for catchment, treatment and reticulation?	Land issues will be addressed through consultations, education, awareness over the coming months. Improving the public water supply for all Rarotongans is expected to be a goal that is supported by traditional leaders.
19	What are the energy, maintenance and depreciation expenses for the various options, and how will they be met?	Energy cost will be high if we are to adopt pumping system. Treatment plants energy costs will be relatively small, the only costs that can be operational high are the disinfection chemical costs, and agents etc. but it depends on consultations whether we need these as well. These issues should all be included in the consultations that are yet to take place. At present, we still don’t have accurate amount on depreciation expenses, because these will depend on the cost of assets that will be constructed. These will be known after the tenders is finalised.
20	What arrangements are proposed to prevent back-flow from consumer outlets, and who will be responsible for routine testing of these arrangements?	At the water connections, there should be non-return control valves installed. Once the new connections are in place at household levels and are in use, the old connections should be disconnected.
21	What are the 'pros and cons' of dedicated service ducts for water and other services alongside roads, perhaps doubling as pavements (as in Palau or Marshall Islands), so that roads do not need to be dug up again in the future? Have these been costed and evaluated?	At the moment, CCECC will lay the Ring main pipeline using traditional pipeline trenching and compaction at the cost rate of NZ\$190 per meter. I have just asked CCECC for an approximate unit rate if they are to construct a dedicated service ducts to also include the water main DN250 PE100 PN10, they will respond with the actual cost estimate but gave a response that without the electrical and telecom cables in the duct with only the water main pipeline, they estimated a range of cost from NZ\$350-\$700 per meter depending on the type of ducts that is preferred and adopted considering the environmental conditions and impacts. Therefore for a total 56.3 km pipeline there will be constructed by CCECC, we might be looking at an additional estimated NZ\$9 million variation if we are to request construction of pipeline through a dedicated service ducts.
22	Are the public comfortable with using 'tied' funding that requires the use of the funder's contractors and suppliers? Does this give the country the best value for money, and is it fiscally prudent?	Current CI debt levels are not high by regional or international standards at 22% of GNI. Public debt is a practical means to pay for public goods like drinking water that benefit all society and enable economic development to continue. Not all of the cost of the Te Mato Vai water project will be loan money. The New Zealand Government will provide \$15 million in grant funding. The Cook Islands Government has borrowed the equivalent of NZ \$23.5 million from China at two per cent over 20 years to finance the ring main. The remaining funds will come from the Cook Islands Government; including funds from the ADB’s Economic Recovery Support Programme, (a general budget support loan), some of which has already been used to rebuild part of the water network. The lending from PRC government is not negotiable in its tied nature at the present time. This is linked to the fact that China is itself a developing country with more poverty than the Cook Islands. The CIG has stressed the importance of maximising service and materials purchased by CCECC in the CI market. For these reasons CCECC employees have been contractually limited.
23	What benefits might accrue to the economy if a major water project was implemented by the local private sector, and would it be worth paying a little more for 'untied' debt? Has this been evaluated?	The CIG has lent funds from other sources such as the ADB for this water project. Project city was contracted to local business and is in the final stages of completion. Not all funding is ‘tied’. The NZ funding will be disbursed using CI Government systems. PRC assistance is tied to PRC contractors and this is a criteria for lending and grants at present. The CIG is actively engaging with PRC/CCECC officials to maximise the use of local providers in the CCECC project and constraints on the number of workers (maximum of 40) have been negotiated. The CIG is considering using grant pledges made by China to reduce Chinese debt and cost to the CI taxpayer.
24	How do improvements to water reticulation rank in importance against roads/telecommunications/ sanitation/energy/health/education etc.?	The project does not compete with other projects, it is interlinked as it will result in improved sanitation and health status. Good quality water is internationally recognised as an extremely powerful lever to improve quality of life, hence the priority of delivering ‘drinking water’ rather than just addressing reticulation. Individual values will influence the perceived value of good clean water, e.g. women tend to give this a higher value than men. It should not be seen as a question of either, or, but rather what else?
25	How does implementation of a water project integrate with other reticulation and services (roading, stormwater, pavements, telecom, power, sewerage, hydroelectricity/energy storage)? Has there been engagement with other utilities to determine ‘crossover’ benefits, or negative impacts (e.g. renewable energy plans)?	Yes, Stakeholder Group meetings have been held that include representatives of Te Aponga, Telecom, etc. Also PMU have already discussed coordination requirements with both Te Aponga Uira and Telecom independently. There has been no future plan communicated to PMU as of to date by these service providers.

No	Question	Answer
26	What disruption (to business traffic /tourism / retailing existing services /roads) is likely, and at what secondary cost to the economy, and for how long (3-5 year project duration)?	For any infrastructure development project, there will always unfortunately be some element of disruption to stakeholders. The PMU will ensure that the public will be well informed if any major issues arise that will cause major disruption including mitigation procedures.
27	Does government have the capacity and expertise to manage these projects?	Yes, local expertise has been complemented through engagement of a specialised Project Management Unit (KEW), AECOM for the master plan and with support of its partners, NZAP, PRC, CCECC and local private sector.
28	To what extent is this project being driven by international and national politics?	It's driven by local economic and social goals being improved water supply and quality. This is also a way to adapt to climate change by mitigating expected drought risks (lower leakage, conservation and bacteria in the water). It is true that the partnership with China has attracted international attention to the Cook Islands and tis a positive spin off. This is the result of the specific history of the project.
29	What lessons can be learned from the recent water project works, and the specifications / materials / workmanship used?	Better project management capacity is needed, specifications need to be robust and controlled, local private sector capacity is better than anticipated, coordination between telecom, power and PMs needs improving. At this stage, PMU is still communicating directly with the Project City 2 people and collating all lessons that will be incorporated in the supervision procedures. A lot of these supervision requirements are already in standards and will be adopted for contractual supervision.
30	If contaminated water is currently flowing through the new pipe work in Avarua, does this compromise future potable water?	No. The water system will be flushed and treated before delivery of new treated water. This is the main goal of this Te Mato Vai project. Intakes will be rehabilitated and appropriate treatments will be in place to ensure the current untreated water will be treated before the change over.
31	What assurances will government provide that the water will actually be potable, particularly for tourism properties that will need to give assurances to guests on whether the water is safe? What consideration has there been of liability issues?	The water provider will be required to deliver a water quality standard by legislation. Non delivery will result in liability and ability to withhold payment for services. Mechanism to be used and also Standards of water quality to be adopted are still to be discussed further through consultations with wider stakeholders. The definition of "Potable" should be well defined during the consultations. The current NSDP 2011-2015 defined Potable as to comply with WHO standards. WHO only have guidelines which through consultations, each country can develop its own standards. These are standards that should be compatible with local conditions and expectations. The level of treatment at the head works can be designed to achieve adopted national standards as long as there are some in place.
32	Is it wise to have committed to, and embarked on, a water project when many questions have not yet been answered, and engineering and planning is incomplete?	Many of these questions have been considered. Initial concept plans have been prepared and information released as part of two budget cycles for public consultation. Work is being finalised now to bring together all work done and issues in the master plan which will frame the project management unit's work. The state of the present water system means that urgent attention is needed and this has led to the project being a prioritised action. It is a credit to both political parties that water has remained priority. Substantial work has already been undertaken by consultants and government agencies including MOIP and the Water Partnership over a number of years.
33	What does the public think about all these questions, and has there been adequate (or any) genuine public consultation prior to irrevocable commitments being made to the largest single civil project the country has attempted to manage?	Depends on who you ask and their values. The public is a generic term which cannot reflect the diversity of views. We believe that a majority of residents support the goal of improved public health and economic development potential enabled by this project. It's never too late to seek public opinion. We still have time before preparation of detailed design for the rest of the TMV components. It's important that households receive good quality information about the benefits and costs of improved drinking water.
34	We understand the materials for the ring main have already left China and are bound for Rarotonga. If the design has not been done, how has the sizing of the pipes been calculated, and are they adequate for peak (rather than average) demand?	Yes, the draft Master Plan team had incorporated all the required factor in the modelling including the ring mains. It was only until Govt gave its approval on the pipe diameter sizes for the ring main that CCECC start purchasing their pipes. The advice of Government was based on technical endorsement by AECOM and also PMU.
35	Project City 2 has already been completed; will the water main installed be big enough?	The Project City 2 pipe size was also included in the hydraulic modelling of the whole Te Mato Vai project. Pipe diameter is sufficient.
36	If gravity pressure, rather than a pumped system, is being proposed, how will the likes of the bigger resorts and tourism industry be affected?	Through the overall hydraulic modelling of the whole Te Mato Vai project factors such as peak day factor and also peak hour factor were considered as well as the population growth rate to 2031.
37	Have proper readings of water usage in commercial properties been done?	The current water usage can only be estimated because water to even commercial properties are free. However, the calculation of water demand at commercial business was based on international factors which widely used for water reticulation design in NZ and any other countries including the Pacific. Water meters are being installed now to check assumptions.
38	Will the project deliver enough treated water to the bigger properties without using on site storage and pumping? Will the gravity supply and ring main be able to supply sufficient water without pressure drop to other surrounding properties?	The project is designed to deliver sufficient flow, pressure and quality to the execution point of any customers, such as domestic households, commercial, hoteliers, restaurant, churches and schools. The execution point is where the boundary meter is located. For example; Te Mato Vai is designed to deliver the acceptable standard of water flow, pressure and also quality to Edgewater boundary meter, not to the individual hotel rooms.
39	At present Rarotonga Water Works will not allow any property more than a 50mm water main connection. Will this be overturned?	The connection pipe size to any commercial property should be dictated by the number of max occupants at the property. The issue is not the size of connection but the quantity of water usage (demand).
40	We understand that the new project will install water meters to every property at the boundary. Whose responsibility is it after the boundary? E.g. the Edgewater Resort & Spa has a 50mm main that runs from the boundary to the large underground water tanks. There is no way that this main would even be half big enough to feed the resort on gravity. Who pays for the new main?	We are not expecting that there will be any changes on the existing set up of these commercial property after the water meters even after the project. The project objective is to improve the standards of water service such as; improved flowrate, improved water pressure and improved water quality at the execution point. Govt will also launch a project to assist with any leakages and replace any sub-standards fittings at the customer side of the meter/ gate valve. The project will start earlier next year 2014.
41	the Edgewater and Rarotongan hotels for example, have to use a pumping system, as their reticulation within the establishments could not deliver the litres required by gravity. Again who pays for this upgrade?	Even if we improve the pressure of water at the execution point to international standards, the pressure will still not be enough for a multi-level hotel to supply the individual rooms sufficiently. This is the experience anywhere in the world. This is because huge hotels do have their own internal pipeline reticulations that should sufficiently design taking into consideration the friction losses of additional bends, Ts, valves etc. to accommodate any changes of hotel structure and future development of business.
42	Were any commercial or economic models ever done to figure out if it was economically and commercially sustainable?	We refer to research done by CSIRO until updated cost benefit analysis is available. The states that "the Pacific island community of Rarotonga could reduce costs of up to NZ\$7.4 million per year, or NZ\$2 900 per household per year, by reducing watershed pollution across the island." http://www.csiro.au/Outcomes/Environment/Biodiversity/CookIslandsWaterPollution.aspx

Te Mato Vai, a water partnership delivering healthy water for all

News Briefs By TeRiu Woonton

Christmas Mass for Catholic Parish

The Catholic Christmas eve mass will take place tomorrow night at 8pm. Bishop Paul says the mass in Avarua will have a similar service to the other 3 Catholic parishes. The night will begin with the celebrant placing a new born baby at the front of the Cathedral and all readings will be focused on the birth of Jesus Christ. This year the children of the church will be telling the story themselves through drama.



The Prime Minister of the Cook Islands, Hon. Henry Puna MP has launched the search for a uniquely Cook Islands name with which to brand the Cook Islands Marine Park. Earlier this year a logo competition produced this incredibly unique logo designed by June Hosking and now we need an equally unique name to complement this logo.

At this stage, the Marine Park will encompass approximately 1.1 million square kilometres of the southern Cook Islands' Exclusive Economic Zone. The design of the marine park is still in progress and it is hoped that it will be fully legally designated and zoned by the end of 2015.

"With the full support of my government, traditional leaders and local communities, as well as the past contributions by the present Opposition, the Marine Park will provide the necessary framework to promote sustainable development by balancing economic growth interests such as tourism, fishing and deep-sea mining, with conserving core biodiversity and natural assets, in the ocean, reefs and islands", he said at the time.

With these words in mind, the challenge now is to come up with a uniquely Cook Islands NAME for our marine park – one of the largest in the world!

The competition is open to everyone resident in the Cook Islands and to all Cook Islanders living elsewhere.

The competition will close at 5pm Friday 17th January 2014 and by the end of the following week, the Prime Minister will have chosen the winning name – in consultation with his Cabinet colleagues and the President of the House of Ariki. The designer of the winning name will receive NZ\$250.

The winning name, together with the logo, will be used extensively on products, printed material, clothing, media releases, websites, pretty much everything associated with the Marine Park.

A name to go with the logo! How hard can that be? Pretty hard is our answer! There is no limit to the number of entries so get those creative brain cells ticking over and start entering!

Please send your suggestions to: Communications Coordinator, CI Marine Park, PO Box 649, Avarua, Rarotonga, Cook Islands; TIS Office (half way between Tamarind House and the Fishing Club); email Jaewynn@wovenpacific.com; any queries to Jaewynn McKay on phone 21 144; cell 55 486; or to the above email address.

WANTED: A UNIQUE COOK ISLANDS NAME FOR OUR MARINE PARK

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Introducing Windows 8

A world of apps in the Windows Store

Apps make using your PC easier by opening up new ways for you to get things done and have some fun. Windows 8.1 and Windows RT 8.1 come with built-in apps that help you socialize, stay in touch, share and view documents, organize photos, listen to music, and watch movies, but you can find even more apps in the Windows Store.

To start looking for apps to install on your PC, tap or click Store on the Start screen to open the Windows Store. You need to be connected to the Internet to open the Store and you'll need to sign in using a Microsoft account.

Once you're in the Windows Store, there are a few different ways to look for apps: if you're not sure what kind of app you want, a good place to start is the featured apps in the Store. Start scrolling to the right to view lists of popular apps, new releases, top paid or free apps. (To see all the apps in a specific list, tap or click the name of the list.) You'll also see personalized app recommendations in Picks for you, based on apps you own and apps you've rated.

If you're looking for a certain type of app (like an entertainment app or a game), you can explore the different categories in the Store. Swipe down from the top edge of the screen (or if you're using a mouse, right-click) to see the categories in the Store, and then tap or click the category you want.

Search for an app. If you know the name of the app you want or are looking for apps by a specific publisher, enter the name into the search box in the upper-right corner of the Store. You'll see results for apps that match your search. When you find an app you want, tap or click Buy or Try (free trial) if it's a paid app, or Install if it's free

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Research on health of coral reefs

A draft report detailing the relatively high level of health of coral reefs within the Cook Islands Marine Park is being circulated for comment by research scientists.

Rapid marine assessments were carried out on the fore reefs of five islands – Aitutaki, Manuae, Mitiaro, Takutea, and Atiu – during an expedition from July 28 to August 9 this year. The research expedition team travelled aboard the Waitt Institute vessel Plan B.

The marine assessments largely focused on collecting information on coral reef biodiversity; assessing the status of coral reefs on each island; and establishing reef baseline information for some of the islands.

According to the report the research will enable stakeholders such as resource managers, government decision-makers, and the general public to plan and make informed decisions regarding the management of the marine park.

“Coral reefs are structurally important for the protection of low-lying coastal areas from strong wave action and erosion. Reefs also provide food, recreational opportunities, medicinal products, and are a major attraction for the tourism industry. However, there is mounting evidence that marine resources, as well as marine ecosystems around the world, are heading towards a downward trajectory,” the report says.

Natural disturbances such as cyclones and natural predators such as the coral-eating crown-of-thorns starfish play major roles in influencing the state of coral reef ecosystems.



In Aitutaki, it was found that coral in the surveyed area was much healthier in 2008 compared to what was observed this year. The report concluded that the decline in coral cover was likely a result of the impact of Cyclone Pat in 2010 – and to a larger extent – infestations of the Crown of Thorn Starfish.

The coral communities on the fore reefs of Manuae, Mitiaro, Takutea, and Atiu were relatively healthy, showing good coverage of hard corals and the surveys found that recovery on Atiu and Takutea's reefs are well underway.

“Indicators of healthy reefs on these islands also included the abundance of the coral-associated fish family Pomacentrids, high cover of crustose coralline algae, and low cover of macro-algae.

“Despite low abundance of herbivorous fish species

noted, this was unlikely the result of overfishing as human population is low on these islands and fishing activities have declined overall,” says the report.

It was suggested that coral disease found in Manuae may have spread from Aitutaki; however, a more detailed study is needed to find the cause and extent of the damage and its distribution.

“Connectivity studies and information from regular monitoring of these reefs will certainly help us understand how these islands influence each other, which would feed into an effective management plan for these delicate ecosystems within the Cook Islands Marine Park.”

Te Ipukarea Society (TIS) co-ordinated the marine park survey in conjunction with the Office of the Prime Minister, the Pacific Islands Conservation Initiative (PICI),

and the National Environment Service (NES), supported by Oceans 5 who is also providing funding towards the establishment of the marine park, and the Waitt Institute who provided their research vessel, crew, and expertise.

The marine park research team consisted of head researcher Teina Rongo of the Office of the Prime Minister, TIS representatives Jacqui Evans and Kelvin Passfield, Oceans 5 representative Jessica Cramp, PICI representative Mareike Sudek, NES officer Ben Tautu and volunteers Graham McDonald, Teariki Charles Rongo and Barbara Hanchard.

The marine park research team acknowledges the people of Aitutaki, Mitiaro and Atiu, for their hospitality and the landowners of Manuae and Takutea for their permission to conduct the research activities.

What the stable and our heart have in common

Luke 2: v1-7

By Senior Pastor John Tangi

This week we celebrate the birth of our Lord and Saviour Jesus Christ. For this article of Encouragement I want us to look at "What the Stable in which Jesus was born and our Hearts have in common." with the main scripture reference from Luke 2v.1-7. Stable is a place where animals live. It is dirty, stink and noisy. Yet Mary gave birth to Jesus in this place. The birth of Jesus means little or nothing to us if He has not been born in our hearts. Now let us look at what the Stable and our Hearts have in common.

1. BOTH ARE PLACES WHERE GOD HAS CHOSEN FOR HIS SON TO ENTER. God made the choice of where Jesus was to be born. Micah 5v.2 is a prophecy of where Jesus is to be born. It reads "Bethlehem Ephrathah, you are one of the smallest towns in the nation of Judah. But the Lord will choose one of your people to rule the nation – someone whose family goes back to ancient times." Again, Galatians 4v.4-5 reads "...God sent His Son, and a woman gave birth to Him...so He could set us free from the law, and we could become God's children." God has also chosen our hearts, for His Son Jesus to dwell in. Ephesians 3v.17 reads "...Christ will live in your hearts because of your faith. Stand firm and be deeply rooted in His love."

2. BOTH ARE PLACES THAT ARE UNWORTHY OF DIVINE ROYALTY. The stable is a dirty place; it's a dark place, and a defiled place. So as our hearts. Jeremiah 17v.9 reads "The heart is deceitful above all things, and desperately

Encouragement Column

With Senior Pastor John Tangi

wicked..." It is because of our deceitfulness, our unworthiness that Jesus was born in the stable to show us of the extent of God's love for you and I. Remember that the birth of Christ means little or nothing at all, unless He is born in our hearts! When Jesus was born in the stable, no one cleaned the stable, remove all the dirty and the filth, chase the animals out Mary gave birth to Jesus the way the stable was – dirty and unclean! Jesus was born in a dirty stable! God want His Son Jesus to be born in our stable our hearts the way we are.

3. BOTH ARE PLACES THAT GOD HAS CHOSEN FOR THE BIRTH OF HIS SON. The birth of Jesus was a spiritual birth. Just as Jesus was born of the Spirit, so the Holy Spirit wants to birth Jesus Christ in our hearts. The birth of Jesus Christ is what made all the difference in the stable and He can make all the difference in our lives when He is born in our hearts. II Corinthians 5v.17 reads "Anyone who belongs to Christ is a new person. The past is forgotten, and everything is new." Has Christ been born in your heart?

4. BOTH ARE PLACES FROM WHICH GOD HAS CHOSEN TO REVEAL HIS SON. The greatest witness of Jesus is the witness from our hearts. Through the stable, people know Jesus Christ. Through our hearts others will know that Jesus is alive in us. If

Jesus is to be revealed to the world it will be through our stables.

5. BOTH ARE PLACES THROUGH WHICH GOD DESIRES TO REACH A LOST WORLD. The stable was the gateway of God to reach the world. Amazingly, God also chooses a stable, you and I to reach the world. May the Peace and Joy of God be with you during this Christmas and Festive Season. May God bless you. Te Atua te aroa.





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Blessings!

By Carmel Beattie

Christmas isn't just nigh – it is here! The end of 2013 looms and 2014 is shimmering, all new, shiny and expectant on the horizon. So apart from eating to excess, ensuring that you smile even when the present doesn't quite hit the mark and choosing an outfit for New Year's, what are you planning to do this week?

I think that this year, we should change the habit of a lifetime and not bemoan the existence of 2013 and talk about all the rotten things that happened, the things you didn't achieve and the people that let you down and instead think about the fact that every year that you can see to the end, is a good year; there are many, many others in the world that can beat you in the bad year

stakes and as for the people? Well, send them a blessing!

This, I got from my wonderful mother who always tries to see the best in people and cheerfully utters those words when it was obvious that some people just won't play fair or nice. Rather than attract the negativity into her own life, she chooses to push good thoughts towards those who for some reason either meant harm or were just thoughtlessly cruel. We all have those people in our lives especially in a small community where we all assume that we know so much about each other's lives – we don't, you know!

So, no negatives because it doesn't help and as a consequence my 2013 reflection will be short and focus on the

joyous times with those I love. Instead, my eye will be firmly fixed on 2014 which I have decided will be my best year yet! Remember, it's all in the attitude! So, I have also decided to only listen to positives, ignore the negatives, give back more and to try where possible to send those blessings because we all need them!

Thank you to those who have been friends and supporters this year, thank you to those who sweetly sidled up and told me that they liked my column – it is great to get positive feedback, thank you to those who have had a positive effect on my days simply by being happy and positive in their own attitudes, thank you Lord for allowing me to live on this blessed island and for the happiness that brings.



From the bottom of my heart, I would like to wish everyone the happiest of Christmases surrounded by those you love and especially, to send you my blessing for an exciting, fulfilling, safe, successful and above all happy 2014.

Aroa Nui

Mangaia Summer League Draws Large Crowds



Mangaia can't get enough of cricket this summer. Having only just completed their Edgewater Resort women, Computer Man men and ANZ junior pre-season challenges, the island is already underway with their new Mangaia Summer Super League.

In all twelve teams are competing in the new 'Mangaia Summer Super

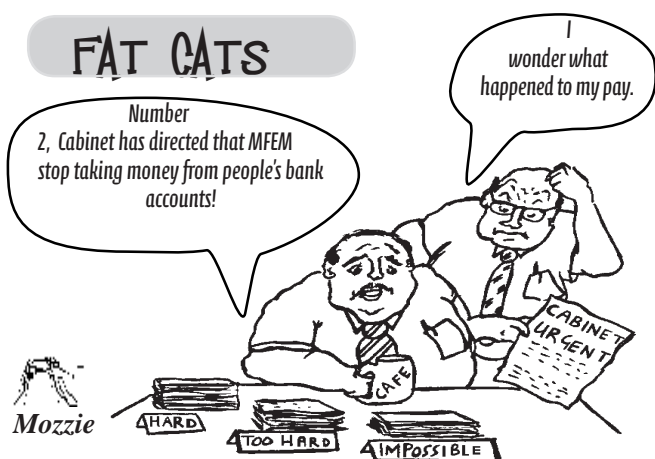
League' across four grades; senior men, senior women and under 15 Girls and Boys.

The islands population has swelled with Mangaian's returning from overseas and Rarotonga to celebrate Christmas and New Years and plenty of them were enjoying the action at the Oneroa field as Friday's and Saturday's matches drew huge

crowds cheering on their teams.

The first week of senior matches saw Veitatei loose to Keia while the Apunavai Men's team scored 78 runs to get over opponents Patikienua (43 runs). In the women's competition Veitatei put on a massive total of 103 to beat opposition Keia by 56 runs. The ANZ Juniors will be in action later this week.

FAT CATS



Good thing there's a surplus of plump, wild chooks roaming around! The Chinese labourers will be here in January and as expected they may soon be going through the creeks taking up all the koura and eels and tilapia like a giant vacuum cleaner! Then it will be the lagoon and all the trocus, reef fish, kina, crays and eels they can get followed by every plump wild chook they can round up!



Why are MFEM staff rolling round on the floor laughing their heads off? It's because they know the announcement of a \$1.9 million deficit is a big porky chooks! The deficit is actually much bigger according to CNN- Coconut Network News. That's why MFEM are attacking old age pensioner bank accounts in contravention of the law and the Constitution. Seems their salary packets are threatened by the lack of dosh in the money box! Got to get some money from somewhere!



What if all Grey Power members took their money out of the bank? Now that would make the news in Kiwiland. How embarrassing for our government if the NZ PM was forced to admit they are not at fault because they have no intent

I wonder what happened to my pay.

COCONUT ROUNDTABLE



CHOOKS CORNER

WITH BIG RED



to tax the NZ Pension paid here as some in MFEM are saying will happen!



Ooppss chooks! Seems there have been no prosecutions over sharks in the shark sanctuary! Chook says that's because it is somewhat difficult to get a shark into the High Court to sue it over attacking a human! How do you serve a summons on a shark?



Oh dear chooks! The lack of water has even hit home at the home of the woman whose job it is to scribe the good news about Te Mato Vai for the media! All praise for the water project but mutter, mutter, because she has no water!



Pulling up to the free water station outside the Tupapa meeting house, one mama spots a large tanker about to hook up to the water tank there. She quickly

rushed the driver telling him to stop stealing the water! On the scene pops MMM-Mighty Magic Maggie Man to re-assure the mama the driver is there to top up the tank not to empty it!



Prince Willie is to make a flying visit to Kiwiland and there's a rumour he may pop over to the Cooks! Whispers of Tom, Tom, practicing kneeling on a small red cushion and bowing his head indicate a Knighthood may be in the air. Can the Prince dish out a Knighthood? What's the protocol? Is it just Queen Lizzie or the Kiwiland GG? Maybe Kate just wants another TAV dress?



Chook cruising past Avatiu Wharf last week saw the barge loaded to go to Atiu today and this is a new barge that recently went on a chartered \$30,000.00 trip to Mitiaro to retrieve the submerged loader. This trip to Atiu had gravel

and brick material destined for Super Brown Man and according to the skipper of the barge it's for either a new house or new shop on the island or hotel-take your pick! What's the Super Brown Man up to? He must be making loads of money on the island with the shop or did he run to the bank?



Let them eat cake! With signs that cash flow could disappear next year sending the lower ones into a frenzy, the money men's response may well be, "Let them eat cake!" Why else would MFEM suddenly recruit a noted local cake maker?



The latest bashing of MOIP may well see the aged peddlers cycling off for good. To avoid the restructuring of MOIP becoming like Trevi Fountain in Rome, full of cash, the PSC should dish out proper termination notices-no contract buy outs the taxpayers cannot afford.

Cook Islands
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PUBLIC NOTICES



The Staff and Board of the Creative Centre would like to thank our members, supporters, sponsors and their families for their assistance this year and wish you all a very safe holiday season. May you and yours have the spirit of Christmas which is peace, the gladness of Christmas which is hope, and the heart of Christmas which is love.
Kia Manuia ite mataiti 2014.



The Board of the Cook Islands Breast Cancer Foundation would like to wish our members, supporters and sponsors and your families all the timeless treasures of Christmas; the warmth of home, the love of family and the company of good friends.
Kia Manuia ite mataiti 2014.



**MINISTRY OF AGRICULTURE
PUBLIC NOTICE**

The public is hereby advised that the Ministry of Agriculture office will be operating this festive season on the following times:

Monday 23 December: 8am-4pm
Tuesday 24 December: 8am-1pm
Wednesday 25, Thursday 26 December: CLOSED
Friday 27 December: 8am-1pm
Monday 30 December: 8am-4pm
Tuesday 31 December: 8am-1pm
Wednesday 1 Thursday 2 January: CLOSED
Friday 3 January: 8am-1pm

The office will resume normal working hours on Monday 6th January 2014. For urgent enquiries please contact the following staff:

Research: William Wigmore 79806
Biosecurity: Ngatoko Ngatoko 20377
Tiria Rere: 50582
Corporate Services: Tina Akama 50739 or 55136

The Hon Minister Kiriau Turepu and his wife, the Secretary and all staff of the Ministry of Agriculture would like to wish everyone a Merry Xmas and a Happy New Year.

Kia Orana e Kia Manuia.

PUBLIC NOTICES



The public is hereby advised that the National Environment Service office will be operating this festive season at the following times:

Mon 23rd Dec: 8am – 4pm
Tues 24th Dec: 8am-1pm
Wed 25th Dec: CLOSED – Merry Xmas
Thurs 26th Dec: CLOSED
Fri 27th Dec: CLOSED
Mon 30th Dec: 8am – 1pm
Tues 31st Dec: 8am-1pm
Wed 1st Jan: CLOSED – Happy New Year
Thurs 2nd Jan: CLOSED
Friday 3rd Jan: 8am-1pm

The office will resume normal working hours on Monday 6th January 2014.

Please take note of these times and a kind reminder that no permits will be issued outside these hours.

For urgent matters, please contact the following people:

Compliance:
Phillip Strickland mob 55316
Vavia Tangatataia mob 55500
Corporate Services:
Ina Kamana mob 55506

Remember; please take your rubbish home when visiting the beach.

We wish you a very Merry Xmas and a Prosperous New Year.

Director
Vaitoti Tupa

Mount View Lodges O'oa

Accommodation to suit your budget



Ph: 29491 Mobile: 50326

PUBLIC NOTICES



**TE APONGA UIRA
FESTIVE SEASON TRADING HOURS**

Te Aponga Uira will close for the Christmas/New Year holidays from 1pm Tuesday 24th December 2013 and will re-open for normal operations at 8am on Monday 6th January 2014.

Customers seeking new power connections before Christmas will need to have completed administration work (application, inspections, etc) by 4.30pm Monday 23 December 2013.

During the holidays, the following services will be available:

1. 24 hour fault services remain available 7 days a week throughout the festive period. Call 25 257 for this service.
2. Receipting of electricity payments only on your accounts will be available at the Tutakimoa Office on the 27th, 30th and 31st December 2013 and 3rd January 2014 between the hours of 9am and 12 noon.

"We wish you a Happy Xmas and wonderful New Year" – The Board and staff of TAU.



**OFFICE OF THE LEADER
OF THE OPPOSITION**

Office Hours Season 2013

The Office of the Leader of the Opposition closes 1pm on Tuesday 24 December 2013 and re-opens again on Monday 6 January 2014.

For emergencies contact:

Eddie Drollet (mob-52884) or Rosita Taikakara (mob-55713)

The Leader of the Opposition and staff join in saying to everyone

"May Peace be your gift at Christmas and your blessing all year through!

Merry Xmas and Happy New Year!

New Hope Church

Parekura Conference Centre

Inspirational messages to uplift and empower you

Sunday at 10.30am

TENDER



**INFRASTRUCTURE COOK ISLANDS
WATSAN UNIT**

**REFUSE & RECYCLING COLLECTION SERVICE
FOR RAROTONGA**

**CONTRACT No. CW001/2014, CW001A/2014,
CW001B/2014**

WATSAN is the Water, Waste & Sanitation Unit of the Ministry of Infrastructure Cook Islands (ICI) tasked with the development and management of Policies, Strategies, Planning and Projects within the water, waste and sanitation sector. It is also responsible for the management of the Rarotonga Waste Facility (RWF) that consists of the Resource Recovery and Recycling Centre, Septage Treatment Ponds and the Landfill.

A key deliverable for the unit relates to improving waste management practices to promote sustainable cultural and recreational use of the lagoons, sustainable tourism and to safeguard public health. Subsequently, one of the main responsibilities of the unit is the management of the Rarotonga landfill and the refuse and recycling collection service with a view to alleviate the impacts on the environment and the well being of the community.

ICI wishes to invite tenders for the collection and disposal of refuse and specified recyclables from residential properties on Rarotonga.

The scope of works under this Contract will involve:

- The collection of refuse (solid wastes) arising from residential properties on Rarotonga.
- The collection of specified recyclables from residential properties on Rarotonga.
- Transport refuse and recyclables to the RWF in Arorangi in accordance with all relevant policies, requirements and procedures and 'best practice' at the RWF.

The term of the contract will be 5 years.

A copy of the Tender document including specifications can be collected during work hours from the ICI office in Arorangi, or can be requested by email below.

Tenders close at 4pm on Thursday, 9th January 2014 and must be submitted to the ICI Office in Arorangi. Tenders must be submitted in hard copy inside a sealed envelope addressed to: Mr Mac Mokoroa

Secretary
Infrastructure Cook Islands
PO Box 102
Rarotonga
Cook Islands

and clearly marked with "REFUSE & RECYCLING COLLECTION SERVICE FOR RAROTONGA

CONTRACT No. CW001/2014, CW001A/2014, CW001B/2014" and the Tenderers name.

Enquiries to: Jaime Short, WATSAN Programme Coordinator
P: +682 22-648 E: jaime.short@moip.gov.ck

Islands support marine park concept



Consultation team in Mangaia

Island consultations on the Cook Islands Marine Park have resulted in positive feedback on the concept.

"Of the respondents who completed questionnaire surveys, 94 per cent supported the marine park concept," says Kevin Iro, co-chair of the Marine Park Steering Committee.

A consultation team has visited the outer islands within the marine park including Aitutaki, Mangaia, Atiu, Mauke, Mitiaro and Palmerston.

A summary report on the consultations in Rarotonga and the outer islands was recently compiled for the Cook Islands Marine Park Steering Committee by Te Ipukarea Society (TIS).

The surveys were completed in Mauke, Aitutaki and Atiu by 92 people, and more will be gathered in Aitutaki by the

Aitutaki Conservation Trust to obtain a more statistically significant representation of the views of the population.

The consultation team spokesperson says Aitutaki respondents were the most opinionated about offshore fisheries issues.

"Their comments revealed they are well aware of the migratory nature of tuna and that the main challenge for the marine park is surveillance," Mr Iro added. "They were strongly against the current management of offshore fisheries and one comment made was that fines for offenses should be larger and vessels should be confiscated as a penalty."

Almost 80 per cent of survey respondents would like the marine park to eventually extend to the northern group, and 78 per

cent support the ra'ui concept.

Eighty-four per cent wanted the Territorial Seas area for local small-scale fishing boats extended. Only 21 per cent supported the current method of offshore fisheries management including licensing purse seine fishing boats, despite the fact that offshore fishing provides revenue for the country.

Some islands were unhappy that revenue from fines was not distributed to the island where the offense happened. The main feedback was annoyance at the low amount received in license fees compared with the value of the tuna. Most were unhappy that foreign boats were taking fish within the Cook Islands EEZ (exclusive economic zone).

The survey also asked about seabed mining with 58 per cent of respondents supporting the

concept, while stressing that mining must be controlled. They emphasised the need to ensure benefits are distributed to all the Cook Islanders in the islands and to ensure mining has no environmental impacts.

In addition, the survey results indicate widespread support for the shark sanctuary with 83 per cent opposed to shark finning.

The consultation team comprised of House of Ariki president Travel Tou Ariki, Koutu Nui president Maria Henderson (or alternatively Tupe Short), Kevin Iro, TIS president Ian Karika (or Jacqui Evans), videographer Eruera Nia (or Matthew Rima), a government representative (Celine Dyer, Joseph Brider or Elizabeth Koteka), and a marine conservation advisor (Dr Teina Rongo or Julian Dashwood).



Atiu Group



Consultation team leader Tou Ariki in Mangaia