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Governance and Regional Planning Outcomes: Using Governance Indicators to support a Policy Implementation Approach

Abstract: Regional planning faces numerous decision making uncertainties related to the complex interdependencies between urban and regional centres. Questions about how to achieve sustainable planning solutions across regions are a key uncertainty and relate to a lack of information about the actual achievement of outcomes as proposed by the objectives of a plan. Regional plan implementation and its impact on environmental, social and economic outcomes have been little explored within Australian urban and regional planning research. Despite a desire to improve the conditions across Australian regions, ambiguity persists regarding the results of regional planning efforts. Of the variables affecting regional planning, scholars argue that governance has a significant impact on achieving outcomes (see Pahl-Wostl 2009). In order to better analyse the impact of governance, we propose a set of governance indicators to examine decisions across regional planning institutions and apply this to governance models across Queensland's regions. We contend that these governance indicators can support a more rigorous assessment of the impacts of governance models on plan implementation and outcomes. We propose that this is a way to better understand the relationship between planning and outcomes across urban and regional areas.

Introduction

This paper focuses on environmental issues faced by regional planning in Australia to improve the health of rivers, the environmental conditions of coral reefs, and the environmental impact of cities. These types of issues are recognized by their complexity and almost intractability in the attempts to develop clear solutions. In this respect, they are involved in uncertainty regarding the ways to deal with them and the results that planning efforts have achieved. One of the main sources of uncertainty is the lack of information on the outcomes from non-statutory regional plans in Queensland and the factors impacting them. By outcomes, we refer to the results or consequences of implementing the planning process (Christensen 2015) and for the purpose of this paper we focus on environmental outcomes. For instance, the levels of improvement in the health of a natural resource (e.g. land, water or biodiversity) after implementing a plan.

Regional planning is an approach that addresses environmental, social and economic issues that require a focus beyond the local government level. In this sense, it deals with the efficient placement of land-use activities and settlement growth across areas larger than cities or towns (Calthorpe and Fulton 2001). This approach to planning fits with the regional scale of the environmental issues considered. In this respect, Australia adopted 'regionalisation' in the efforts to improve the management of its natural resources. 'Regionalisation' is the government trend of creating administrative regions for service delivery (e.g. sustainable management of resources), based on the boundaries of natural resources rather than political jurisdictions. It is identified with neoliberal ideology where the government devolves responsibility to society in the management of tangled problems (Robins 2007). Therefore, during the early 2000s, Australia established 56 Natural Resource Management (NRM) regions, each governed by an NRM regional body, in response to land and water degradation issues. The main task of these NRM bodies was to develop and implement an NRM Plan in collaboration with community groups and governments (Lockwood *et al.* 2009). Fourteen of these regions are located in Queensland -- the main focus of this paper.

The regional approach is considered as the most appropriate for dealing with the complexity of natural resource issues, which is multi-scale, multi-level and cross jurisdictional. In addition, it involves a high degree of interdependency with urban centres, as these depend on regional areas for the provision of resources (e.g. food, water and energy). Purely technical solutions have proven insufficient to cope with this complexity. In this regard, research has identified governance as the key factor with the potential to overcome the difficulties of regional natural resource planning. Many believe that

environmental problems are largely an issue of governance (Evans 2012, Pahl Wostl 2009, Taylor 2010, UN 2006).

How governance impacts upon regional planning outcomes is the research gap that we intend to address, which has been previously identified by Robinson *et al.* (2009), Kenward *et al.* (2011), Biddle and Koontz (2014) and the OECD (2014). Within Queensland, Vella *et al.* (2015) highlight that the impact of community-based NRM governance on outcomes remains a research gap. The potential influence of governance on outcomes focuses on the implementation phase of planning -- the process whereby outcomes are produced. From the regional planning perspective, this paper explores the development of governance indicators, considered as variables that "can be used to concisely describe, understand, monitor and assess complex phenomena/systems, e.g. governance" (Secco *et al.* 2014, p. 62). In this respect, we view them as instruments that can reduce the uncertainty as they are potential providers of information about the role of governance in obtaining sustainable outcomes through planning efforts. Governance is viewed not as an outcome but as something that contributes to achieve an outcome.

The governance indicator categories explored would be integrated in the implementation process of regional planning, which is framed by Winter's (1990) Implementation Process Framework. In this sense, the indicators become tools to assess the role of governance in the implementation process of regional planning within the Queensland context... This research forms part of a PhD project, where the development of indicators is the first step in the exploration of the impact of governance upon outcomes.

The paper is divided into five sections and a conclusion. The first section includes a brief discussion about the concept of governance and the definition selected for this research. The second provides the context by describing regional planning in Australia with a focus on NRM in Queensland. Thirdly, a discussion of the scope and limits in the use of governance indicators is offered, highlighting the main barrier of not being 'objective' instruments of measure. The fourth section offers some contrast in measurement efforts by discussing other tools applied, such as the quality of life indexes which focus on urban areas, pointing out that our study views a less researched topic such as rural/regional areas. The fifth part presents the proposal of indicators to evaluate implementation of regional natural resource planning. Finally, some conclusions are offered that focus on the 'pros' and 'cons' of using governance indicators.

Governance and its normative aspects

Before discussing the meaning and purpose behind governance indicators, it is important to clarify what is governance and how we conceptualise it. Providing a definition of governance forms the base for the selection of the indicators. However, one of the main difficulties in the study of governance lies in the fact that there is no consensus on its definition, however many have been provided, across a range of disciplines such as economics, political science, business and planning. This lack of consensus has rendered governance with certain vagueness -- running the risk of becoming a politically correct term that does not explain much (Bevir 2009).

For the purpose of this paper, we view governance as a system where decisions are made and actions coordinated to achieve a given set of outcomes. More precisely and combining two definitions by well-known scholars, governance is defined as:

The arrangements and qualities of a set of institutions and rules by which decisions are made and authority exercised within a collaborative setting in which the arrangements attempt to sustain coordination and coherence among the diverse interests of the actors involved (J. Pierre 2000, Bevir 2009).

Underlying this definition is the view that governance is a system framed by institutional structures and rules (formal and informal) where conflict is inherent in the interactions between the actors (Biesbroek *et al.* 2014), even though their stated goal is to collaborate. Conflict is given by the different goals of the actors, such as economic, social or environmental aims (Schraad-Tischler and Seelkopf 2014). Therefore, supporting coordination and coherence remains a key function of the governance system. This definition is adapted from the political sciences field to the planning discipline. Regarding the link between the two study areas, our approach is that governance is the system that arranges the planning process. In this view, planning is conceptualised as a public policy

activity framed by the policy cycle (Newig and Koontz 2013). Hence, governance becomes the system where policy processes such as planning take place. Governance system is understood according to the three elements defined by Ostrom (2009): 1) the government and other organizations that manage a resource; 2) the specific rules related to the use of that resource; and 3) how these rules are made.

Furthermore, the analysis of governance has drawn attention about the need to have a guide about how to examine the governance process and determine its quality. Hence, another concept, labelled as 'good governance', has been developed, fostering the interest in creating measures which ultimately led to the governance indicators. In general terms, good governance refers to how well and effective nation-states perform in the delivery of public services on behalf of their citizens (Besançon 2003, and Rotberg 2014). It is comprised by two concepts, according to the 2002 Participatory Development and Good Government Project, cited by Besançon (2003, p. 27): "the ideal orientation of a state that works best to achieve self-reliant and sustainable development and social justice; and the ideal functioning of government that operates most effectively and efficiently." As with the case of governance, 'good governance' has no agreed definition, adding more complexity to the analysis. Regarding delivery of public services, some definitions emphasise inclusiveness, accountability and rule of law (IMF 2005, World Bank 2014), while others focus more on transparency, participation and fairness (Hyden *et al.* 2004, USAID 2005, UNDP 2009). These could be referred as the dimensions or categories of good functioning governance.

Regarding the assessment of 'good governance', it is important to note that there is a difference between measuring governance performance and governance process. The first refers to the quality of governance in terms of a normative outcome (e.g. levels of corruption), while the latter indicates the quality of governance in terms of how outcomes are achieved. The monitoring of process has remained much more limited compared to that of performance (Court *et al.* 2002). On the other hand, and in order to avoid governance judgements, the indicators proposed by this paper intend to have a non-normative dimension, which means that they focus on what occurred in the past and how, if possible, they link with the implementation process. If there is a normative assumption regarding what is good, it refers to the degree of attainment of outcomes as a product of the implementation of a plan. 'Good' would refer to high levels of achievement while 'Bad' to low levels. In this sense, the normative dimension (in case it is unavoidable) examines levels of effectiveness in the achievement of outcomes, in the event that outcomes information is available.

Regional planning in Australia: the case of Natural Resource Management (NRM) in Queensland

Australia has adopted a regional approach to managing natural resources (as was already mentioned in the Introduction), rather than federal, state or municipal levels. This does not mean, however, that these three levels of government are insulated from NRM. On the contrary, they have a strong influence, particularly the state and federal levels. This shows that regional NRM occurs within a multi-level governance system, where regions have the main responsibility in procuring sustainable forms of planning and management. As such, this system has the benefit of driving scale flexibility between the different levels of government. Nonetheless, it entails a coordination dilemma as the policies of one jurisdiction can have negative or positive externalities upon others, requiring coordination between them to avoid 'socially perverse outcomes' (Hooghe and Marks 2003). Over the years, it has not been clear if regional planning (particularly through NRM plans) has achieved sustainable outcomes and part of this is explained by a lack of research about the impact of governance (which involves coordination among its normative core tasks) on these outcomes.

The 56 NRM regions were created as part of the 2000 National Action Plan for Salinity and Water Quality (NAP). This plan required that regional bodies – "regionally based to enhance links to local communities and reflect local problems and priorities" (Pannell and Roberts 2010, p. 437) – identified key environmental assets and targets in regional plans accredited by the Australian government (Curtis *et al.* 2014). Regional natural resource planning was undertaken through a collaborative governance approach based on community-based consultation and decision-making. A 'bottom-up' governance model that, nonetheless, over the years became increasingly centralised towards the federal level (Robins and Dovers 2007), particularly through the Caring for our Country (CfoC) program, which replaced the NAP in 2008. The adoption of a more top-down model (despite the original community-based approach) has been consolidated by the recent federal program 'Regional

NRM Planning for Climate Change', which required updating the NRM plans to cope with climate change as part of the Clean Energy Future policy of 2011 (Australian Government 2014). Currently, the number of NRM bodies has been reduced to 53. A brief look at these past events shows that it is not clearly distinguishable if the governance arrangements in regional planning promote a centralised or bottom-up community-focused model. It is expected that the indicators will provide information about the implications of this confusion.

Queensland has 14 NRM regions, managed through the local community, integrated by diverse stakeholders such as catchment and Landcare groups; industry groups; conservationists; traditional owners; regional communities; and researchers (Cox *et al.* 2013). These community-based key actors are complemented by stakeholders from local, state and federal governments. In this sense, the NRM groups resemble a form of governance based on partnerships between the community and the government. All the regional groups are non-statutory with the exception of the Torres Strait Island region, which is managed by the Australian government. Their basic governance structure is comprised by a Board and a Management branch. The first represents the forum where the key stakeholders make decisions (e.g. regional NRM planning), while the latter is the sub-group that implements these decisions and manages other operations. In other words, it executes the plans and objectives developed by the stakeholders. The basic structure is complemented by the Regional Groups Collective (RGC), which acts as the representative body for NRM in Queensland. The RGC is designed as a forum of collaboration between the 14 NRM regional bodies (RGC 2015).

Following their creation in 2000, the groups developed and implemented an NRM plan throughout the first decade of the 21st century. These regional planning outputs are known as the 1st generation NRM Plans. It is not clear if these plans contributed to achieve a healthier environmental condition for their regional natural assets, and governance is considered key to understand the unclear results and difficulties encountered by the planning process. At the moment, an evaluation regarding the role of governance upon plan implementation and outcomes is pending, which has been delayed by the policy process where, currently, the regional bodies updated their plans – the 2nd generation ones – through the 2011 Clean Energy Future policy. By this time, the new plans have been completed by all of the regions (Vella *et al.* 2015). The indicators proposed would focus upon the implementation of the first generation plans –as these have already been applied– in a time-frame from eight to ten years. In this respect, they become a tool for a historical examination of governance in regional NRM planning at Queensland.

Governance indicators and the perils of measuring human actions

Numeric indicators for the measurement of governance became a global trend in the beginning of the 2000s, when the World Bank created its indicators to assess (and grade) the governance conditions of developing countries. Mainly, they have been used to monitor the progress of emerging economies towards development. The World Bank's Worldwide Governance Indicators measure aspects such as levels of corruption, rule of law, government effectiveness and quality of regulations (World Bank 2014). Other influential assessments of governance include Transparency International's Corruption Perceptions Index; Freedom House's index about democratic governance and political freedom; and the Organization for Economic Cooperation and Development (OECD) Sustainable Governance Indicators (SGI) for the measurement of governance in its relation with policies for sustainable development. The adoption of quantifiable measures responded to the need of having more precise instruments to compare the quality of governance among countries (Arndt and Oman 2006). Indicators are valued because they represent a tool for systemising information and data on governance issues. They contribute to improve information and reduce uncertainty (OECD 2014).

The alleged precision is, however, faced with pitfalls. First, there is an inevitable subjectivity in measuring aspects that have their foundation in human acts (e.g. decisions, agreements or regulations) which are inherently difficult to grasp and define, contrary to the more factual aspects of natural sciences. This subjectivity is reinforced by the fact that the majority of the data is based on perceptions, either obtained through public surveys or expert judgements. The rest, therefore, is gathered through fact-based sources (Williams 2011). Secondly, the vague nature of the definitions about governance and 'good governance' do not provide a robust foundation on which to base the indicator categories, leading to confusion about their meaning. As Court *et al.* (2002, p. 2) state: "perhaps because it is a broad and complicated concept, there exists no regular, systematic and cohesive data collection effort centered on the concept of governance." In addition, 'good governance'

is based on normative assumptions that appear to guide best practices, failing to take into account the context in which they attempt to be translated (Williams 2011). Thirdly, the indicators are not supported by a theory and, in consequence, the same indicator is subject to different interpretations, becoming a proxy for democracy, human rights or governance (Arndt and Oman 2006). And finally, they can easily be misused as their methodology tends to be rather opaque (UNDP 2009).

Nonetheless, studies have pointed out proposals to deal with these pitfalls. Regarding the subjectivity, it likely occurs because data about facts is poor and not readily available (e.g. results about sustainable development policies). Hence, the only option left is to rely on surveys or interviews. However, perceptions are not that disadvantageous, as they can be more meaningful when measuring aspects such as trust, efficiency or legitimacy of institutions. Perceptions are important when assessing this type of values (Court *et al.* 2002). The OECD, for instance, combines qualitative and quantitative approaches in the collection of data for the SGI. This strategy is used to address both the subjectivity through expert assessments and the objectivity through official statistics (Schraad-Tischler and Seelkopf 2014). On the other hand, the methodology adopted to build the indicators should be as transparent and clear as possible, including warnings about possible misuses, such as using the indicators for cross-country comparisons when they are not designed for that (Arndt and Oman 2006, UNDP 2009, Williams 2011). In summary, when dealing with the pitfalls, as Williams (2011, p. 6) argues: “it must be recognised that perfect measurements will not be possible, and decisions will need to be informed by qualitative and subjective assessment, as well as hard indicators.”

Urban regions, traditional subjects of measurements

Governance indicators usually focus on the national scale, measuring governance conditions in nation-states, particularly in developing countries (e.g. the World Bank or Freedom House indexes). Others have been created by countries to assess local governance in an effort to improve policy-making and democracy in municipalities or provinces (UNDP 2009). At lower levels, most of the measures focus at cities such as the United Nations Urban Governance Index (UGI), designed as a self-assessment tool for cities and local authorities to evaluate how governance contributes in achieving development priorities (UN-HABITAT 2003). In this respect, the overall priority of urban development is to improve the quality of life, which is the condition that the most popular indexes measure, such as Mercer, the OECD or Numbeo.

All of these indexes include the implicit assumption that governance contributes to enhance the quality of life. While not directly referring to governance, they include categories that assess elements where governance is involved. For instance, Mercer measures the political and social environment as well as the quality of public services in its Quality of Living Index, adding that their Index allows city to city comparisons (Mercer 2015). Governance is also implicit in the OECD's Better Life Index and Numbeo's Quality of Life Index as both measure the quality of public services such as housing, transport, health and security (OECD 2015, Numbeo 2015). In addition, these indices also include measures about environmental conditions, based on the understanding that a healthy environment is a key factor for enhancing the quality of life. Among the categories measured are levels of air pollution, quality of water and records of natural disasters. Australian cities usually rank high in these assessments. For example, in Mercer's Index, Sydney is ranked among the top 10 cities in the world; while cities such as Adelaide, Melbourne and Brisbane are ranked as “very high” in terms of quality of life in Numbeo's ranking (the OECD's index ranks countries instead of cities).

However, few studies have focused on regions or rural areas and the links between governance and environmental outcomes. To some extent, regional areas have been undervalued in these studies, understating their essential role as providers of natural resources to urban zones and failing to take into account the interdependency between them. One of the few contributions in this topic is the development of a set of indicators to assess the quality of forest governance at the spatial and administrative levels in two European regions (Secco *et al.* 2014). Overall, the link between the assessments that measure life conditions in urban areas and the ones explored in this paper lies in the fact that a healthy environment and a robust institutional framework contribute to improving the quality of life. In this regard, there are no studies so far in the Australian context focusing on the measurement of governance regarding environmental conditions in regional areas.

Targeting uncertainty: a proposal of indicators for regional natural resource planning

Indicators have largely focused in examining the impact of governance upon development (Court *et al.* 2002, Arndt and Oman 2006, World Bank 2014) such as how levels of corruption and effective policy-making impact upon economic development. However, few indicators have been developed to examine the impact of governance upon natural resource planning (e.g. forest governance by Secco *et al.* 2014). Reformulating the premise of the development studies, our aim is to find out –following Grindle’s (2007) statement– if particular conditions of governance lead to better regional environmental planning or, on the contrary, effective regional NRM planning leads to better governance conditions. The indicators are not framed by ‘good governance’ conceptualizations as it has been shown that this concept can lead to confusion and conceptual traps such as good governance for whom or what?

The indicators proposed are based mainly on the methodology and categories of the SGI developed by the OECD. The reason behind this is that the SGI combine quantitative and qualitative methods for data collection, which is so far the only alternative for reducing the inherent subjectivity of this instrument. However, the difference between our study and the SGI is that they do not link this with governance¹ and their study focuses on the national scale rather than the regional. Their assessment of Australia though serves as background for our research. According to the SGI of 2014, Australia’s environmental policy does not sufficiently protect and preserve the sustainability of natural resources and quality of the environment (scoring 5 in a scale from 1 to 10, where 1 is the worst and 10 the best):

“Australia’s economy is based to a considerable extent on the exploitation of natural resources and on a resource-intense mode of agricultural production and exportation. Therefore, the trade-off between environmental concerns and economic growth is a hot issue in politics and a topic of great public debate.” (Wilkins *et al.* 2014, p. 17).

With regards to governance, the SGI divides it between ‘executive capacity’ and ‘executive accountability’. The first evaluates the extent to which a country’s institutional arrangements enhance the capacity to act of the government, while the second refers to the extent to which citizens, NGOs and other organizations are entitled and competent to hold government accountable for its actions (OECD 2014). In both indexes, Australia ranks high, 7 out of 10 in ‘capacity,’ indicating that the country has a high level of implementation capacity; however, the SGI does not allow the identification of capacity in specific policies, such as environmentally related policies. In the ‘accountability’ category it also scores 7 out of 10 (Wilkins *et al.* 2014). Overall, the SGI suggest that Australia has high levels of governance but average performance in environmental policy. This serves as a starting point for our assessment at the regional level.

The indicators proposed are based on five elements considered essential in previous assessments (Ehler 2003, Secco *et al.* 2014, and Scholz and Stiffler 2005) which relate to four governance categories obtained from Dale *et al.* (2013), and Lockwood (2009). So far they have been developed through a review of governance indicators literature (focused on environmental issues) as well as on information about governance characteristics of the NRM regional bodies in Queensland (e.g. Board structure, denomination, budget and information use). Once the fieldwork begins, they will be complemented with interviews. The governance categories are inserted in the Implementation Process framework, which contains three elements. The basic aim is to examine the impact of the indicators upon the implementation process pointed out by Winter (1990). Table 1 provides an overview of the indicators:

¹ The SGIs are comprised by three pillars, 1) policy performance; 2) democracy; and 3) governance that inform about a country’s success in meeting complex challenges (OECD 2014). They do not make inferences about the links between the three pillars or evaluate how one impacts upon another.

Table 1. Governance indicators and their categories in the implementation process.

Implementation (Winter, 1990)	Indicators (SGI, 2014 and governance elements of QLD NRM groups)	Categories (OECD, 2014 and Secco et al., 2014)
Organizational and inter-organizational	Stakeholder engagement	Inclusion
	Public participation	
Street-level bureaucrats	Coordination	Effectiveness
	Decision-making process	
Target group behaviour	Public learning	Transfer of knowledge
	Institutional reform	Adaptability

Each of the elements in the implementation process will be assessed against six indicators. Organizational and inter-organizational involve the institutions and their interactions; street-level bureaucrats are the actors more closely engaged in the actions 'on the ground'; and target group behaviour relates to the population where policy intends to have an impact (Winter 1990). Stakeholder engagement refers to the actors (state and non-state) involved in planning implementation; public participation seeks to measure the level of citizen participation in NRM planning; coordination relates to the networks and regulations used by the actors to implement planning actions; decision-making process refers to the way decisions are made in the implementation process (e.g. collaboratively or unilaterally); public learning involves the degree to which knowledge is spread and how it informs further implementation practices; and institutional reform indicates if the regional bodies (in conjunction with the government) monitor their own institutional arrangements and reform them if necessary (OECD 2014). The four governance categories frame the indicators and would serve to inform how each of them impact on planning implementation and, ultimately, on outcomes. Their value denomination is intended to be as simple as possible, measuring each indicator between scales of 1 to 5 according to a particular statement that reflects a situation.²

This numeric exercise is designed to provide guidance amongst the uncertainty that surrounds the implementation process and its outcomes. In this regard, it is assumed that a high score in the indicators would translate in better regional environmental planning. Moreover, it is expected that high levels in the measurement of these governance categories would lead to higher levels of implementation, measured as the level of attainment of plan objectives regarding NRM, which would reflect better environmental outcomes. However, a high output in the indicators combined with poor implementation and outcomes cannot be discarded (as the SGIs assessment of Australia illustrated) as well as low scores in the indicators and good outcomes. This would show that there is no clear relationship between governance and environmental planning outcomes, suggesting further research while maintaining the uncertainty. In this case, the PhD project considers undertaking a case study of these unexpected results as a second phase of the research.

There have been attempts to evaluate regional governance in Queensland, such as the Performance Excellence reviews of Regional NRM organisations (Vogel 2013) and the Governance Systems Analysis (GSA) by Dale *et al.* (2013). The first focuses mainly on corporate governance matters targeted at achieving business excellence, while the latter offers an instrument to evaluate the status of the governance system and inform about possible reforms. While both include similar governance criteria to the one presented in the paper, their purposes are different as none of them aim to link governance with planning and outcomes.

² For instance, 'Stakeholder engagement' would be measured using a scale of 1 to 5 according to a set of five statements (considering that there are around 10 key stakeholders): 1) no stakeholders were engaged in implementation; 2) one or two stakeholders were engaged; 3) three to five stakeholders were engaged; 4) more than five stakeholders were involved; 5) all the stakeholders were engaged.

Conclusion

The main point of this exploration is that governance indicators are a tool to provide information about key uncertainties of regional planning results. In this paper, we use them for analysing how governance impacts on the implementation process of NRM planning as a first stage in a wider examination of the links between governance and outcomes in the Queensland region. The paper also addresses two research gaps: 1) the analysis of how governance impacts upon outcomes in NRM planning; and 2) the development of indicators for examining regional areas, which could also be used to assess governance in urban regions, complementing the Quality of Life measures. By selecting a definition of governance, we narrowed the focus to the elements emphasised in the definition such as how decisions are made and actions coordinated, highlighting that the purpose of the analysis is non-normative and, in consequence, judgements about 'good governance' are avoided. We then presented a brief background of the context on which these indicators will be applied, stating that the analysis undertaken is historical as it will look into past events, particularly from the first decade of the 2000s, the main time-frame of the 1st generation NRM plans implemented by the NRM regional bodies. Although governance indicators are an instrument to provide more accurate information, it is important to avoid overestimating their explanatory power and be aware of their pitfalls, such as their inherent subjectivity. By relying on a mixed data collection method (quantitative and qualitative) and providing a clear purpose, it is expected that precision will be enhanced. Finally, the key indicators proposed are expected to provide a better understanding of the relationship between planning and outcomes by exploring if high levels of governance lead to better regional planning or they are consequence of it.

References

- Arndt, C., Oman, C. & Organisation for Economic Co-Operation and Development. Development Centre., 2006. *Uses and abuses of governance indicators* Paris: Development Centre of the Organisation for Economic Co-operation and Development.
- Australian Government, 2014. *Regional Natural Resource Management Planning for Climate Change* [online]. <http://www.environment.gov.au/cleanenergyfuture/regional-fund/index.html> [Accessed September 2014]
- Bank, W., 2014. *Worldwide Governance Indicators* [online]. <http://info.worldbank.org/governance/wgi/index.aspx#home> [Accessed February 2015].
- Besançon, M., 2003. *Good Governance Rankings: The Art of Measurement*. Cambridge, Mass: Report for World Peace Foundation, 09 2003.
- Bevir, M., 2009. *Key concepts in governance*. Los Angeles; London: SAGE.
- Biddle, J.C. & Koontz, T.M., 2014. Goal specificity: A proxy measure for improvements in environmental outcomes in collaborative governance. *Journal of Environmental Management*, 145, 268-276.
- Biesbroek, G.R., Termeer, C.a.M., Klostermann, J.M. & Kabat, P., 2014. Analytical lenses on barriers in the governance of climate change adaptation. *Mitigation and Adaptation Strategies for Global Change*, 19, 1011-1032.
- Calthorpe, P. & Fulton, W.B., 2001. *The Regional City : planning for the end of sprawl*. Washington, DC: Island Press.
- Christensen, K. S., 2015. Both Process and Outcome Essential to Planning. *Journal of Planning Education and Research*. 35 (2), 188-198.
- Cox, M., Serrao-Neumann et al., 2013. *Analysis of the needs of the East Coast Cluster Regional NRM Bodies in relation to Planning for Climate Change Adaptation*. Climate Change Adaptation for NRM in East Coast Australia Project. Griffith University.
- Court et al., 2002. *Assessing Governance: Methodological Challenges*. World Governance Survey Discussion Paper 2. United Nations University.
- Curtis, A., Ross, H., Marshall, G.R., Baldwin, C., Cavaye, J., Freeman, C., Carr, A. & Syme, G.J., 2014. The great experiment with devolved NRM governance: lessons from community engagement in Australia and New Zealand since the 1980s. *Australasian Journal of Environmental Management*, 21, 175-199.
- Dale, A., et al., 2013. Governance Systems Analysis (GSA): A Framework for Reforming Governance Systems. *Journal of Public Administration and Governance*, 3, 162-187.
- Ehler, C.N., 2003. Indicators to measure governance performance in integrated coastal management. *Ocean & Coastal Management*, 46, 335-345.
- Evans, J., 2012. *Environmental governance*, 1st ed. Milton Park Abingdon, Oxon; New York: Routledge.
- Grindle, M.S., 2007. Good Enough Governance Revisited. *Development Policy Review*, 25, 533-574.
- Hooghe, L. & Marks, G., 2003. Unraveling the Central State, but How? Types of Multi-Level Governance. *The American Political Science Review*, 97, 233-243.

- Hyden et al., 2004. *Making Sense of Governance: Empirical Evidence from Sixteen Developing Countries* Boulder, CO: Lynne Rienner.
- Imf, 2005. *Good Governance: The IMF's Role* [online]. <http://www.imf.org/external/pubs/ft/exrp/govern/govindex.htm> [Accessed April 2015].
- Kenward, R.E., Whittingham, M.J., Arampatzis, S., Manos, B.D., Hahn, T., Terry, A., Simoncini, R., Alcorn, J., Bastian, O., Donlan, M., Elowe, K., Franzén, F., Karacsonyi, Z., Larsson, M., Manou, D., Navodaru, I., Papadopoulou, O., Papathanasiou, J., Von Raggamby, A., Sharp, R.J.A., Söderqvist, T., Soutukorva, Å., Vavrova, L., Aebischer, N.J., Leader-Williams, N. & Rutz, C., 2011. Identifying governance strategies that effectively support ecosystem services, resource sustainability, and biodiversity. *Proceedings of the National Academy of Sciences*, 108, 5308-5312.
- Lockwood, M., Davidson, J., Curtis, A., Stratford, E. & Griffith, R., 2009. Multi-level Environmental Governance: lessons from Australian natural resource management. *Australian Geographer*, 40, 169-186.
- Mercer, 2015. *2015 Quality of Living Rankings* [online]. <https://www.imercer.com/content/quality-of-living.aspx> [Accessed June 2015].
- Newig, J. & Koontz, T.M., 2013. Multi-level governance, policy implementation and participation: the EU's mandated participatory planning approach to implementing environmental policy. *Journal of European Public Policy*, 21, 248-267.
- Numbeo, 2015. *Quality of life* [online]. <http://www.numbeo.com/quality-of-life/> [Accessed June 2015].
- Oecd, 2014. *Sustainable Governance Indicators (SGI)* [online]. <http://www.sgi-network.org/2014/> [Accessed March 2015]
- Oecd, 2015. *OECD Better Life Index* [online]. <http://www.oecdbetterlifeindex.org/#/111111111111> [Accessed June 2015].
- Ostrom, E., 2009. A General Framework for Analyzing Sustainability of Social-Ecological Systems. *Science (Washington)*, 325, 419-422.
- Pahl-Wostl, C., 2009. A conceptual framework for analysing adaptive capacity and multi-level learning processes in resource governance regimes. *Global Environmental Change*, 19, 354-365.
- Pannell, D.J. & Roberts, A.M., 2010. Australia's National Action Plan for Salinity and Water Quality: a retrospective assessment. *Australian Journal of Agricultural and Resource Economics*, 54, 437-456.
- Pierre, J., 2000. Introduction: Understanding Governance. In J. Pierre (ed.) *Debating Governance*. New York: Oxford University Press, 3-4.
- Rgc, 2015. *Welcome to the Regional Groups' Collective* [online]. <http://www.rgc.org.au/> [Accessed June 2015].
- Robins, L., 2007. Major paradigm shifts in NRM in Australia. *International Journal of Global Environmental Issues*, 7, 300-311.
- Robins, L. & Dovers, S., 2007. NRM Regions in Australia: the 'Haves' and the 'Have Nots'. *Geographical Research*, 45, 273-290.
- Robinson, C.J., Taylor, B.M., Pearson, L., O'donohue, M. & Harman, B., 2009. A SMART assessment of water quality partnership needs in Great Barrier Reef catchments. *Australasian Journal of Environmental Management*, 16, 84-93.
- Rotberg, R.I., 2014. Good Governance Means Performance and Results. *Governance*, 27, 511-518.

- Schraad-Tischler D. And Seelkopf, L., 2014. *Concept and Methodology - Sustainable Governance Indicators 2014*. SGI. BertlessmannStiftung.
- Secco, L., Da Re, R., Pettenella, D.M. & Gatto, P., 2014. Why and how to measure forest governance at local level: A set of indicators. *Forest Policy and Economics*, 49, 57-71.
- Scholz, J.T.a.S., B., 2005. *Adaptive governance and water conflict: new institutions for collaborative planning* Washington: Resources for the Future.
- Taylor, B.M., 2010. Between argument and coercion: Social coordination in rural environmental governance. *Journal of Rural Studies*, 26, 383-393.
- Un, 2006. *Water, a shared responsibility (Executive Summary)*. World Water Assessment Programme
- Un-Habitat, 2003. *The Global Campaign on Urban Governance* [online]. http://ww2.unhabitat.org/campaigns/governance/activities_6.asp [Accessed May 2015].
- Undp, 2009. *A Users' Guide to Measuring Local Governance*. Oslo Governance Centre. United Nations Development Programme
- Usaid, 2005. *Democracy and Governance* [online]. http://www.usaid.gov/our_work/democracy_and_governance/ [Accessed June 2015].
- Vella, K., Sipe, N., Dale, A. & Taylor, B., 2015. Not Learning from the Past: Adaptive Governance Challenges for Australian Natural Resource Management. *Geographical Research*. (In Press)
- Vogel, N., 2013. *Performance Excellence Reviews of Regional NRM Organisations*. AKMGroup.
- Wilkins et al., 2014. *2014 Australia Report*. SGI. OECD.
- Winter, S., 1990. Integrating Implementation Research. In D.J.P.a.D.J. Calista (ed.) *Implementation and the Policy Process. Opening up the Black Box*. New York: Greenwood Press, 19-38.