

## **Reconciling multiple societal objectives in cross-scale marine governance: Solomon Islands' engagement in the Coral Triangle Initiative.**

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### **Abstract**

Environmental governance aims to reconcile an expanding set of societal objectives at ever larger scales despite the challenges that remain in integrating conservation and development at smaller scales. We interrogate Solomon Islands' engagement in the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security to contribute new insight on the scalar politics of multi-level marine governance. We show how regional objectives are re-interpreted and prioritised as they translate into national policy and practice. Our data suggest that enhanced co-ordination of finances and activities, integration of objectives in shared protocols and priority geographies, and a subtle shift in power relations between the state, donors and implementation partners have resulted from processes of re-scaling. We discuss important procedural adjustments in *cross-level* and *cross-scale* governance across jurisdictional, institutional and sectoral scales. We also reflect on the changing role of national governments in shifts towards large-scale, multi-national initiatives.

**Key words:** Ecosystem-based management, conservation, development, fisheries, marine, scale.

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## **Introduction**

Contemporary environmental governance encompasses a sophisticated set of policies and practices that aim to reconcile an expanding number of societal objectives. These include vulnerable species protection, biodiversity conservation and sustainable use of natural resources, which are increasingly considered alongside poverty alleviation, food security, human wellbeing and, more recently, responses to climate change. Moreover, contemporary environmental governance aims to achieve these multiple objectives at ever-larger scales (Berkes 2006; Guerrero et al. 2015). These wider ambitions are now articulated in environmental policy despite or, some argue, in response to a lack of progress in more conventional and narrow approaches to conservation and natural resource management at smaller scales (Halpern et al. 2008; Christie et al. 2009; McLeod et al. 2009; Toonen et al. 2013). This paper critically and empirically examines how contemporary environmental governance unfolds in a small-island developing state situated in the world's epicentre of marine biodiversity.

The importance of taking account of social impacts and development outcomes in conservation and natural resource management has been recognised for decades, with the prospect for win-win solutions embodied most explicitly in the concept of integrated conservation and development. Policies and practices that broadly fall under the banner of integrated conservation and development do not only aim to minimise or negate the social impacts of conservation but purport to improve both ecological and social outcomes, most notably by making meaningful contributions to poverty reduction (Adams et al. 2004). Evidence to suggest that integrated conservation and development can deliver these win-win solutions is lacking or at

best mixed, despite considerable investment (McShane et al. 2011; Leisher et al. 2013). As McShane et al. (2011) outline, there are perceived failings from both conservation and human wellbeing perspectives.

Nevertheless, the scope and ambitions of integrated approaches have continued to expand to now incorporate concerns for climate change and the prospect of win-win-win solutions (e.g., see Bauch et al. 2014 for a discussion of REDD schemes). Such approaches are based on the premise that climate change threatens biodiversity and ecosystem health and, thus, the long-term provision of food and other ecosystem services. Given its dual impacts on ecological and social outcomes, it is reasoned that approaches to conservation and development must incorporate a proactive concern for climate change, typically centred on adaptation. Adaptation activities can include management strategies, such as protected areas, to enhance ecological adaptation as well as approaches to human adaptation, for example promoting diversified livelihoods (McClanahan and Cinner, 2012). Yet, increasing social and ecological adaptive capacity may not necessarily be compatible. In their high level review of climate change, food security and biodiversity interactions, Rice and Garcia (2011: 1) argue that in practice “most of the actions being proposed to address [climate change] pressures on marine biodiversity are totally incompatible with the actions considered necessary to meet future food security needs, particularly in less developed parts of the world”. McShane et al. (2011) argue that the scope and scale of contemporary environmental governance have expanded in the absence of a clear foundation for managing trade-offs.

Recent policy and practice attempts to manage the expanding array of trade-offs across time and space: justifying short term costs with long term gains and, in particular, implementing larger cross-scale approaches with sights set on achieving a range of different objectives at different levels. We explore these issues empirically, defining scaling-up as increasing both the *spatial coverage* of activities and their intended beneficial outcomes and the *scope of interventions*, the diversity of objectives managed for (which may necessitate trade-offs). Scaling-up may or may not involve the strengthening or emergence of multi-level *and* cross-scale interactions, where *scale* is the analytical dimension of space, time, jurisdiction and so on used to study and measure an issue and *level* is the unit of analysis located along these scales, sometimes but not always linked hierarchically (e.g., micro, meso, macro) (Gibson et al. 2000; Cash et al. 2006). Many governance failures are attributed to a lack of explicit understanding and focus on scaling issues (incorporating scale and/or level) and cross-scale dynamics (Cash et al. 2006).

As Adger et al. (2005) highlight, cross-scale governance is an exercise in managing power relations, but one that can both reinforce or alter the relative power among stakeholders. They argue that management agencies can mobilise resources from cross-scale interactions to further regulate and disempower resource users, while resource users can themselves access resources or circumvent government authority through cross-scale linkages with other stakeholders, such as international NGOs or donors. Studies of the scalar politics of large-scale and multi-level marine governance are only recently emerging. For example, Gray et al. (2014) interrogate how scalar narratives frame environmental problems and solutions under the Convention on Biological Diversity (CBD). They argue that a regional scale of governance was

constructed in party negotiations to dampen political opposition to international or localised approaches. In practice, Gruby and Basurto (2014) show that reform towards larger-scale multi-level marine governance in Palau results in more concentrated, rather than more distributed, decision-making structures. These studies focus foremost on issues of institutional and jurisdictional scale (*sensu* Cash et al. 2006) and pay less attention to how different management objectives are negotiated and implemented. We contribute to this literature with a new empirical cross-scale case that specifically analyses how new interactions emerge along jurisdictional and institutional scales, *and* how multiple objectives are understood, implemented and potentially traded-off within this changing governance landscape. We interrogate Solomon Islands' experience with the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security to analyse how policy makers understand, adapt and implement this new multi-national initiative: an exemplar of large-scale contemporary environmental governance. In the discussion section we explore what our analysis uncovers about the new multi-level and multi-scalar interactions that characterise contemporary marine governance in practice.

## **Methods**

### *Cross-scale case*

The Coral Triangle Initiative (CTI) is a multi-national initiative that aims to transform governance of the world's epicenter of marine biodiversity: the Coral Triangle region (CTI 2009; Veron 2009). The CTI inter-governmental agreement between Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands, and Timor-Leste commits member states to five over-arching goals, outlined in the *Regional Plan of*

*Action* (2009): 1) priority seascapes; 2) ecosystem-approaches to fisheries management; 3) marine protected area networks; 4) climate change adaptation, and; 5) threatened species protection. Each member state has developed a *National Plan of Action* (2010) to adapt these goals to their national context and aid implementation. A CTI Secretariat has been established to provide high-level co-ordination and to pursue further investment to achieve the targets of the 10 year Regional Plan (See Fidelman et al. 2012; Foale et al. 2013). The CTI represents an ambitious initiative to reconcile biodiversity conservation with economic development across a large scale that faces a unique set of social and ecological dilemmas. Three-quarters of the world's coral species occur in the region, more than 360 million people live within the member countries and there is a high level of dependence on marine resources amidst low levels of prosperity (CTI, 2009; UNDP Human Development Index).

In Solomon Islands, over 90 percent of the population live in coastal areas and depend on marine ecosystems for their livelihoods. In this context, it is critical that approaches effectively balance conservation and development. Solomon Islands' environmental governance is characterized by strong and enduring customary tenure arrangements on land and sea making it difficult to 'systematise' and potentially scale-up environmental management (Foale and Manele, 2004). To account for the importance of customary tenure and local governance institutions, national fisheries and environmental policies promote the use of a community-based management model, commonly implemented in partnership with Non-Governmental Organisations (NGOs). The CTI maps onto this context. The agencies translating the CTI Regional Plan to a national context are thus tasked with reconciling levels of management from multi-national to community, as well as balancing potentially disparate societal

objectives that reflect the priorities of international NGOs and local communities. We selected Solomon Islands as a case study on multi-level governance transitions because of its history of local-level management and because its National Plan showed the most distinction from the Regional Plan. This allowed us to interrogate how, and under what circumstances, multi-national and national priorities related to conservation and development were negotiated, reconciled or traded-off.

### *Data collection and analysis*

Open-ended and repeat interviews with representatives of the core agencies engaged in marine and coastal governance in Solomon Islands were conducted in 2010, 2011 and 2012 by the lead author. The agencies included the Ministry of Environment, Climate Change, Disaster Management and Meteorology (MECDM), the Ministry of Fisheries and Marine Resources (MFMR), the Foundation of the Peoples of the South Pacific International, The Nature Conservancy, World Wide Fund for Nature, WorldFish, Oxfam, the Red Cross and World Vision. The objective of these repeat interviews was to place the CTI into the broad context of contemporary marine and coastal governance in Solomon Islands in general, to explore perceived experiences of the Solomon Islands engagement in the CTI as it unfolded over time, and to triangulate data. In 2013 a semi-structured questionnaire survey focused specifically on potential trade-offs within the CTI was then administered to the organisations involved in the formal CTI National Co-ordinating Committee (NCC). The NCC is the primary forum for developing policy and implementing CTI objectives in Solomon Islands. It is co-chaired by the Permanent Secretaries of the Ministries of Environment and Fisheries, and is comprised of staff from these ministries, the Attorney General's Office and Ministries of Finance, Foreign Affairs and Trade,

Development Planning and Aid Co-ordination, and Provincial Government as well as representatives from the nationally-active environmental NGOs and higher education institutions.

The NCC co-ordinator provided the mailing list identifying the NCC member organisations and regular representatives (twelve organisations, seventeen representatives) (Supplementary Material Table 1 provides the names of the organisations invited and included in this study). We contacted all named representatives and invited them to participate in the survey. We interviewed twelve representatives from seven of the twelve organisations. Participants from the Solomon Islands College of Higher Education, three government ministries, and the Attorney General's Office were unavailable for interview despite repeated attempts to contact them. Our sample includes data from the organisations most active in CTI implementation but we acknowledge that given their roles the data on their perceptions may err towards the positive.

Representatives of NCC member organisations were asked to respond to the survey questions on behalf of their organisations. The objective of the questionnaire was to understand how conservation and development objectives were prioritised within multi-national and national policy, and where progress has been made under the remits of food insecurity, biodiversity conservation and climate change (Table 1). These questions, alongside the more open-ended interview questions, queried how new CTI interactions mapped onto existing jurisdictional and institutional scales with particular attention given to re-scaling and the balancing or trading-off of multiple



objectives. The survey was first piloted with an expert practitioner in Solomon Islands.

**Table 1:** Questions asked in the semi-structured survey to representatives of member organisations in the Solomon Islands’ National Co-ordinating Committee.

Question	Response type
<p>How are conservation and development balanced in the: i) CTI Regional Plan; ii) National Plan for Solomon Islands; iii) other CTI countries’ priorities. In your opinion, how does your organization think these objectives should be balanced in Solomon Islands (iv)? Please explain your choices.</p>	<p>Place 4 arrows along a ruler scale with zero representing strict nature protection (no human access) and ten representing unbounded economic development (no concern for sustainability). Open text explanation</p>
<p>In drafting the National Plan, what were the key differences between the National Plan and the Regional Plan? Why was this change made? Who / what was the biggest influence on this decision to make the change described?</p>	<p>List up to five key differences. Open text question on what motivated and who influenced the changes described.</p>
<p>Where has the most progress been made under these broad objectives in Solomon Islands as a whole in the last 5 years, including but not limited to work under the CTI? What activities or outcomes demonstrate this progress?</p>	<p>Allocate 100 percentage points between the three objectives. More points mean more progress has been made on the objective. Open text examples of progress.</p>

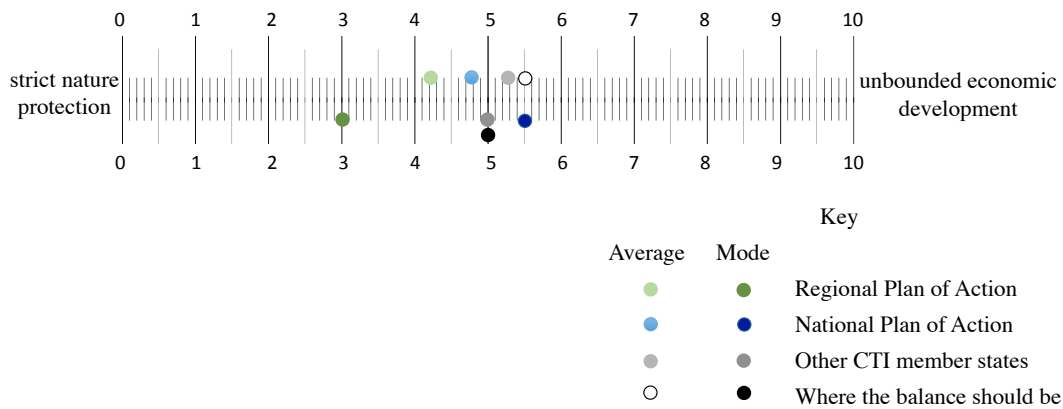
Data from the open-ended interviews and the semi-structured questionnaire survey were digitally recorded. Open-ended interviews were transcribed by the lead author and analysed in Microsoft Word with coding used to identify supporting and contradictory perspectives. Quantitative and qualitative survey responses were analysed in Microsoft Excel. The purpose of the survey was to compare responses across survey question options (e.g., Regional and National plans or three CTI objectives) rather than across organisational perspectives (e.g., government vis-à-vis NGOs). For this reason it was not considered problematic to have two or more

respondents from a single NCC organisation: respondent data were averaged across the whole sample. Given the manageability of data derived from purposeful sampling of key management agencies specialised data analysis software was not deemed necessary. The Results section reports directly on the data provided by respondents. Any quotes used are illustrative of the broader trends in the data.

## **Results**

### ***Reconciling and negotiating conservation and development priorities***

Data on how conservation was prioritised relative to development in the regional and national CTI policies reveal that 58% of the respondents (n=7) perceived the Regional Plan to be the most conservation oriented of all the choices (Figure 1). On average the CTI Regional Plan and Solomon Islands' National Plan fell below 5.0 (the mid-way point) suggesting they were primarily conservation oriented. This contrasted with how NCC respondents on average perceived other member states' CTI priorities and where they believed the balance should be, both of which fell above 5.0 erring towards a development focus. The most frequent scores among all respondents (mode) were more telling, with 3.0 for the Regional Plan and 5.5 for the National Plan suggesting that most respondents felt the Regional Plan was considerably more conservation oriented than the National Plan, other CTI priorities and where the balance should be.



**Figure 1:** Average and mode scores for the Solomon Islands’ National Co-ordinating Committee’s perspectives on how conservation and development objectives are prioritised in key policies along a spectrum from zero representing strict nature protection to ten representing unbounded economic development.

In explaining their choices, respondents noted that the involvement of Big Environmental NGOs (i.e., The Nature Conservancy, WWF, Conservation International) in drafting the Regional Plan contributed to the relatively greater prioritisation of conservation objectives at the multi-national level. Respondents suggested that these NGOs recognise the importance of sustainable development but nevertheless the Regional Plan prioritised nature conservation and protection, illustrated by three of five CTI goals being about conservation. As one respondent articulated:

*The Regional Plan is really, really focused on biodiversity, ecosystems and species management. There are a huge number of targets just for biodiversity and conservation. Sustainable development is in its principles but is not coming out in its thematic objectives ... the activities themselves are mostly about nature conservation and protection. That is why we found it difficult to align our objectives under the National Plan with the Regional Plan.*

[Government representative: 11-06-13]

Saying this, NCC members confirmed that Solomon Islands' Government had early involvement in the emergence of the CTI, and that while the Big Environmental NGOs put forward the key themes, member countries defined and negotiated the wording of all of the actions in the Regional Plan.

In interviews respondents were asked how any distinctions between the Regional Plan and National Plan came about, and who or what was the main driver. Key differences included a focus in the National Plan on four rather than five goals: establishing seascapes was not explicitly included in the National Plan. A different vision, set of principles and targets were also outlined. The National Plan emphasises more 'people-centred' approaches to coastal governance and aims to leverage the CTI to progress other national priorities. At the national level, there was a stronger impetus to consider local people's livelihoods and food security needs and it was noted by respondents that the strength of customary tenure in Solomon Islands determined to some extent where and how the balance between conservation and development could be struck. Respondents reported that the National Plan priorities were determined through extensive consultation among NCC members, and with other agencies working in conservation and development in Solomon Islands. A more recent round of review and revision involved direct participation of communities. The process also deliberately aligned CTI priorities to existing national policies including the National Biodiversity Strategy and Action Plan (2009); National Strategy for the Management of Inshore Fisheries and Marine Resources (2010-2012), and the National Adaptation Programme of Action (2008).

One of the key decisions made by the NCC was to integrate the Regional Plan's goals and implement them through a Community-Based Resource Management (CBRM) model that had already been developed in other national policy:

Solomon Islands sustainably manages marine and coastal resources to ensure food security, sustainable economic development, biodiversity conservation and adaptation to emerging threats through community-based resource management approaches (CTI NPOA, 2010: 9)

The model became known as CBRM+ to depict a need to scale-up and in recognition that additional objectives above and beyond conventional natural resource management were now included. This integration of objectives aimed to provide a more “realistic and achievable” framework for implementation “suited to the characteristics of Solomon Island rural communities” (CTI NPOA, 2010: 17):

*We cannot separate the [CTI goals] at the national level. That is not how it works here.... Because communities own the resources we thought that it would be practical and wise for us to have a community-based resource management framework: a strategy to work with communities to better promote those themes that are highlighted at the regional level. [Government representative: 11-06-13]*

Aligning CTI priorities to existing national policies also underpinned other definitional and target related differences between the Regional and National Plans. One important distinction relates to the Regional Plan's goal on Marine Protected

Areas. Goal three specifies that a “significant percentage of each major nearshore habitat... will be in some form of designated protected status, with 20% ... in strictly protected no-take replenishment zones” (CTI RPOA 2009: 30). The National Plan progresses a much broader interpretation of Marine Protected Areas that aligns with the national and Pacific-wide concept of Locally Managed Marine Areas:

An area of nearshore waters and coastal resources that is largely or wholly managed at a local level by the coastal communities, land-owning groups, partner organizations, and/or collaborative government representatives who reside or are based in the immediate area (Govan et al. 2009: 28)

As articulated by Govan et al. (2009: 28), this definition avoids explicit reference to ‘protection’, ‘protected’, and ‘no-take’ in recognition of the variety of tools that communities and local partners may use to manage resources including: “species-specific reserves, temporary or shifting reserves and/or harvest effort limitations such as gear or seasonal restrictions”. Such interpretations of Marine Protected Areas, conservation and marine management aim to acknowledge the strength and importance of customary marine tenure and associated institutions, such as spatial taboos (*tabu*), in Solomon Islands (and the wider Pacific), as well as to allow communities to define their own objectives:

*When we say Marine Protected Area we use Locally Managed Marine Area definitions. We are saying what do the community really mean? How do they do marine protected areas? Let them define it. They are the resource owners. Let them decide on [the purpose] of setting aside an area...for food security,*

*or food subsistence, or biodiversity or climate change adaptation activities.*

*We have to recognise that.* [Government representative: 28-07-11]

As further explained by Govan and colleagues (2009) new definitions of Marine Protected Areas by IUCN and the CBD Subsidiary Body on Scientific, Technical and Technological Advice may enable Pacific Island nations like Solomon Islands to include efforts to expand and improve Locally Managed Marine Areas under targets to meet international conservation commitments. Thus, the Solomon Islands National Plan argues that “it is expected that implementation of community-based management [*read CBRM*] across all interested communities in Solomon Islands will be the single largest contribution to achieving national goals in terms of sustainable Marine Protected Areas, especially if it is considered that a well-managed customary marine area may qualify under international definitions of Marine Protected Areas” (CTI NPOA, 2010: 19). Thus, Locally Managed Marine Areas are defined areas in which CBRM+ will be applied for improved outcomes. The Solomon Islands National Plan targets state that 25% of coastal, watershed and inshore areas would be under 40% improved management by 2015 with 50% under improved management by 2020.

Interview data suggest that the significant re-interpretation of the Regional Plan for the national context helped mobilise internal support within Solomon Islands for the National Plan, in addition to facilitating co-ordination of both CTI and non-CTI resource management projects and programmes. The translation of the CTI Regional Plan in a national context thus facilitated the emergence of a more co-ordinated multi-scale and multi-level governance system in Solomon Islands (Table 2).

**Table 2:** The jurisdictional, institutional, spatial and sectoral scales across which marine governance is co-ordinated and implemented in Solomon Islands, facilitated by the translation of the Coral Triangle Initiative regional Plan into a National Plan. Shaded boxes highlight the main areas of CTI activity. Note, the levels on the scales do not denote hierarchy.

<b>Jurisdictional</b>	<b>Institutional</b>	<b>Geographical</b>	<b>Sectoral</b>
Global bodies	International conventions	Global diversity, processes, and services maintained	Holistic
International agencies working at the regional level Inter-governmental agreement between six member states CTI regional secretariat	Constitution	Coral Triangle region	Integrated management (win-win-win)
National ministries NGO country offices	CTI Regional Plan CTI National Plan National policy & legislation Ministry strategies Donor strategies NGO strategies	National coverage across the Solomon Islands archipelago	Integrated conservation and development (win-win)
Provincial Government Ministry offices	Agency operational plans Formal operational rules	Provincial islands	Single sector
District Government Ministry offices	Informal norms and customs	Lagoons, catchments, estuaries, small islands, artificial islands, reefs	Single sub-sector (e.g., species protection)
Local Government Ministry offices Communities			

Importantly, CTI funding support transitioned from USAID (2009 – 2013) to the ADB (2012 – 2015), with some additional support from AusAID and the Solomon Islands Government. This required the NCC to manage a shift in funding priorities and approach. USAID support (called the Coral Triangle Support Programme) was largely structured around the Regional Plan’s objectives and channelled through core partner NGOs (The Nature Conservancy and Worldwide Fund for Nature in the case of Solomon Islands). By contrast, the ADB programme was more explicitly about food security in the Pacific - oriented around ecosystem-based management,



integrated coastal management and resilience to climate change (ADB, 2010) and was channelled through government ministries to implementing partner NGOs including but not restricted to those supported by USAID. The NCC and accompanying National Plan arrangements were able to facilitate these transitions relatively effectively as well as to cope with yearly fluctuations in funding allocations.

*It is part of the activities for the NCC to see how other programmes can come in. CTI cannot address everything. We are in consultation with [NGO name] as the funding for their activities [under the Coral Triangle Support Programme] will be retracted. They have [other funding] coming up and we are asking them – can you please cater for the activities that are being left out of CTSP? So that is in consultation. [Government representative: 28-07-11]*

### ***Implementing conservation and development policy***

Our survey data on whether policy priorities were translating into action on the ground show that there is relatively equal progress across the three objectives with slightly higher emphasis on climate change adaptation (37%) than biodiversity conservation (34%) and food security (29%). Respondents provided examples of organisational and policy change, as well as project-based interventions on the ground. Respondents perceived synergies across CTI objectives with projects often targeting or delivering on more than one objective (Supplementary Material Table 2 provides examples of progress made towards the three core CTI objectives).

In discussing details of the implementation of the CTI, interview data suggest a subtle shift in the way conservation and development policy and projects are implemented in

Solomon Islands that was triggered by the co-ordinating mechanisms of the CTI. We identify three overlapping areas of change: 1) geographical prioritisation and co-ordination of project sites; 2) development of shared protocols, and; 3) adjusting power relations between state and NGOs, and national and external experts.

The National Plan used social, ecological and administrative criteria to identify geographic priorities (i.e., particular provinces) for CTI investment. This has not moved NGOs away from their existing geographic areas of focus but has encouraged new partnerships among NGOs in some areas and their expansion into new focal provinces. In each case, implementing partners offer services related to CTI and National Plan objectives but do not ‘intervene’ unless formally invited to engage by communities in these provinces. Furthermore, formalising geographical prioritisation through the National Plan allows the NCC to encourage CTI donors to support national focal geographies and policies, including the national strategy to devolve more governing power and management responsibility to provinces.

*We have a say in the activities and where they should be based ... Currently their [NGOs] presence is in Western province. So now we are guiding them to be focusing on Malaita. It is a priority based on the National Plan criteria.*

[Government representative: 28-07-11]

*[Those CTI priority sites] are not our [normal] project sites but we come to NCC meetings since we provide other services ... I go in and help in other projects.* [NGO representative, 01-08-11]

Inspired by regional exchanges on Marine Protected Areas, Ecosystem Approaches to Fisheries Management, and Climate Change Adaptation, the NCC and National Plan have also encouraged the development of shared implementation and monitoring protocols at a national level (including the CBRM+ model). For example, one interview respondent explained that a national priority is to strengthen the capacity of the new climate change division in the MECDM. In response, the NCC were asked to facilitate development of standards, methodologies and approaches to vulnerability assessment and adaptation appropriate to the marine and coastal sectors. The Solomon Islands also hosted the Climate Change regional exchange in April 2011, which enabled the involvement of development NGOs, like Oxfam and World Vision that are not directly involved in the CTI to participate in co-production of national approaches to vulnerability assessment and adaptation (NGO representative 01-08-11). Co-operation among implementing partners and sharing lessons learned has occurred in the past, facilitated by existing networks like the Solomon Island Locally Managed Marine Area network (Cohen et al., 2012), yet the degree of co-operation among NGOs, as well as between NGOs and government agencies, appears to have intensified in response to the CTI.

*We have a more realistic and holistic goal. I think CTI contributed a lot to that. Before CTI everyone was working ... on their own. ... Now with the NCC everybody from all the organisations is there so they share lessons and involve each other in work in the field. Sometimes it is not a workshop but just story telling... [NGO representative: 29-07-11]*

Data suggest that this increase in co-operation has empowered the Solomon Islands government as a leader in conservation, resource management and climate change. To date, the national government has not been proactive about promoting or seeking alignment with their own policy priorities, even where funders, NGOs, development agencies and academics involved in conservation and development in Solomon Islands confer with and affiliate to national ministries. Indeed, it was difficult to find documented evidence of what those priorities were. The process of collaboratively developing a National Plan that aligns to existing national policies and of co-ordinating actions through the NCC appears to be complementing a shift in the ability of government to lead and leverage the capacities and investments of other stakeholders. Respondents referred to a general shift in perspective on the roles of government, NGOs and external stakeholders, but noted that the extent to which this embryonic transition had resulted in changed relationships differs among stakeholders:

*The big International NGOs ... do not have MoUs with the government so they have been able to follow their own agendas. But that is rapidly changing...Up until now it has relied on NGOs goodwill but government is getting a bit more assertive and will start to require MoUs that require the various organisation to follow their strategies...They haven't got that power yet...to make those decisions, but they are slowly getting there...*

*I think the NCC is just following what the government has been wanting to do for a long time and that is co-ordinate all these people that are playing around in Solomon Islands. [NGO representative 27-07-11]*

To date in Solomon Islands, NGOs have tended to establish intense one-on-one relationships with communities to address various conservation and development objectives in a manner aligned to their own institutional mandates or donor requirements. Prioritising key geographic areas, standardising frameworks and co-ordinating CTI and associated projects are strategies that aim to integrate objectives and scale up common strategies for environmental management and development. Overall, the NCC is considered by respondents to be highly effective and is expected to outlive external CTI support in one form or another:

*It is a pretty big group now, and a pretty influential one... the most effective organisation I've seen with regard to resource management in Solomon Islands... I think it will continue because there are many other roles it can play and a lot of them are about control of what goes on here. And I think people have wanted that for a very long time and I think people have got it now through the NCC. All the donors recognise the NCC and the projects are going through the NCC. So I think it will be a very powerful organisation into the future even if it is not called that, if it is called something else. ... It makes our life a lot easier. [NGO Representative, 27-07-11]*

Our data suggest that interesting outcomes are emerging from the processes of negotiating, co-ordinating and implementing the CTI programme, and that progress is being made across several key objectives of biodiversity conservation, food security and climate change adaptation at least in terms of policy development and projects. Respondents warned, however, that improved national policy and project co-

ordination were not necessarily resulting in improved outcomes for communities. The case of climate change adaptation is illustrative. Respondents argued that while climate change was a major concern of donors, NGOs and government with many activities taking place under the remit of climate change adaptation, such initiatives were not necessarily translating into tangible actions that addressed the immediate concerns of communities. One respondent noted that this might contribute to “climate change fatigue” or scepticism over the benefit of climate change projects and interventions rather than awareness at the local level.

## **Discussion**

The Solomon Islands’ engagement with the CTI provides a rich example of a transition towards cross-scale governance that aims to achieve multiple environmental and social outcomes. Despite some ambiguity over ground-level outcomes, numerous procedural advances have resulted from Solomon Islands’ engagement in the CTI. Advances include a distinctive National Plan policy and implementation guidance to government and NGOs. While regional policy is perceived as skewed towards conservation goals, Solomon Islands’ progress is spread relatively evenly across three goals of food security, biodiversity conservation and climate change adaptation with few trade-offs identified by participants. Moreover, improved co-ordination has buffered the transition between CTI funding sources, while the process of National Plan development seemingly facilitated some re-balancing of power and priorities among national and external agencies and experts. A recent evaluation of the CTI Support Programme (funded by USAID) across all CTI member states suggests our findings are not limited to Solomon Islands’ experience. Christie et al. (2016) found

that both international and national stakeholders from the six member states believe the CTI has to some extent met its goals, but with emphasis on biodiversity conservation reflecting regional priorities. The authors also report key advances in capacity building and multi-level governance. Horizontal linkages within government, among NGOs, and between government and NGOs improved across all member states (Christie et al. 2016; 177 Figure 7). Networking among member states at a multi-national level also improved, with key individuals, including representatives from Solomon Islands, playing new and important roles in linking actors and sharing knowledge (Pietri et al. 2015).

Reflecting the broader discourse of contemporary environmental governance, the impetus to scale-up – to increase the geographical scale or spatial coverage of activities and their intended beneficial outcomes – underpins investment in the CTI. Our analysis suggests progress in *cross-level* governance in terms of increased and improved interactions across decision-making jurisdictions, new efforts to establish institutions, rules and strategies at multiple levels, and a shift towards more integration across sectors. Indeed, the majority of our results relate to new interactions across levels of decision-making on a *jurisdictional scale*, among international to regional organisations (e.g., WWF or the CTI Secretariat), national ministries and the national offices of international NGOs, and communities. These cross-level interactions reflect but extend those typically discussed in the decentralisation literature (i.e., between national, provincial and local government) by bringing in regional, supra-national level actors with considerable vested interests (Young 2006). There are also changes in *cross-scale* interactions, for example, as levels of

*jurisdictional* decision-making shift in response to new expectations around the *spatial scale* of intervention (*sensu* Cash et al. 2006; Table 2).

Our paper also pertains to the challenge of integrating or trading-off sectoral interests to achieve multiple societal objectives related to food security, development, conservation and climate change adaptation. These linkages are often viewed as horizontal; and in practice translate into improved relationships between departments or ministries (and their various mandates) at particular levels on the jurisdictional scale (Young 2003). Our analysis suggests that sectoral integration can also involve vertical linkages between multiple sectors at different levels of the jurisdictional scale, for example, through the involvement of international agencies supporting fisheries departments at national or sub-national level. We suggest that sectoral integration, as conceptualised in contemporary governance, could be articulated as a *scale* in itself with *levels* referring to degrees of integration from relatively siloed to holistic management (Table 2). The CTI and Solomon Islands have made genuine efforts to move up this scale by incorporating multiple sector interests and objectives into the CTI National Plan and by focusing in on key integration sites where activities for conservation, fisheries management and climate change adaptation are implemented concurrently even if by slightly different support agencies. However, while these changes to CTI and national institutions and strategic priorities have focused attention on new areas in Solomon Islands, and have altered what happens in both new and old sites, they haven't necessarily expanded the number of areas or communities receiving support, i.e., the overall spatial coverage of marine governance. So in essence scaling-up has only partially occurred; the scope of governance has expanded but not the spatial coverage.



Further to our discussion of scale, the increasingly critical role of government representatives in cross-level and cross-scale interactions is an important feature of the governance transitions analysed here. While this might seem obvious, this is a return from the more marginalised position government, in particular central government, can find itself in within international environment and development programmes in developing countries. Research in political ecology and critical human geography has shown how processes of governance re-scaling can camouflage the re-concentration of power in national government and other external agencies (Ribot et al. 2006; Gruby and Basurto 2014). For example, Ribot (2006) queries whether the common decision of environmental NGOs to pursue management aims outside of government structures and thus through non-democratic institutions undermines durable and participatory action. Ribot (2006) refers primarily to local government, however, in shifts towards large-scale, multi-national initiatives the roles of national government are also important to consider. In another example, research in Palau reveals how the scaling up of conservation through the implementation of a national, island network of marine protected areas has enabled national government and conservation NGOs to gain influence in local decision-making (Gruby and Basurto 2014). Resource users are split on whether they perceive this institutional restructuring of marine governance in Palau as enabling or dis-empowering. In our case, the governance transformation ambitions of the CTI appear to have triggered improved co-ordination among government and partner agencies, and strengthened the voice of Solomon Islands' national government agencies in relation to donors and NGOs. This issue is pertinent to the Pacific context where relationships between communities and NGOs often bypass government. Note USAID's decision to channel

CTI funds through international NGOs instead of government agencies. In this case, circumventing national institutional structures is countered, though not inevitably so, by the central role of the NCC in establishing and co-ordinating priority actions. Vitaly, in contrast to the Palau example, dominant biodiversity conservation objectives are, thus, somewhat mediated in Solomon Islands through NCC leadership and the process of translating multi-national priorities into a Solomon Islands National Plan.

## **Conclusion**

The re-scaling processes of contemporary environmental governance are primarily driven by normative assertions about what scales are best. Whether or not they deliver real social and environmental benefits is yet to be seen. In the meantime emerging analyses of re-scaling suggest subtle or hidden but extremely important changes to power relations and opportunities to participate in decision-making for a diverse set of stakeholders. Our case, with its focus on supra-national to national linkages, highlights the important role of national government and partner networks in negotiating, co-ordinating and implementing multi-level and cross-scale governance and suggests an optimistic outlook for the Solomon Islands' engagement in the Coral Triangle Initiative. Other research has highlighted more negative aspects of multi-level power dynamics. In any case, this emerging body of work highlights the importance of countering normative assertions by treating scale, the role of government, and power dynamics as empirical rather than normative questions remembering that power at any level or scale can be enabling or coercive in the hands

of government agencies as well as organisations seemingly more benign (e.g., donors and NGOs).

## References

- Adams, W.M., Aveling, R., Brockington, D., Dickson, B., Elliott, J., Hutton, J., Vira, B., Wolmer, W., 2004. Biodiversity conservation and the eradication of poverty. *Science* 306, 1146–1149
- Adger, WN, Brown K, and Tompkins EL. 2005. The political economy of cross-scale networks in resource co-management. *Ecology and Society* 10(2): 9.  
[online] URL: <http://www.ecologyandsociety.org/vol10/iss2/art9/>
- Bauch SC, Sills EO, and Pattanayak SK. 2014. Have We Managed to Integrate Conservation and Development? ICDP Impacts in the Brazilian Amazon. *World Development*. 64: S135–S148.
- Berkes F. 2006. From community-based resource management to complex systems. *Ecology and Society* 11(1): 45.  
[online] URL: <http://www.ecologyandsociety.org/vol11/iss1/art45/>
- Cash DW, Adger W, Berkes F, Garden P, Lebel L, Olsson P, Pritchard L, and Young O. 2006. Scale and cross-scale dynamics: governance and information in a multilevel world. *Ecology and Society* 11(2): 8.  
[online] URL: <http://www.ecologyandsociety.org/vol11/iss2/art8/>
- Christie P et al. 2009 Tropical marine EBM feasibility: a synthesis of case studies and comparative analyses. *Coastal Management* 37: 374-385
- Christie P, Pietri DM, Stevenson TC, Pollnac R, Knight M and White AT. 2016. Improving human and environmental conditions through the Coral Triangle Initiative: progress and challenges. 19:169–181

- Coral Triangle Initiative 2009. Regional Plan of Action Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF). Manado: Coral Triangle Initiative. p.42.
- Coral Triangle Initiative. 2010. Solomon Islands Coral Triangle Initiative National Plan of Action, MECM/MFMR for the Solomon Island Government, Honiara, Solomon Islands.
- Fidelman,P. Evans LS. Fabinyi M. Foale S. Cinner J. and Rosen F. 2012. Governing large-scale marine commons: contextual challenges in the Coral Triangle. *Marine Policy*. 36: 42–53
- Foale S, Adhuri D, Aliño P, Allison E, Andrew N, et al. 2013. Food security and the Coral Triangle Initiative. *Marine Policy* 38:174–183.
- Foale SJ and Manele B. 2004. Social and political barriers to the use of Marine Protected Areas for conservation and fishery management in Melanesia. *Asia Pacific Viewpoint* 45:373-386
- Gibson CC, Ostrom E, and Ahn TK. 2000. The concept of scale and the human dimensions of global change: a survey. *Ecological Economics*. 32: 217-239
- Gray NJ, Gruby RL, and Campbell LM. 2014. Boundary objects and global consensus: Scalar narratives of marine conservation in the Convention on Biological Diversity. *Global Environmental Politics* 14 (3): 64-83
- Gruby RL and Basurto X. 2014. Multi-level governance for large marine commons: Politics and polycentricity in Palau’s protected area network. *Environmental Science & Policy* 36: 48-60
- Govan, H. et al. 2009. Status and potential of locally-managed marine areas in the South Pacific: meeting nature conservation and sustainable livelihood targets

through wide-spread implementation of LMMAs. SPREP/WWF/WorldFish-Reefbase/CRISP. 95pp + 5 annexes

Guerrero AM, McAllister RRJ, and Wilson KA. 2015. Achieving cross-scale collaboration for large scale conservation initiatives. *Conservation Letters*. 8(2), 107–117

Halpern BS, McLeod KL, Rosenberg AA, Crowder LB. 2008. Managing for cumulative impacts in ecosystem-based management through ocean zoning. *Ocean & Coastal Management* 51: 203-211

Leisher, C., Sanjayan, M., Blockhus, J., Larsen, S. N., & Kontoleon, A. (2013). Does conserving biodiversity work to reduce poverty? A state of knowledge review. In *Biodiversity conservation and poverty alleviation: Exploring the evidence for a link* (1st ed., pp. 352p). John Wiley & Sons.

McClanahan TR, and Cinner J, 2012. *Adapting to a changing environment: Confronting the consequences of climate change*. Oxford University Press. Oxford.

McLeod E, Salm R, Green A, & Almany J (2009) Designing marine protected area networks to address the impacts of climate change. *Frontiers in Ecology and the Environment* 7(7):362-370

McShane TO, Hirsch PD, Trung TC, Songorwa AN, Kinzig A, Monteferri B, Mutekanga D, Thang HV, Dammert JL, Pulgar-Vidal M, Welch-Devine M, Brosius P, Coppolillio P and O'Connor S. 2011. Hard choices: Making trade-offs between biodiversity conservation and human well-being. *Biological Conservation* 144: 966–972

- Pietri DM, Stevenson TC, Christie P. 2015. The Coral Triangle Initiative and regional exchanges: Strengthening capacity through a regional learning network. *Global Environmental Change* 33:165–176
- Ribot J. 2006. Choose democracy: Environmentalists' socio-political responsibility. *Global Environmental Change* 16: 115–119
- Ribot JC, Agrawal A, and Larson AM. 2006. Recentralizing while decentralizing: How national governments reappropriate forest resources. *World Development* 34 (11):1864–1886
- Rice JC and Garcia SM. 2011. Fisheries, food security, climate change, and biodiversity: characteristics of the sector and perspectives on emerging issues. *ICES Journal of Marine Science*.
- Secretariat of the Pacific Community. 2015. A new song for coastal fisheries – pathways to change: The Noumea strategy. Noumea.
- Toonen RJ, et al. (2013) One size does not fit all: the emerging frontier in large-scale marine conservation. *Mar Pollut Bull* 77(1):7-10.
- Veron JEN, Devantier LM, Turak E, Green A, Kininmonth S, Stafford-Smith M, et al. 2009 Delineating the Coral Triangle. *Galaxea, J Coral Reef Studies*. 11: 91–100
- Young OR. 2003. The institutional dimensions of environmental change: fit, interplay, and scale. MIT Press, Cambridge, Massachusetts, USA
- Young O. 2006. Vertical interplay among scale-dependent environmental and resource regimes. *Ecology and Society* 11(1): 27.
- [online] URL: <http://www.ecologyandsociety.org/vol11/iss1/art27/>