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Communicating Climate Change: Reactions to Adapt and Survive exhibition and visitors' thoughts about climate change in the Pacific islands region

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Abstract

This paper examines the content and responses to an art installation addressing climate change in the Pacific, collected at the Adapt and Survive exhibition held at the University of the South Pacific Oceania Centre Gallery in 2014.

The artist statement on the exhibition emphasised that it sought to explore the causes and effects of climate change, and to raise awareness of its wider impacts for cultural loss and societal change.

As well as conducting a series of interviews with the artist, visitors to the exhibition were invited to complete a short survey concerning their thoughts about climate change and reactions to the exhibition, both before and after they viewed the artworks. The artist's perspectives emphasised the significance of climate change for the region, in the context of traditional responses to environmental problems. The audience survey results suggest that there were high levels of agreement among visitors that the place where they live is being affected by climate change. While emphasising both negative and positive emotional reactions to the artworks, people for the most part expressed confidence and hope that climate change can be effectively addressed, although there was uncertainty on whether or not Pacific islands had the resources to do so. Our study is limited by the small sample size available, but points to directions for future research in this under-developed field.

1 Introduction

Environmental degradation – including, until recently, using the Pacific region as a nuclear testing ground - can be seen as the Pacific region's greatest contemporary challenge. Climate change impacts on Pacific societies and cultures are far reaching and rapid. Geographic isolation, ecological uniqueness and fragility, human population pressures and associated waste disposal problems, limited land resources, depleted marine resources, exposure to damaging natural disasters, and global changes in climate; all contribute to the increasing vulnerability of small island developing states in the Pacific Islands region (Woods et al., 2006; Weir et al., 2016; Taylor and Kumar, 2016). As outlined by Smith & Hemstock (2011,

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pp 67) the Pacific Islands “have come to represent the ‘front-line’ or the ‘canary in the coalmine’ in raising awareness regarding the potential negative consequences of climate change and impacts on land use, livelihoods, food and energy security.” The more pessimistic forecasts of climate change impacts state that low-lying island nations such as Tuvalu and Kiribati could turn out to be uninhabitable inside a generation (Maclellan, 2009). Various responses have been put forward by Pacific small island states - including discussion of mass migration of the affected population, with Australia and New Zealand governments already looking into policy options for accepting entire displaced populations (Shen and Gemenne, 2011). Kiribati is considering migration as an “adaptation strategy”. This abandonment of territory and culture appears to represent the most dramatic and fatalistic approach to tackling the encroachment of the ocean. It is the option of last resort. There is resistance to implementing this policy, both from the host governments and the islanders themselves who do not wish to leave their homeland. Therefore the dominant policy strategy, both within the island states and among the international aid donor community, is to continue to focus on in-country adaptation and literal survival (Smith & Hemstock, 2011).

Against the enormous scale of the contemporary challenge of climate change impacts in the Pacific, the UNDP (2013) concluded that the extent of climate change awareness of most Pacific island populations and community participation in appropriate adaptation strategies and agendas has been negligible. This is partially due to a lack of awareness and engagement which leaves communities powerless to make informed choices about adaptation to climate change impacts affecting their livelihoods and resources (Nunn, 2012) – both now and in the future. Furthermore, if this region is to access available funding for climate change adaptation and be an active participant in international climate change debate, then it is essential for the general population to have not only an awareness but also an opinion in order to take part in decision making and inform leadership on these issues – leadership at community, national, regional and international levels. Likewise, there has been little practical guidance available on how to effectively communicate climate change in ways that increase community resilience and capacity to adapt (McNaught et al., 2014).

With this lack of awareness in mind, artists seeking to promote engagement with climate change impacts and adaptation in the Pacific cannot be sure that the approaches commonly used are effective. But, in contrast to this, there is a growing literature which points to appropriate and effective ways to engage people in climate change and environmental issues (Whitmarsh and Corner, 2017); including research that has sought to understand the most appropriate way to frame messages about climate change, drawing on metaphors, and the use

of emotion and imagery (Moser, 2010). While there remains an important role for conveying factual and scientific information about the topic, this can be alienating for those without specialist knowledge (Duxbury, 2010). It is important therefore that climate change communication resonates with an audience through being meaningful to people's own lives, values and social aspirations (Moser, 2010). Visual arts can therefore be an effective medium to communicate climate change and environmental issues since both can engage people directly on an emotional level, allowing the viewer to explore, reflect and respond based on their own personal experiences.

It has been suggested that the use of visual arts and artistic approaches may be effective in stimulating changes in attitudes regarding environmental issues, often more so than can be achieved through scientific communication (Robinson et al, 2014). For these reasons and others, the role of the arts and use of visualization in climate change communication has been identified as a priority area for future research (Moser, 2010; O'Neill & Smith, 2014; Moser, 2014).

The objective of this research was to evaluate the potential for the visual arts to communicate and enhance public engagement with climate change issues in a Pacific island context. The research focuses on the audience perspective, in addition to those of the artist.

2 Background to the research and research methods

To integrate with a Pacific cultural context it is important to consider capacity building in arts as well as sciences. From the researchers' experience with regional community EcoArts projects (Capstick et al., 2018) and with projects at the University of the South Pacific and the NGO Alofa Tuvalu, it is apparent that traditional/local knowledge/wisdom and artistic/social activities such as drama, visual arts, and dance have been amongst the most successful methods of communicating climate change awareness. However, there has been very little research on the potential for 'the arts' to facilitate public engagement with climate change in the context of the Pacific.

The focus of the research is on an exhibition titled 'Adapt and Survive' held at the University of the South Pacific Oceania Centre Gallery in 2014. The artist statement with respect to the work presented read:

"Our climate has always changed, but now those changes are happening over a human lifespan. In order for our species to survive in a way and in a world we recognise, we have to adapt.... The works in this exhibition are an attempt to explore the causes and effects of climate change and human imposed environmental degradation and seek to bring an awareness of how these issues reverberate around cultural loss and societal change within the Pacific islands region. The works reference current threats from climate change and parallel

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this with the region's past use as a testing ground for destructive and constructive technologies and how it has lived with and survived these uses."

As part of our research, a series of 2 semi-structured interviews were undertaken with the artist. One interview with the artist was undertaken while they were completing work for the exhibition and a second interview was undertaken during the exhibition. We set out to understand the motivation behind the artist's work, as well as the anticipated or hoped-for responses that it might engender. A more detailed depiction of the content of the exhibition is also given below (Table 1).

In addition to inviting exhibition audiences to comment in a visitors' book, we separately invited them to complete a short survey concerning their thoughts about climate change and reactions to the exhibition, both before and after they viewed the artworks. Nineteen people returned surveys prior to entering, with seventeen of these visitors then completing a second survey having viewed the exhibition.

3 The exhibition

The Adapt and Survive exhibition was held between June and July, 2014. It was a solo exhibition by the artist who prefers to be known by the name "Ex-Isle".

Outlining the aims of the exhibition and influences prior to the exhibition, the artist provided a written statement which specified the following:

"The works reference current threats from climate change and parallel this with the region's past use as a testing ground for destructive and constructive technologies and how it has lived with and survived these uses. The artist's personal experience growing up in the cold war is also reflected."

"The artworks raise many questions – not all of which can be answered. For example, we find out about history by examining what nature, civilisations and cultures leave behind... pottery, footprints, documents, images, clothing, tools, artworks, oratory, stories... Due to climate change and environmental degradation, many of the low lying atoll nations of the South Pacific will soon be history – in a human lifetime it is likely that land and cultures will belong to the past – what will be left behind and why? How can these "traces" of what once was be anticipated and presented? How

are the people of the region going to respond to these challenges? What are people doing in order to adapt and survive?”

“The artwork is influenced by the nexus of the modern human induced environmental degradation and the ancient, possibly even pre-historic, natural resource based strategies that are now seen as a pre-requisite to adapt and survive. Traditional adaptation strategies were, and still are in some cases, tied into spiritual/supernatural beliefs. Additionally, from the artist’s personal experience with communities in Tuvalu, spiritual beliefs are also linked to the climate change phenomenon and community responses to its challenges. For example, the process of materials collection is important in terms of resource availability, social activity and beliefs. As knowledge, belief and culture are lost, the artefacts they produced are likely to survive, be exhibited in museums and researched... as the physical traces of once existent cultures and beliefs. I am hoping that the exhibition reflects the reverence given to artefacts by giving a theatrical experience to the presentation of the work.”

A major influence on the artist was revealed to be their ongoing development work. Their work has always dealt with communities, promoting sustainable development and climate change adaptation via use of local natural resources. The artist also stated that “Sustainable development and “traditional” forms of climate change adaptation intrinsically involve working with natural renewable resources such as wood, biomass and found materials, hence the basis for working with found materials and natural forms.”

Both researchers into climate change adaptation and development agencies working directly with communities recognise traditional/local knowledge and the management of the natural environment for ecosystem services as the best bet for a sustainable future for most Pacific island countries (McNamara and McNamara, 2012; Hemstock, 2012; Rosillo-Calle et al., 2015). According to the artist, these behaviours and activities have been passed on from generation to generation and represent the traces of previous generations.

These adaptation strategies were, and still are in some cases (Hemstock, 2012), tied into spiritual/supernatural beliefs – with obvious links to the same beliefs that are communicated through traditional ethnographic art. Gender issues are also important in this context since women have a valuable role to play where natural resource-based strategies for what we now term climate change adaptation are concerned (livelihoods; food and medicine collection,

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preparation, and storage, food collection; etc.), but women have a diminished role where these resources are both portrayed and linked with spiritual/supernatural beliefs (Hemstock 2012; Teilhet1983). These differences in gender roles are something the artist also tries to explore – particularly within the context of the “standard” definition of ethnographic art as “a system of communication which manifests the ideologies and beliefs that bring order and definition to a person’s culture” (Teilhet 1983; Firth 1973). Additionally, spiritual beliefs are also linked to the climate change phenomenon and how some communities respond to its challenges (Havea et al., 2017). Within the context of the nexus outlined above, the process of materials collection is important in terms of resource availability, social activity and belief. In respect of this, the artist revealed that it was important to them that the works in the exhibition encompassed found objects and natural raw materials (Table 1).

Traditional knowledge relating to climate change will be lost as a “meme” (a unit of cultural transmission) e.g. religious belief, adaptation strategy, behavioural response, etc. (Dawkins 1976) as their transmitters become extinct. However, the artefacts produced by that knowledge, and in response to belief are likely to survive, be exhibited in museums and researched... as the physical “traces” of once existent cultures and beliefs.

To some extent, this has already happened as many authors on the subject of Oceanic Art do not focus on or even acknowledge the role of the artists’ personal contribution to the production of the work. Oceanic art tends to be defined by culture and belief (Forge 1973; Wingert 1953) - it appears to be defined by the “meme”. There are a multitude of books and catalogues depicting dance, costume, objects and “art” of the Pacific islands that are in fact memes – thus shifting the focus from the artist to the product. This is in contrast to the “creative” role ascribed to western artists – for example, in Price (1980) an artist in a photograph is described as “Fijian potter begins shaping the first cylindrical form”, whereas Picasso is unlikely to be described as “Spanish potter” in a similar pose.

Table 1. Description of artworks in the exhibition

Name	Media	Size	Description
Burn With Me	Found objects (driftwood, children’s toys, animal bones, red and black paint)	2.5m x 0.5m x 0.5m	Installation – 3D sculpture on the floor of the gallery

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Footprint 1: Here There Be Monsters	Black acrylic paint, soot, food colouring, mahogany, PVA glue, canvas	2m x 2m	Abstract image on canvas
Footprint 2: Waveform	Black acrylic paint, soot, food colouring, mahogany, PVA glue, canvas	0.3m x 0.3m	Abstract image on canvas
Footprint 3: Monsters Marquette	Black acrylic paint, soot, food colouring, mahogany, PVA glue, canvas	0.25m x 0.15m	Abstract image on canvas
Are You My Mummy? (Figure 1)	Found objects: (bamboo driftwood, drinks bottles and cans), coconut fibre string, gypsum, hessian, family photos and indentured servitude shipping lists of family names	1.5m x 2.5m x 1.2m	Installation – 3D sculpture on the floor of the gallery. (see illustration 1 below)
Photographs	Photographs of various adaptation projects from across the Pacific mounted in brightly coloured plastic frames.	2.2m x 1.3m	Framed and wall mounted photographs of various sizes
Soul Ages Neon Carbon	Acrylic paint, food colouring, mahogany, PVA glue, canvas	1m x 0.3m	Abstract image on canvas
Footprint 4: Straw in the Wind	Black acrylic paint, soot, food colouring, mahogany, PVA glue, canvas	0.3m x 0.3m	Abstract image on Canvas
Dream A Little Green With Me	Acrylic paint, food colouring, mahogany, canvas	1.2m x 0.3m	Image on canvas
Pure Pandanus: Carbon Neutral Trousers	Pandanus	36 Regular	Woven Pandanus trousers
Cheesy Whatsits – Homage to	Acrylic media, soot, gypsum, toilet tissue, canvas	0.15m x 0.15m	A series of four relief images on canvas

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Henry Moore's Atom			
Hollow Co\$t Harvest Henge	Found objects (driftwood, flip-flops) fishing line, concrete.	3m x 2m x 3m	3D installation set on the floor and ceiling.
Footprint 5: End Of Days	Black acrylic paint, soot, food colouring, mahogany, PVA glue, canvas	0.6m x 0.3m	Abstract image on canvas
Colograph: Death	Watercolour paper, found materials (tuna tin, leaves, plastic, moss), PVA glue, oil paints	0.35m x 0.2m	A series of 4 colographs plus 1 printing plate
Colograph: Mask	Watercolour paper, found materials (tuna tin, leaves, plastic, moss), PVA glue, oil paints	0.35m x 0.2m	A series of 6 colographs plus 1 printing plate
Colograph: Herbarium Botanicals	Watercolour paper, found materials (Plants), PVA glue, oil paints	0.15m x 0.12m	A series of 9 colographs plus 2 printing plates
The Causeway (Tuvalu) and Seascape	Watercolour paper, watercolour paints, plastic, salt	0.15m x 0.12m	A series of 7 increasingly abstracted images
Adapt And Survive	Animation using stock footage from Government Public Information Films and stop-motion animation.	20 minutes	Animated film

Figure 1: Are You My Mummy?



4 Image-making and animation

The interview with the artist during the exhibition revealed that the denotative and connotative images in the exhibition were made using a variety of aesthetic perspectives and techniques. In many cases, photographs formed the initial starting point for image-making (e.g. The Causeway series was described by the artist as depicting the Causeway in Tuvalu in a series of watercolour sketches moving from “photographic representations to abstractions of shapes and colours”). Sketch books allowed the artist to strip images down to the artist’s view of their core communicative value by considering the essence of the object and distilling the elements of the object/subject being portrayed. According to the artist:

“Images were broken down into recognisable segments, and sometimes digital effects were used to render different values or accentuate existing values of the images – this can be seen in the animation *Adapt and Survive*.”

Denotative images also formed an intrinsic aspect of the 3D work. For example, the installation “Are You My Mummy” used photocopies of original documents and photographs. Collating documents and photographs for this installation involved carrying out
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research at the UK and Fiji National Archives on the indentured servitude programme and other subject areas.

Experimentation and process, with particular reference to the generative image production of colographs and watercolours provided an “unexpected element to the work making it on the one hand complex, but on the other loose and gestural.

Generative denotative image-making was used for Causeway and the Herbarium Botanicals series so that the images can still be read as the object the image is meant to portray – although it may be abstracted to some extent, it is a representation of what the object it is supposed to be. In the case of the series Herbarium Botanicals it is a direct print from a branch of a plant.

The artist’s references for the Footprint series, which depict textured black shapes, some of which appear to look like mushroom clouds, are works by the artists Pierre Soulages and Richard Wilson.

The animation Adapt and Survive used traditional stop-motion techniques combined with digital editing using Sony Vegas Pro. Stop-motion images were overlaid on a series of copyright-free UK Government public information films made in the 1970-80s centred on what to do in the event of a nuclear attack. This series of UK Government information films is called Protect and Survive and can be accessed from the UK National Archives website.

5 Audience/ exhibition viewers’ perceptions

Spontaneous thoughts about climate change – before and after the exhibition

Visitors were first of all asked to provide open-ended responses to the question “What is the first thing that comes to mind when you hear the phrase ‘climate change’ or ‘global warming’?” based on an image association question commonly used in research that has examined public understanding of climate change (e.g. Tvinnereim and Fløttum, 2015).

Before people had viewed the artworks, responses to this question mainly stressed the effects of climate change on the weather and environment, such as changes to weather patterns and rising sea levels. References were also made to causes of climate change such as ‘pollution’ and ‘greenhouse gas emissions’.

After people had visited the exhibition, responses to the question were markedly different in tone. Several people stressed negative emotional reactions, including ‘pain’, ‘unhappy people’, and ‘pollution of man’s mind’. By contrast, other visitors stressed positive emotional reactions, with comments noting the potential for climate change art to be connected to hope

and inspiration. Examples include the comments ‘there is hope through exhibitions to raise awareness’ and ‘climate change can... inspire some quality artwork’.

All responses obtained before and after people had visited the exhibition are shown in Table 2.

Table 2. Spontaneous thoughts about climate change before and after the exhibition

<i>‘first thoughts’ – before exhibition</i>	<i>‘first thoughts’ – after exhibition</i>
sea level rise, GHG emissions	pain
heaps of people coming to TU8 [Tuvalu] for a climate change related purpose	apparently climate change can also inspire some quality artwork
soil erosion and disappearing islands	unhappy people
destruction that is occurring due to the increase of pollution being let loose into the atmosphere	this is becoming very serious and accelerating at a very fast pace
a serious problem that no one is taking seriously	as an artist myself I know that there is hope through exhibitions to raise awareness
sea level rise, change of the world as we know it	(no response)
climate change - the change of environment [caused] by the weather pattern	the change in surrounding - erosion [and] rise in sea level
climate change is when the weather pattern is not always normal like what I used to experience before when I was on land	the change in weather pattern
changing the weather pattern	changing the weather pattern
climate change is the change in the weather pattern and the effects on nature	(no response)
disaster, fraud	pieces of plastic
atmospheric catastrophe, over-pollution and misuse of natural environment	pollution of man's mind
changes in the climate, sea level rising	it affects our nature as climate change occurs
the planet is getting hotter and some parts of the world are sinking because the speed of sea level change is faster than we expected	protecting the environment and balance up nature
climate change is change in weather and it does affect our nature	(no response)
global warming and change in weather average over a period of time from humans using fuels/ fishing/ cutting down rainforests and trees	change in the weather and increase in natural disasters and a reduction or extinction of resources by humans using Earth's natural resources at a rate they can't naturally replenish and from fuel consumption polluting the atmosphere
the first thing is change of weather and how the environment has changed	I'm amazed to find out what we can create rubbish to something valuable
climate change is the effects of the ozone layer that effects the natural environment	climate change is the change in weather pattern in a particular place/country
climate change is the change in the weather pattern and the effects on the nature	climate change is the change in the weather pattern and the effects on the nature

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Thoughts and feelings about the exhibition

After they had viewed the exhibition, visitors were asked about their responses to it, via the question “*What thoughts or feelings did the ‘Adapt and Survive’ exhibition bring to mind for you?*”

Again, visitors emphasised both negative and positive emotional reactions. Of the seventeen responses obtained, five of these stressed a negative emotional response. Two visitors noted simply that ‘I felt sorry for myself’, another that seeing the human causes of climate change had ‘made me feel depressed’. Reference was also made to the ‘sad effects of human activity’ and to the ‘death of a world’.

By contrast, others emphasised positive emotions in response to the exhibition, and the importance of acting to protect the environment. One visitor remarked that ‘it’s important to prevent climate change’, with another commenting ‘I am so pleased to learn a lot on climate change’. Two further visitors referred to the importance of conserving resources and taking personal responsibility on climate change. One response emphasised the beauty of the natural environment and the importance of its preservation for future generations.

Visitors’ comments on their thoughts and feelings about the exhibition are shown in Table 3.

Table 3. Thoughts and feelings about the exhibition

awe at [the artist’s] process
memories of 10 years in TU8 [Tuvalu] in which climate change was a high-frequency topic
it made me think of the sad effects of human activity on the environment
made me feel depressed to see that the main cause of climate change is the increase in industrialisation around the world
a shame that exhibitions of this type are not more accessible and available to inspire the general public
the death of a world and what it contains
I’ve learned rubbish can be created into something useful
I felt sorry for myself
I felt sorry for myself
to utilise all material, no waste, express the feelings
kind of explosive in a sense of creative medias
it’s important to prevent climate change
make a better world
that it is a personal responsibility that everyone changes their lifestyle to prevent further climate change
yes, I’m so pleased to learn a lot on climate change. As I said collect something to [make] something valuable

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the first thing that pop in my mind was that the natural environment is very beautiful thing and it should be preserved for the future generation
 it brings out the human's behaviour and its causes on human nature

Memories from the exhibition

Visitors were asked whether they thought they would remember anything (image, sculpture, phrase, feeling) from the exhibition in one year's time.

The majority of visitors indicated that they would remember aspects of the exhibition. The sculpture titled 'Are You My Mummy?' was referred to by several visitors.

Visitors' comments on what they would remember about the exhibition are shown in Table 4.

Table 4. Memories of the exhibition

the contrast between light and dark
I'll remember a diverse oeuvre and the carbon neutral trousers
traces left behind - flip flops, trousers, footprint-waveform, Freddie's painting
the sculpture of the eroded tree [Burn With Me] which is caused by the seawater eroding more into the inland which causes the destruction of other plants and increase in soil erosion
definitely the installations
the "are you my mummy" sculpture [Figure 1]
the creation of the sculpture titled "are you my mummy"
"Burn with me" and I hope I'm not going to be like that
"are you my mummy" [Figure 1]
slippers hanging [Hollow Cost Harvest Henge]
the artist
everything - image, sculpture, phrase and feelings
the flip-flops [Hollow Cost Harvest Henge]
Hollow Cost Harvest Henge
the log and it being displayed is truly unique where it once was a tree but got destroyed [Burn With Me]
yes the Doctor Who, the nature and Artfestoo way

Perceptions of climate change – before and after the exhibition

Visitors were asked to indicate the extent to which they agreed or disagreed with a series of statements about climate change. These related to beliefs about adaptation and prevention, climate change causation, and the degree to which people felt 'worried' or 'hopeful' about the subject. Visitors were asked for their views before and after entering the exhibition.

The findings from this section of the survey suggest that there were very high levels of agreement among visitors that the place where they live is being affected by climate change,

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with 18 of 19 respondents either agreeing or strongly agreeing with this statement prior to viewing the artworks. Responses overall suggest that people were worried about climate change, with all but two of 19 respondents *disagreeing* with the statement “*Climate change is not something that I am worried about*” before entering the exhibition. More visitors agreed with the statement “*It is not possible to stop climate change from happening*” (9 of 17 responses) than disagreed (five responses; a further three were unsure).

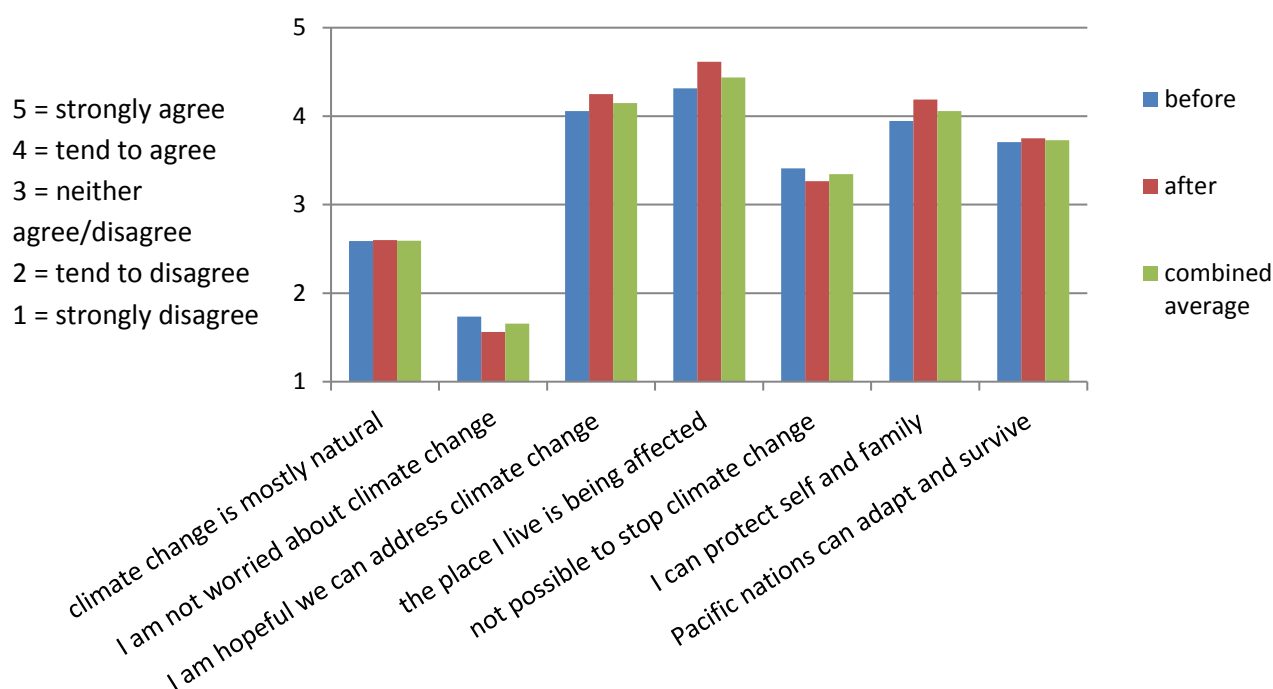
Despite expressing concern in these ways, nevertheless people for the most part expressed confidence and hope that climate change can be effectively addressed. Before viewing the exhibition, a majority of visitors (14 of 18) agreed or strongly agreed that “*I am hopeful that we can act to address climate change*” (although a further four visitors disagreed). Most of those completing the survey beforehand also were of the view that “*I can do something to protect myself and my family from the effects of climate change*” (14 of 18 responses).

Visitors were more evenly split on the question of whether Pacific Island nations have the knowledge and resources to adapt and survive in response to climate change. Whilst a majority (10 of 17) expressed this view at the ‘before’ stage, the remaining seven responses either disagreed or were unsure. There was also substantial variability in whether climate change was considered to be mostly caused by natural processes. Six visitors agreed that this was the case; whereas a further nine visitors disagreed.

Based on a comparison of these measures before and after the exhibition, people’s views did not appear to alter overall having viewed the artworks (though it is possible that small effect sizes might have been masked by our limited sample). Very similar scores were obtained at the before/after stage and differences are not statistically significant for any of these survey statements.

Figure 2 shows average scores for each of the survey measures at the before/after stage, as well as a combined average of before/after scores for all survey measures.

Figure 2. Attitudes towards climate change before and after the exhibition



6 Limitations of the research

The study reports the perspectives of the artist-practitioner and the exhibition audience. The study discusses the potential use of visual arts in communicating climate change issues in a Pacific islands context. Inferences are made regarding opinion and conjecture of those participating in the study. However, conclusions cannot be drawn from the findings regarding the effectiveness of specific artworks, or of arts communication as a general approach. This is particularly the case given the small opportunity sample available to us, based on those who chose to attend the exhibition. Furthermore, conclusions cannot be made about the wider and more general potential of the arts to communicate in the Pacific context.

7 Conclusions

A unifying feature across audience participant responses was the way in which climate change is recognised to be a part of the contemporary reality of life in the Pacific islands region. Additionally, participants appear to have found the exhibition thought provoking around climate change issues, with both negative and positive feelings and emotions referenced.

Previous research has suggested that many people better understand problems or issues by the clear use of illustrations, paintings, sculptures, photography and through other media of

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communication. According to McNaught et al., (2014), research on climate change communication in the context of adaptation is very limited in developing countries. One may well ask the question as to what role/s do artists have in the climate change debate.

Considering the continuing adverse effects of climate change on the Pacific islands region now is the time to consider the importance of art and how it can be used to inform about climate change and adaptation for survival. In the build up towards the COP21 conference in Paris 2015, several art groups have taken the initiative to inform people about the effects of climate change using various art exhibitions. From these exhibitions have sprung fundraising activities to assist those severely affected by climate change including desertification problems in Africa, Asia, Latin America and the Middle-East. Known as the Artists 4 Paris Climate 2015, this initiative brought together thirteen bankable artists to exhibit in public spaces on various climate change issues.

Connections between people's 'experience' of climate change and their subsequent beliefs and actions has now been observed across a range of research studies: for example, where personal experience of flooding prompts adaptation intentions (Demski et al., 2017) or where perceived changes to the weather predicts future risk perceptions (Akerlof et al., 2013). This said, the overwhelming focus of these studies thus far has been upon behavioural responses (such as saving energy; Spence et al., 2011) or beliefs (such as in the reality of climate change; Myers et al., 2013).

Audience participants provided diverse thoughts and feelings about the exhibition. Around half of the responses reflected values such as altruism, concern for others and for the natural world. The types of values embodied in such rationales and aspirations are in line with a wide range of literature which has demonstrated them to be linked to attitudes towards climate change and the taking of action to address it (Corner et al., 2014). Altruistic and pro-environmental values, broadly construed as 'self-transcending' in the psychological literature (Corner et al., 2014) are also considered to be important to convey and assert where seeking to engage and influence others (Crompton, 2010). From a consideration of the work of many artists and arts projects in Australia, Curtis (2009) has concluded that arts projects are able to engender a connectedness and emotional relationship with the natural environment, as well as to instruct in a more educational sense.

The current European Union Pacific Vocational Education and Training in Sustainable Energy and Climate Change Adaptation project (EU PacTVET) has developed regional qualifications in "Sustainable Energy" and "Resilience – Climate Change Adaptation and Disaster Risk Management" (Hemstock et al, 2017). The inclusion of traditional/ local

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knowledge in the learning outcomes of these courses as well as the development and use of novel teaching and learning resources to ensure qualifications were fully accessible to Pacific communities (including those with low levels of literacy and educational participation), was highlighted by stakeholders (Hemstock et al, 2017). Building on the observed connection between people's 'experience' of climate change and their subsequent beliefs, behavioral responses and future risk perceptions (Akerlof et al., 2013; Demski et al., 2017; Myers et al., 2013; Spence et al., 2011), the EU PacTVET project in partnership with the Coping with Climate Change in the Pacific Islands Region Project (CCCPIR) project have selected and developed a series of teaching resources which reference visual arts in a Pacific community context. This is as a result of lessons learned from this research and similar Eco-Arts projects in the Pacific region (Capstick et al., 2018). In addition, the EU PacTVET project is building on this research in the development of teaching resources and the use of methodologies which aims to explore and use the perceived personal impacts and experiences of learners to climate change, their behavioural responses (such as installing water tanks for rainwater collection) or beliefs (such as is climate change a human induced or super natural phenomenon). The current research does not make strong claims regarding a direct causal effect of experience in informing creative approaches and communication of climate change. However, for the EU PacTVET and CCCPIR initiatives, it is hoped that the inclusion of creative approaches to climate change communication in a formal educational environment may yield positive results.

The extent to which this field can develop is likely to be limited by the practicalities of creating and presenting material by and for a wider public. Nevertheless, arts communication has the potential to engender new forms of understanding and responses about climate change. We conclude that the activities carried out during the pursuit of this research offer an exciting and innovative way of raising awareness and communicating information concerning environmental issues and climate change to various communities and new audiences – from school children to PhD level researchers.

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