The Role of Government in Climate Change Adaptation in Queensland

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28th October 2013

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List of Abbreviations

CSIRO	Commonwealth Scientific and Industrial Research Organisation
DCC	The Australian Department of Climate Change
GBR	Great Barrier Reef
GBRMP	Great Barrier Reef Marine Park
IPCC	Intergovernmental Panel on Climate Change
LGA	Local Government Area
LGAQ	Local Government Association of Queensland
QFRS	Queensland Fire and Rescue Service
QLD	Queensland
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

1.0 Introduction

Anthropogenic climate change is arguably the biggest issue facing the planet and adaptation strategies are on the forefront of the agenda globally (Barker 2003). In Queensland, the severe impacts of climate change, including droughts, sea level rise (SLR), more frequent floods, worsened fires, biodiversity loss, extreme weather and cyclones, are already being felt and are only predicted to get worse (Taylor & McAllister 2013; Wallace & McJannet 2012; Prowse & Brook 2011, DCC 2009). Despite the overwhelming predictions for Queensland's future, there seems to be a short-fall in climate change adaptation policy at all three levels of government in Australia (Howes & Dedekorkut-Howes 2010). Howes and Dedekorkut-Howes (2010) suggest that this could be partly attributed to the fact that Australia's political system is dated and was not designed to cope with complex, long-term issues such as climate change. This essay will provide a snapshot of the climate change adaptation issues facing Queensland and will investigate the powers that each level of government has. Furthermore, this essay will outline the roles that the Commonwealth, State and local governments need to take on to more effectively adapt to the predicted climate change impacts. Intergovernmental strategies will also be discussed and finally, improvements to the policy cycle will be outlined. This essay will argue for a more collaborative, engaging and inter-governmental approach to decision- and policy-making about climate change adaptation in Australia.

2.0 Climate Change Issues in Queensland

What are the key climate change adaptation issues that need to be addressed in Queensland?

There are many challenges facing Queensland in terms of adapting to the predicted climate change impacts, which have been outlined extensively in the scientific literature (IPCC 2007; Taylor & McAllister 2013; Wallace & McJannet 2012; Prowse & Brook 2011, DCC 2009). These include; SLR and coastal inundation; increased severity and frequency of fires, droughts and floods; increased storms and worse cyclones; decreased food and water availability; ocean acidification; decreased biodiversity; changes to rainfall; and greater temperature extremes (CSIRO & BoM 2012; IPCC 2007; Climate Commission 2013).

In Queensland, it is estimated that approximately 85% of the population lives along the coast (DERM 2011). Additionally, significant infrastructure is located along the coast and a SLR of 1.1m by 2100 could result in the inundation of 'up to 4,700km of roads, 570km of railways and 1,400 commercial buildings' (DCCEE 2011, p. 16). However, current trends in coastal development, such as those seen in Cairns and South East Queensland, are exacerbating these risks (IPCC 2007).

Climate change is also likely to increase the frequency and severity of bushfires in Queensland, due to changes in temperature and humidity (Williams et al. 2001). This will have disastrous impacts on human health and biodiversity and can result in significant infrastructure damage (Preston et al. 2009). Additionally, the IPCC predicts that the agriculture and forestry industries of eastern Australia are likely to decline significantly by as early as 2030 due to fires and droughts (IPCC 2007).

The increased frequency and severity of droughts, 'affect both natural assets and human security' (UNEP 2012, p. 3). This has already been seen and has caused major problems across Queensland and other parts of Australia, affecting the environment (Bond et al. 2008; Humphries & Baldwin 2003; Recher et al. 2009) and the economy (Productivity Commission 2008; BoM 2009). Droughts can have far reaching effects across a lot of other areas and can cause land degradation, decreased agricultural produce, increased fire, and water stress (Kirono et al. 2011; IPCC 2007). Flooding can, ironically, have many of the same impacts as drought, except there is also the additional impact of severe infrastructure damage and loss of life (IPCC 2007).

Extreme weather and cyclones also pose a major threat to Queensland's agricultural industry and coastal infrastructure (DCC 2009).

3.0 Government Powers in Australia

What powers are granted to each level of government under the Australian Constitution and Queensland Local Government Act that could be used to address these issues?

Powers are distributed across the three levels of government in Australia based on the *Australian Constitution* (Commonwealth of Australia 2010) and various state government Acts that stipulate the roles of local government. In relation to climate change adaptation, the *Constitution* (Commonwealth of Australia 2010) grants the Commonwealth Government the power of external affairs (s 51 xxix.), allowing it to enforce the *United Nations Framework Convention on Climate Change* (UNFCCC) and *Kyoto Protocol*. The remaining powers, not granted to the Commonwealth, are given to the dtate governments (Commonwealth of Australia 2010). The local governments are not mentioned in the *Australian Constitution*, however, powers are granted to local governments in Queensland under the *Local Government and Other Legislation Amendment Act 2012* (The State of Queensland 2012), which was an amendment of the *Local Government Act* (The State of Queensland 2009).

Local governments, from a legal point of view, have no powers or status of their own (Twomey 2012). They are merely designated whatever powers the state sees fit (Twomey 2012). According to the *Local Government Act*, 'a local government can only do something that the State can validly do' (The State of Queensland 2009, p. 19). Local governments have the power to do anything, as long as it is acting for the good of the area (chapter 2, section 9 of the Act) (The State of Queensland 2009). They are also able to conduct joint government activities, where they can pair up with other local government(s), or the Queensland and Commonwealth governments to address issues that stretch beyond the borders of their LGA (chapter 2, section 10 of the Act) (The State of Queensland 2009).

The state governments essentially hold the majority of power to influence climate change adaptation policy in Australia. They create state level policy and they set requirements for local level policy (DCC 2010). The state and local governments have the most power to act in climate change adaptation decisions and are best placed to do so (DCC 2010). In some cases an individual government is best placed to take action in making policy but in others, it is best for two ore more local or state governments to act together on broader issues (DCC 2010). In these cases the *Coalition of Australian Governments* (COAG) acts as a coordinating body across the levels of government (DCC 2010).

4.0 Proposed Commonwealth Government Roles

What should be the role of the Commonwealth (national) government?

The Commonwealth Government has a strong, practical part to play in creating policy designed around mitigating climate change, through the reduction of emissions, to ensure that international commitments are met (DCC 2010). However, in adapting to climate change, the Commonwealth Government can play a less direct, but still crucial, role. Primarily, the Commonwealth Government should maintain a strong, resilient economy to provide a social safety net and to assistance states and localities to implement climate change adaptation strategies. Also, they need to be leaders in national reform, manage Commonwealth assets and programs, and provide scientific information (DCC 2010).

The Commonwealth Government should provide guidance and set general directions for climate change adaptation at a national level, based on practices being used internationally. There should, at

all times, be a Department of Climate Change (DCC) that consists of leading scientists and policymakers that report to decision makers. The DCC will publish guiding publications describing climate change impacts, proposing adaptation strategies, and reporting on nation-wide efforts. Such publications would be similar to the Commonwealth's *Adapting to Climate Change in Australia: An Australian Government Position Paper*, but would include comprehensive reports on the status of adaptation strategies being utilised nationwide (DCC 2010). These publications should also include international case studies of best practices, be released regularly, and be utilised at the State Government level to guide policy making for climate change adaptation.

Additionally, the Commonwealth Government must direct significant resources and attention to climate change adaptation, to lessen the disastrous economic impacts that Australia will experience in a future without climate change adaptation measures in place (Nursey-Bray 2010). The Climate Commission (CC) should be reinstated as a government funded body to continue to 'inform the public debate about climate change' (Howes et al. 2013). Research bodies such as the CSIRO also have a critical role to play in assisting the Commonwealth Government with decision-making around climate change adaptation. The reports and publications produced by the CC and the DCC should be informed by scientific research from the CSIRO and other research organisations.

Finally, the Commonwealth Government has a commitment to protect the Great Barrier Reef (GBR) as it was labelled a World Heritage Site in 1981 (UNESCO 2013). The Great Barrier Reef Marine Park (GBRMP) Act 1975 is a Commonwealth Government document that stipulates what activities are and are not allowed within the GBRMP. However, with the added pressures that warming oceans, increased tropical cyclones, ocean acidification and sea level rise are having on the reef ecosystem, the viability of the GBR is under serious threat ( ). Also under threat is $5.8 billion per year reef-based tourism industry that supports 55,000 jobs (Biggs 2013). To ensure that the reef is able to cope with the added climate change stresses can continue to be used for tourism in the future, tighter restrictions on its use need to be implemented under an amended version of the GBRMP Act 1975.

5.0 Proposed Queensland Government Roles

What should be the role of the Queensland state government?

The Queensland Government has an important role in driving climate change adaptation policy and setting the standard. Apart from the need to create better climate change adaptation strategies and build more resilient infrastructure, the Queensland Government has the opportunity to change the status quo. The Queensland Government must legislate that local governments take a greater responsibility of their ability to adapt to climate change, as part of their requirement to be 'accountable, effective and sustainable' under the *Local Government Act* (The State of Queensland 2009). In doing this, however, the Queensland Government needs to be of the understanding that many of the climate change impacts will have consequences at a local scale. Therefore, there needs to be a system in place by which local governments can put climate change adaptation issues directly on the agenda. This will increase the ability of the Queensland government to act fast and support the local government with adapting to the climate change impact, thus increasing resilience.

The Queensland Government must also put in place regional strategies and adaptation plans that span across broader impacted areas such as South East Queensland, working with the relevant local governments to do so. This will minimise the chances of doubling up on resources across local governments and will direct some of the state resources to assist regional areas with adapting to climate change. The Queensland Government will also have the role of continuing to deliver significant infrastructure and services, whilst adapting these to be more climate resilient (

6.0 Proposed Local Government Roles

What should be the role of the local governments in Queensland?

Local government action is the key to adapting to the impacts of global climate change (UNEP 2012). Local governments, with the power granted to them by the state, must act at a local and regional level to create policy designed to adapt communities to the climate change impacts described in section 2.0. All local governments should integrate adaptation planning into their planning schemes, and use a forward-thinking approach, such as that which is being implemented in Durban, South Africa (UNEP 2012). The Thekwini Municipality is an example of a local entity that 'recognise and respond to their role in climate change adaptation' (Roberts 2010, p. 397). Incorporating adaptation into local planning frameworks can help to combat climate change impacts such as floods, droughts, fires and storms through effective land-use choices and through creating climate-resilient infrastructure (Roberts 2010).

Local governments need to have conservative water and energy strategies, resilient infrastructure design, smart land-use planning, and well-considered disaster plans (Baker et al. 2012). Preston et al. (2009) also recognise that change is required in local government policy and the vulnerability of areas to bushfire needs to be better accepted. Local governments need to work with the state government and the Queensland Fire and Rescue Service (QFRS) to input a planned burning program that will decrease the risk of severe bushfires (Preston et al. 2009). Local governments also need to prepare a local disaster management strategy, using the Queensland Local Disaster Management Guidelines (EMQ DCS 2012).

There also currently exists a guide for local government to use to prepare a coastal hazard adaptation strategy, however only several governments in Queensland have prepared one (DEHP 2013; Zeppel 2012). Baker et al. (2012) emphasise the importance of taking action to adapt to the coastal impacts of climate change at a local level, using climate resilient infrastructure, restricting development on soft shores and building resilience to storm surges and cyclones. An important first step is for every local government to prepare a coastal adaptation strategy (Nursey-Bray 2010).

7.0 Intergovernmental Strategies

How could these three levels of government work together to develop and deliver more appropriate, effective and efficient climate change adaptation policies?

COAG is the crucial link in coordinating and driving effective climate change adaptation policy across all three levels of government. There are often climate change adaptation challenges that cannot remain the responsibility of a sole level of government. A key example is adapting the coast to the climate change impacts of sea level rise, storm surges, cyclones, and complete coastal inundation (ACE CRC 2011). Traditionally coastal adaptation is the role of the Commonwealth and state governments, however, efforts need to be focused on local coastal government areas, where the pressures and practicalities are being faced (ACE CRC 2011). COAG can play a role in coordinating and directing the support of higher levels of government to where they are needed most at the local level. There are many issues where a cooperative approach is necessary, including disaster management and ocean acidification and its impacts on the GBR.

However, are the individual and collective strategies proposed going to be enough to adapt to the major climate change impacts that can be expected? The system of governance in Australia is based on a constitution that was created in the 1890s, and is therefore not ideal to address the multifaceted climate change issues that characterise the present (Howes 2005; Beck 1992). Perhaps what is needed is a revised constitution and a revolution in government that eliminates market failures,

encourages public participation and relies on open communication and decision making across all sectors?

Changes need to be made to the government *system* and to the intergovernmental connections, not just to the roles of each of the three levels of government. One of the key barriers facing climate change adaptation policymaking is the fact that climate change is a wicked problem, meaning it is difficult to define, is never-ending and has unforeseen consequences (Rittel & Webber 1973). Because of this, it is not a popular topic for politicians to take on within their short terms. Current decision makers need to be held more accountable for decisions about the future, to encourage a more forward-thinking approach to decision making. Also, there needs to be a more collaborative approach across all three levels of government to increase the overall adaptive capacity of Queensland, and even Australia. Finally, all levels of government need to undertake a higher level of community engagement to involve the public in make important decisions about climate change adaptation strategies (Nyberg et al. 2013).

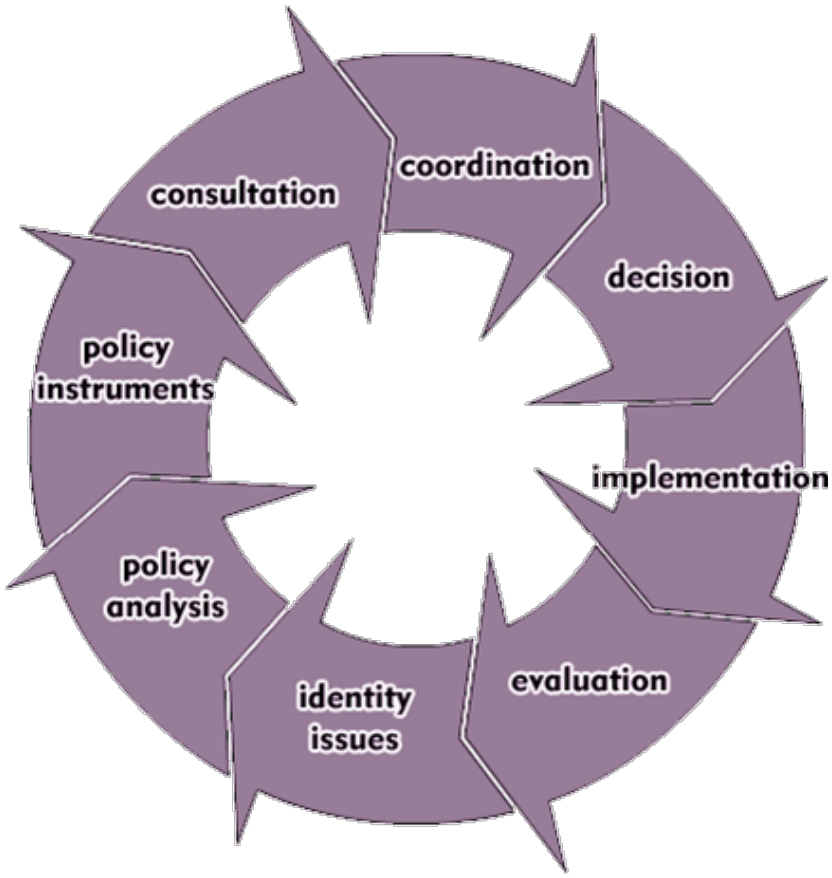
8.0 Policy Cycle

How would what you propose improve each step of the policy cycle?

In Australia, the policy cycle is used to churn out policies based on issues that have been identified (figure 1) (Althaus et al. 2012). However, it could be argued that it has not been effective in forming good climate change adaptation policy in Australia (Helm 2008). Its organized, 'neat' structure has been criticised within the literature as it is unsuited to the reality of the messy process of policymaking (Greenhalgh, 2006; Hanney et al. 2003; Lewis 2006). Despite this, the policy cycle is recognised as a useful tool to provide a structured process to policymaking and is widely used (Althaus et al. 2012). The roles of government that have been outlined above could possibly improve different stages of the policy cycle. Generally, this essay has suggested that a more collaborative, cross-governmental approach to decision- and policy-making is required. There needs to be greater input from all levels of government at each stage in the policy cycle. Additionally, local governments need to have greater influence in the making of climate change adaptation policy that occurs at the state and national level. This is because, essentially, it is the local government areas that are likely to be the most severely impacted under current climate change predictions Baker et al. 2012).

During the issue identification stage, there will be greater input from all levels of government, allowing issues to be better understood and more likely to get on the agenda. Also, climate change is considered to be a wicked problem, meaning it is difficult to define. It is better that it is broken up into its key components (e.g. SLR, increased fires) so that adaptation policy can be more manageable. Furthermore, one of the challenges of getting climate change on the agenda is scepticism. Having an intergovernmental recognition of climate change, as a key policy issue will put pressure across all levels of government to increase awareness of the climate science, stamp out scepticism and get climate change adaptation on the agenda. In the policy analysis phase, a greater contribution from stakeholders from different levels of government and from a scientific background will ensure the goals formulated best suit the issue identified.

Figure 1: The Policy Cycle



Source: Althaus et al. 2012, p. 38

Once the issue has been identified and analysed, policy instruments should be decided upon. Due to the nature of climate change as an issue, it is likely that advocacy will be the cheapest most effective tool to use. Used in conjunction with other tools, advocacy can be more effective if all levels of government are acting together, which is what this essay proposes. Consultation is recognised within the literature as an important part of any democratic decision making process and community members and other stakeholders will be encouraged to contribute and engage in any stage in the policy cycle (Nyberg et al. 2013). Due to the increased level of participation by other levels of government and stakeholder in the policy process, coordination and decision-making will likely be more complex. It is in the coordination and decision stage that the local governments will have more say. Local governments will be able to take into consideration the arguments and interests of all stakeholders and vote on the best course of action. This ensures the decision-making doesn't lie in the hands of a few individuals with a lot of power.

During the implementation and evaluation phases, the state government will take on a more active role again, using their power and resources. However, during these stages, considerable intergovernmental collaboration and community engagement will be incorporated. This will allow the evaluation process to be meaningful and accurate.

9.0 Conclusion

This essay has outlined the serious climate change impacts facing Queensland and has examined the role that each level of government has to play in policymaking for climate change adaptation. Major impacts such as SLR, coastal inundation, fires, floods, drought, severe weather events and storms were looked at. A look at the powers of the levels of government and how they are assigned found that the Australian system of government and is incapacitated to deal with complex issues such as climate change. A collaborative, intergovernmental approach to policy making was proposed. This approach would require the Commonwealth Government playing a supportive role, maintaining a strong economy and investing significantly in research and organisations that can improve the scientific foundations for decision-making. The Queensland Government would need to legislate that the local governments make plans and strategies to increase their accountability in terms of climate change adaptation. However, this proposed change to the roles of government would see local governments having a greater say over the policymaking process. As they are first to experience a lot of the climate change impacts, they should be able to put climate change issues on the agenda and have the final say in the decision making phase in the policy cycle. These changes to the system would hopefully result in better climate change adaptation policy being produced at all levels of government.

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