

1 **Governance of climate change adaptation on Small Island Developing** 2 **States (SIDS)**

3
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6

7 **Abstract**

8
9 This chapter examines governance for climate change adaptation for the Small Island Developing States
10 (SIDS). SIDS examples in dealing with climate change and climate-related hazards are used to examine
11 governance in a two-theme *a priori* framework as being illustrative of issues which emerge from the
12 sociological governance literature: power in governance and conflict/cooperation influencing
13 governance. The interactions amongst those themes are explored for three SIDS governance scales:
14 international/regional governance, national governance, and sub-national governance. Linking the
15 theoretical discussion with specific SIDS examples demonstrates how bypassing government sometimes
16 supports governance for climate change adaptation on SIDS. In many other cases, government plays an
17 important role.
18

19 **Small Island Developing States and climate change adaptation**

20
21 Islands are often portrayed in myths and stories as romantic, exciting, exquisite, and alluring. On
22 occasion, reality mirrors aspects of this image of ideals, yet even so, governing islands and island
23 communities brings immense challenges (e.g. Baldacchino, 2006; Connell, 1988). One major
24 contemporary challenge is climate change (IPCC, 2013).
25

26 Dealing with climate change is usually divided into two activities (IPCC, 2013): (i) climate change
27 mitigation which is reducing sources and increasing sinks for anthropogenic gas emissions that lead to

28 climate change, such as carbon dioxide and methane and (ii) climate change adaptation (CCA) which is
29 reducing the detrimental impacts of climate change, such as through reducing flood vulnerability or
30 shifting local crops to those which grow better in the new, projected climate. Despite numerous calls to
31 bring these two activities together and illustrations of their overlaps (e.g. Dang et al., 2003; Kane and
32 Shogren, 2000), most research, policy, and practice continues to separate mitigation and adaptation
33 (IPCC, 2013).

34

35 CCA, rather than mitigation, is seen as being particularly important for one island region defined within
36 international development: the Small Island Developing States (SIDS). SIDS comprise several dozen
37 (the number varies depending on the source, plus some join and some leave the group) countries and
38 overseas territories in the tropics and low-latitude subtropics (UN, 1994, 2005). Examples of sovereign
39 SIDS are Kiribati and Cape Verde, while overseas territories are represented by the Cook Islands and
40 Niue.

41

42 This chapter explores CCA governance for SIDS, both with and without government. In line with most
43 English dictionary definitions, ‘government’ is the individuals and institutions comprising the formal
44 governing body/bodies while ‘governance’ is the systems and methods of rules and norms which manage
45 society. Two main areas are selected as being illustrative of CCA governance for SIDS, in line with this
46 book’s themes and drawn *a priori* from the sociological governance literature based on Burns and
47 Stöhr’s (2011b) review identifying them as ‘key drivers explaining how governance systems are
48 established, maintained or changed’ (p. 180 and see also Burns and Hall, 2012): (i) power in governance
49 (e.g. for SIDS, see Tutangata and Power, 2002 and Lewis, 2009) and (iii) conflict/cooperation
50 influencing governance (e.g. for SIDS, see Kelman, 2006 and Kelman et al., 2006). The two themes are
51 linked within the framework presented in Table 1 (developed from Burns and Stöhr, 2011ab; Carson et
52 al., 2009; Flam and Carson, 2008).

53

54 *Insert Table 1*

55

56 An example of SIDS addressing CCA and climate-related hazards comes from the Many Strong Voices
57 (MSV; (<http://www.manystrongvoices.org>) programme. MSV is a long-term, ongoing initiative funded
58 by a consortium which brings together the peoples of the Arctic and SIDS to meet the challenges of
59 climate change, recognising that climate change is only one challenge amongst many within wider
60 development contexts. Despite the differences in climate and governance between the Arctic and the
61 SIDS, many cultural similarities emerge, such as isolation, remoteness and marginalisation from power
62 centres, coastal communities, ocean-based natural resource livelihoods, and severe impacts of climate
63 change. Many Arctic communities are island communities, such as Greenland, Baffin Island, and the
64 Aleutian Islands. MSV works with communities on their own terms to understand their climate change
65 concerns and how CCA might be implemented, while also producing original science especially for
66 CCA (e.g. Kelman, 2010; Kelman and West, 2009).

67
68 On SIDS such as Fiji, millennia of experience exist in dealing with environmental and social changes in
69 isolation (Nunn et al., 2007) including climate-related hazards (Campbell, 1984)—with varying degrees
70 of success and failure. That provides the islanders with background and traditional knowledge in having
71 flexibility to adjust their governance, at least to some degree, to climate change (e.g. Gaillard, 2007,
72 2010). In contemporary times, these opportunities to address the difficulties locally are often boosted by
73 remittances from islanders overseas, providing an external source of support to governance at all scales
74 on an island or in an island community (Betram and Watters, 1985). When people obtain external
75 sources of funding, they can choose to bypass government to make their own decisions. That does not
76 necessarily mean that all climate change related problems can be solved, especially since the
77 environment is expected to enter a regime outside of human experience.

78
79 Trying to reconcile these challenges, while recognising SIDS' communities' and peoples' strengths and
80 limitations, has tended towards participatory development research and the specific techniques within it
81 (see e.g. Chambers, 1994; Cooke and Kothari, 2001; Cornwall and Jewkes, 1995; Glantz, 1997; Wisner
82 et al., 1977). Although numerous forms and labels are given to participatory research processes, the aims
83 are effectively the same across much of the literature. First, to ensure that the population under study is

84 not just a subject of research, but becomes active participants in governing and implementing the
85 research and the research recommendations. Second, to yield positive action due to the scientific process
86 being carried out. That does not sacrifice original science. Instead, research is still produced and
87 published, preferably with co-authors from the researched location, while addressing the identified
88 problems.

89
90 As demonstrated in the examples throughout this chapter, participatory development research forms a
91 key governance technique for addressing CCA in SIDS—and governments are not always involved or
92 are one participant amongst many. Row 4 in Table 1 demonstrates the importance of participatory
93 approaches at all governance levels, irrespective of the involvement of government, although preferably
94 involving governmental representatives. This topic is now explored in more detail in terms of power and
95 cooperation/conflict.

96

97 **Power**

98
99 All development activities are imbued with power relations (Hewitt, 1983; Pretty, 1995; Wisner, 1993;
100 Wisner et al., 2012), lessons which apply to CCA. That includes power relations amongst genders, ages,
101 ethnicities, religions, sexualities, physical and mental abilities, subject disciplines, institutions, and
102 governance bodies. Even departments within institutions and individuals within departments have their
103 own power relationships, all of which must be factored into governance analyses (Burns and Buckley,
104 1976). When studying CCA governance on SIDS, a major power relation is that the creators of
105 vulnerability are often compared with those who experience the vulnerability that is created (e.g.
106 Gaillard, 2010; Lewis, 1999) as illustrated by the fact that those who have caused climate change are
107 not the most affected by climate change.

108
109 Historically, most fossil fuels have been consumed by the larger, more affluent countries. Meanwhile,
110 deforestation in less affluent countries occurs predominantly for commercial industrial-scale agriculture

111 serving distant markets in the more affluent countries (Butler and Laurance, 2008). SIDS have
112 contributed negligible amounts of carbon emissions from either fossil fuel use or deforestation, in
113 absolute terms and on a per capita basis (Hay and Sem, 1999; IEA, 2009; Roper, 2004). That is not
114 denying significant forest destruction in SIDS such as PNG (Shearman et al., 2009), nor the heavy
115 reliance on diesel and oil of SIDS such as the Maldives (Ghina, 2003), nor the extraction and sale of
116 fossil fuels by SIDS such as Trinidad and Tobago (Auty and Gelb, 1986). Overall, though, SIDS have
117 contributed limited amounts to the global climate change problem, meaning that there is little which
118 SIDS can do for themselves regarding mitigation, although they should nonetheless implement
119 mitigation as much as feasible while supporting the rest of the world in climate change mitigation.

120

121 Yet SIDS are expected to suffer disproportionately detrimental consequences from climate change
122 (IPCC, 2013) meaning that CCA is essential for SIDS. Changing precipitation regimes affecting
123 freshwater resources, coral reefs dying from ocean acidification and bleaching induced by warmer seas,
124 and sea-level rise changing island geomorphology are all contributing to major changes across SIDS
125 (IPCC, 2013). The worst-case scenario, which is currently being considered by several SIDS, but which
126 is the subject of much debate regarding the necessity for it, is entire evacuation of their countries and
127 settlement elsewhere due to climate change (e.g. Hartmann, 2010; McNamara and Gibson, 2009; Webb
128 and Kench, 2010).

129

130 SIDS have little power to stop climate change through mitigation, yet must deal with the problem that
131 is not of their own making through adaptation. Those who caused the problem—mainly the larger, more
132 affluent countries but now including larger, less affluent countries such as Brazil, China, and India—are
133 also generally unwilling to provide the resources necessary for SIDS to deal with the challenge on the
134 SIDS' own terms. A power relationship exists with regards to SIDS having to address climate change,
135 leading to SIDS suffering vulnerability at the hands of those who created much of the vulnerability. Row
136 5 in Table 1 notes this problem under the regional governance: donors set the agenda which also includes
137 choosing not to assist SIDS enough in dealing with climate change.

138

139 Is it possible to change that power relationship to achieve the action that SIDS need now? Sometimes
140 SIDS peoples do not wish to change the power relationship; for instance, Rudiak-Gould (2013) describes
141 how Marshall Islanders do not see others as being blameworthy for climate change even if their country
142 becomes ruined by it. As shown by MSV, others do seek a major change in the power relationship to
143 provide SIDS with support for CCA governance. Burns and Dietz (2001) propose three ways in which
144 a major transformation of a social order could occur, interpreted here for SIDS and climate change.

145

146 First, those with power use that power to change the current situation. For climate change, that seems to
147 be unlikely until those with the power are directly affected significantly, which is likely to occur after it
148 is too late for SIDS.

149

150 Second, those with the power change and the new group implements the change that the old group
151 avoided. That is happening in some places as those who have been educated with an environmental
152 consciousness sometimes assume power within the multinational corporations and big-country
153 governments that have so far blocked progress on climate change. As well, the new generation might
154 assume power over those entities, as consumers for multinational corporations and as electorates of large
155 governments. This process is slow, possibly too slow for the SIDS, and has no guarantee of success,
156 especially when governments lacking an interest in climate change are elected.

157

158 Third, small changes can aggregate to the large transformation sought. That is the theory behind local
159 environmental movements which have achieved significant transformations at the local level (e.g.
160 Hopkins, 2008), but whose wider-scale effect is so far limited overall. Table 1 highlights the challenges
161 of relying on this form of transformation for CCA governance on SIDS. Small changes would happen
162 at the local level in rows 5-7 and would need to be aggregated up to the large scales. The only common
163 thread through each governance column is the donors. As discussed above, most donors have not yet
164 been willing to undertake significant action on climate change for the SIDS.

165

166 Thus, the challenge of power is demonstrated through Table 1. The social organisation with the highest
167 ability to connect governance scales, the donors, are the least likely to engage in appropriate CCA
168 governance on SIDS.

169

170 **Conflict/cooperation**

171

172 For CCA governance on SIDS, different degrees of conflict and cooperation are presented amongst the
173 parties involved in different case studies. For SIDS dealing with climate-related hazards and climate
174 change, an example of cooperation from Samoa is contrasted with an example of conflict from Kiribati.

175

176 An example of proactive approaches to generate cooperation for CCA governance comes from Samoa
177 implementing local coastal management within a national framework (Daly et al., 2010). Facilitated by
178 external funding, external consultants worked with the national government to develop a coastal
179 management plan for the entire country. National staff were trained in local participatory development
180 processes which they in turn implemented with local leaders. Traditional Samoan consultation and
181 decision procedures led to coastal villages developing their own coastal management plan. With the
182 local leaders, those plans were integrated at the district level to avoid actions in one locale creating or
183 exacerbating problems in another place. Similarly, the district plans were integrated into a national
184 coastal management plan and strategy. The national strategy was returned to each participating district
185 and community along with the local and district maps which were produced by the process. As such, all
186 three scales were directly connected in rows 4 and 5 of Table 1.

187

188 Results included increased cooperation amongst villages within districts for environment and
189 sustainability topics (horizontal governance) along with increased cooperation amongst the national,
190 district, and local levels (vertical governance). In this instance, national and local governments were
191 included to implement CCA governance.

192

193 In contrast, Kiribati has experienced CCA difficulties because external people and organisations aim for
194 long-term outcomes while the locals, quite reasonably, are focused on meeting their everyday needs.
195 That creates tension between attempts to implement CCA governance top-down and the people trying
196 to understand how CCA helps them now (Gaillard, 2012). The community seeks to help themselves on
197 their own terms—a standard mantra in participatory processes—whereas external support has different
198 goals, effectively generating differences in the regional and local columns in rows 4-8 in Table 1.

199

200 Is increased cooperation and reduced conflict necessarily a priority goal or a laudable goal for CCA
201 governance? If the people on Kiribati accept the top-down interventions without complaint, then such
202 cooperation would perpetuate the power imbalances that were supporting vulnerability. Creating a
203 conflictual situation over power could contribute towards identifying problems and then trying to resolve
204 them.

205

206 Meanwhile, multilateral organisations comprising governments can lead—and can be involved in
207 conflict and cooperation. The Alliance of Small Island States (AOSIS; <http://www.aosis.org>) is a SIDS
208 intergovernmental organisation which “is a coalition of small island and low-lying coastal countries that
209 share similar development challenges and concerns about the environment, especially their vulnerability
210 to the adverse effects of global climate change. It functions primarily as an ad hoc lobby and negotiating
211 voice for small island developing States (SIDS) within the United Nations system”
212 (<http://aosis.org/about>). This “pooled governance” helps to overcome the limitations of each SIDS’
213 government’s small size—scaling up from the national column to the regional column in Table 1. By
214 cooperating to create regional pools of resources in supra-national agencies, SIDS create a focal point
215 for donors while developing in-house technical capability that supports all their governments in dealing
216 with CCA governance responsibilities. Power is created through cooperation; there can be strength in
217 numbers.

218

219 Tuvalu is a party to numerous international environmental treaties with relevance to CCA governance,
220 most of which are highly technical including the *Convention on Biological Diversity*, the *Kyoto Protocol*

221 *to the United Nations Framework Convention on Climate Change, and the United Nations Convention*
222 *to Combat Desertification.* Larger countries have groups of Masters-level or PhD-level experts trained
223 and specialised in each treaty for implementation and monitoring. Tuvalu's population could not
224 produce a similar level of experts for all the treaties to which they are party. Should Tuvalu avoid signing
225 the treaties? Then, it looks as if the country is not committed to the goals and priorities in row 2 of Table
226 1.

227
228 Instead, the Tuvaluan national government recognises that, at times, it must be bypassed for appropriate
229 treaty implementation through pooling resources to create multilateral organisations and institutional
230 cooperation. The multilateral cooperation overcomes national limitations, creating an approximately
231 even playing field for all SIDS in the region, and generates a power base for a SIDS region. That may
232 represent the balance of social acceptance without power abuses sought by Burns and Roszkowska
233 (2011) while, to different degrees, representing all actors in row 8 of Table 1. Diverse people,
234 geographies, and circumstances of the SIDS capture the experiences and skills from the entire SIDS
235 region. Rather than a single national outlook, pooling resources leads to the advantage of being able to
236 draw on multiple perspectives and approaches while achieving efficiency and hopefully effectiveness in
237 CCA governance.

238
239 For climate change, some Caribbean SIDS have the Caribbean Community Climate Change Centre
240 (CCCCC; <http://www.caribbeanclimate.bz>) while some Pacific SIDS have the Secretariat of the Pacific
241 Regional Environment Programme (SPREP; <http://www.sprep.org>). These agencies provide
242 information and advice to SIDS governments and communities regarding what should be done regarding
243 climate change, at policy, technical, and operational levels. The SIDS outside the Caribbean and the
244 Pacific do not have similar organisations. They are not fully represented in regional governance for
245 Table 1's rows 4-7.

246
247 In addition to these pooled multinational efforts, non-governmental initiatives exist that cooperate with,
248 but extend beyond, SIDS governments to deal with climate change. Examples are MSV mentioned

249 earlier and The Sea-Level Rise Foundation in the Seychelles (<http://www.sealevelrise.blogspot.com>).
250 SIDS governments support these initiatives with the governments being one player amongst many,
251 because all participants realise that cooperation is needed to overcome the limitations of small
252 government and to enhance the advantages of pooled governance for different countries with similar
253 challenges.

254

255 For non-sovereign SIDS, there can be an assumption (often without evidence) that the SIDS' governing
256 state will assist in times of need by always providing appropriate interventions (Kelman et al., 2006).
257 That is, many non-sovereign SIDS actively oppose sovereignty because they have enough political and
258 legal powers to be satisfied while being able to retain a direct connection to their governing state for
259 requesting assistance when needed (Baldacchino, 2004, 2006; McElroy and Mahoney, 2000). That
260 provides a psychological governance crutch in assuming that the non-sovereign SIDS can rely on the
261 governing state for dealing with climate-related hazards including climate change—even where previous
262 patterns demonstrate a regular lack of support from the governing state or when institutional conflict,
263 just as fighting over jurisdictional power, occurs.

264

265 In fact, the 'handout mentality' has been accused as being prevalent in SIDS (Tuiloma-Palesoo, 2004),
266 usually exemplified by post-disaster aid (not just for climate-related hazards) and therefore likely
267 inhibiting efforts to implement CCA. The problem of focusing on post-disaster actions from row 3 in
268 Table 1 is illustrated in that most plans for migrating from SIDS due to climate change seem likely to
269 be solidified, perhaps even implemented, only when catastrophe is imminent—or after catastrophe has
270 struck (see also Kelman, 2006). Many SIDS experience governance conflicts, through different parties
271 or institutions, between those trying to think in advance of a climate change crisis and those who are
272 content to rely on handouts from the governing state and elsewhere. Conflicts also exist where aid is
273 requested from the SIDS government or the governing state to try to plan in advance of major climate
274 change impacts, but that aid is not forthcoming.

275

276 The fundamental issue is often power: politicians can garner support through handing out relief supplies
277 or through blaming someone else for a disaster or lack of relief aid, but credit is rarely available for
278 individuals or institutions who are responsible for thinking in advance. In fact, a SIDS politician could
279 get into trouble with the electorate for suggesting that abandoning an island or island country might be
280 a possibility, because that could be seen as treacherous or inducing hopelessness.

281

282 Regarding a specific instance of a climate-related hazard, Tikopia and Anuta, small islands in the far
283 eastern Solomon Islands, are an example of conflict over disaster aid, with intertwined elements of
284 power, ethnic tension, and remoteness. The islands have neither airstrips, nor jetties, nor reliable off-
285 island communication systems and have long dealt with, sometimes suffered from, climate-related
286 hazards (e.g. see Firth, 1959 for a description of a famine on Tikopia). On 28 December 2002, Tikopia
287 and Anuta were struck by Category 5 Cyclone Zoë (Treadway, 2007; Yates and Anderson-Berry, 2004).
288 No one on the two islands died immediately because the populations had retreated to higher ground to
289 avoid the cyclone-related flooding while being somewhat sheltered from the high winds. That
290 exemplifies not relying on government: the population helped themselves by using their own warning
291 and response systems.

292

293 The flipside was that little food and water survived the storm, and many houses had completely
294 disappeared, leaving the islanders needing emergency assistance. Their radios used for off-island
295 communication had not worked before the storm, so no means were available for communicating their
296 situation. The outside world including the Solomon Islands' government did little to assist until a
297 journalist hired a helicopter in nearby Vanuatu, landed on one of the islands, and brought the story to
298 the world by selling an exclusive to an Australian newspaper. That galvanised an aid response,
299 eventually joined by the Solomon Islands' government—which was hindered by the government's own
300 financial difficulties, institutional conflicts, and ethnic differences feeding into ongoing conflict between
301 the affected islands and the Solomon Islands' capital city. Individual decision-making from row 7 in
302 Table 1 is highlighted, with a “wild card” at the regional governance level in the form of an external
303 journalist connecting directly with the communities affected, leading to a regional response.

304

305 SIDS case studies illustrate that conflict and cooperation occur in many forms regarding CCA
306 governance and dealing with climate-related hazards, including through governments and institutions.
307 Conflict and cooperation often occur simultaneously within the same community or entity. Nonetheless,
308 techniques exist for evening out power differences and for using conflictual situations constructively to
309 aim for improved CCA governance.

310

311 **Conclusions: Supranational and local governance**

312

313 The lessons emerging from this chapter are presented in Table 1. It is particularly telling how much
314 CCA governance is necessarily completed at the supra-national and sub-national (mainly community)
315 levels, bypassing national and local government although usually with the governments' tacit or explicit
316 approval. Some cautions are needed. In particular, SIDS governments should not necessarily be blamed
317 for any deficiencies in national governance due to the challenge of small scale and limited resources.
318 With some SIDS having populations in the tens of thousands, it is unrealistic to expect to find a civil
319 servant conversant in every aspect of CCA; hence, the need for pooled governance as part of inter-SIDS
320 cooperation.

321

322 That is not suggesting that SIDS governments are perfect apart from lacking resources, their small scale,
323 and the donor control noted in row 5 of Table 1. Many governance problems exist irrespective of them
324 being SIDS. Under the political dynasty of the Bird family from long before independence until 2004
325 when Lester Bird lost national elections, Antigua and Barbuda had one of the most corrupt governments
326 in the western hemisphere (Coram, 1993; Erikson and Minson, 2005). Meanwhile Nauru squandered its
327 phosphate wealth, partly through internal mistakes and partly through external exploitation (Connell,
328 2006; Gowdy and McDaniel, 1999). Supra-national governance can contribute to avoiding these
329 national problems, but supra-national entities, even with their extensive checks and balances, can be

330 prone to corruption, incompetence, naivety, institutional conflict, abuse of power, ignorance, and
331 exploitation (e.g. Pogge, 1997).

332

333 At the local level, many SIDS communities are run by a formal governance structure which is not
334 government per se. For example, outer atolls in some Pacific SIDS have hereditary chiefs but relatively
335 communal decision-making (Feinberg, 1988). Others are governed by a formal government, such as
336 elected councillors who then elect a mayor for Port-of-Spain in Trinidad and Tobago. In cases such as
337 Savo in the Solomon Islands, a mixture of governmental and non-governmental governance structures
338 leads the communities, a variation of Kooiman et al.'s (2008) interactive governance. A system of
339 "Bigmen" (chiefs) and elders govern alongside decision-making from democratically elected
340 representatives who sit in the provincial parliament (Cronin et al., 2004).

341

342 No claim is made that local approaches represent a panacea. They, too, have advantages and
343 disadvantages. Gaillard (2012) describes how the local governance structure on Kiribati means that CCA
344 projects can be decided locally in terms of 'potential incomes, rather than their long-term outcomes' (p.
345 262). Based on row 3 in Table 1, two examples are detailed here: (i) CCA governance for oneself causing
346 CCA governance problems for others and (ii) engraining cultural aspects that are detrimental to CCA
347 governance for oneself and others over the long-term.

348

349 If a local approach implements governance without due regard to considerations beyond the local
350 context, then problems might emerge elsewhere. This situation represents the classic
351 upstream/downstream problem in environmental management and development (e.g. Scherer, 1993):
352 One community solves its waste problem by dumping it downstream in the river, yet further downstream
353 sits another community which receives the waste from the upstream community. For CCA, flood
354 management measures upstream, such as building a dam or other forms of river engineering, impact the
355 ability of communities downstream to govern their own flood and drought regimes (Hey, 1990).

356

357 The Samoa case study by Daly et al. (2010) demonstrates how this problem could be overcome without
358 sacrificing local governance, but by integrating the three governance scales in Table 1. Using an
359 externally driven approach with the support and involvement (but not control) of the national
360 government, CCA approaches were developed at the local level and brought together at the district level
361 to identify any upstream/downstream problems that could result through local implementation. Then,
362 integrating district-level approaches through further upscaling produced a national strategy, including
363 monitoring at various scales. While the potential still exists for problems to emerge—and see Le De’s
364 (2011) critique—a useful balance was struck between the need for local empowerment and the need for
365 larger-scale coherence of CCA governance to promote cooperation and to reduce conflict.

366

367 The second example of difficulties is local attitudes engraining cultural aspects that might not support
368 the desired long-term outcome, with examples being gender and ethnic inequalities. The local power
369 brokers, through government or otherwise, might determine that discrimination due to gender, ethnicity,
370 religion, sexuality, disability, or culture is appropriate, even though that tends to undermine CCA efforts
371 and create conflict (Wisner et al., 2012). Participatory development approaches mean that all community
372 members must be treated with respect and must contribute to CCA governance. Where local preferences
373 interfere with such principles, enacting non-local approaches to ensure that discrimination is not
374 perpetuated could be necessary, even if conflict results or even if local power brokers are undermined.

375

376 Rather than assuming that one governance approach for CCA would or should be universally successful,
377 a balance is needed. That means recognising and accepting the roles of both governmental and non-
378 governmental governance at various scales—and their connections and interactions, as shown in Table
379 1. Some aspects of government may need to be bypassed to achieve successful CCA governance. Other
380 governmental aspects can be essential. SIDS case studies have demonstrated the wide range of
381 contexts—factoring in power, conflict/cooperation, the issues not discussed here, and their overlaps and
382 interactions.

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384 **References**

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Table 1: SIDS regional, national, and sub-national governance systems in a comparative framework for CCA and climate-related hazards

(developed from Burns and Stöhr, 2011ab; Carson et al., 2009; Flam and Carson, 2008).

		SIDS regional governance regime: SIDS collectively pooling resources to create the agencies CCCCC and SPREP	SIDS national governance regime	SIDS sub-national governance regimes: 1. Sub-national governments 2. Community-based (local) participatory processes
PROBLEM-SOLVING FRAMEWORK	1. Problem or issue	●CCA and climate-related hazards.		
	2. Goals and priorities	<ul style="list-style-type: none"> ●Determine whether, how, and when migration will be necessary due to climate change impacts. ●Implement CCA activities to maintain viable communities over the long-term. ●Act promptly and effectively to deal with climate-related hazards, including reducing vulnerability. 		
	3. Conceptualization / model of problems and	<ul style="list-style-type: none"> ●Problem: Focusing on the short-term often garners support for politicians to be re-elected, plus people and institutions often have trouble thinking a long time into, and creatively about, the future, especially for a nebulous concept such as climate change with all the uncertainties regarding local impacts. 		

<p>their mechanisms and causes.</p>	<ul style="list-style-type: none"> •Problem: Focusing on emergency management especially in an aid context rather than on preventative measures, because that has been the standard paradigm and because it is visible, especially in terms of providing resources. •Problem: Separating climate change from other hazards and development challenges, even though climate change brings little that is different to the challenges that development has long tackled. 		
	<ul style="list-style-type: none"> •Even with adequate resources, expertise, and capacity across a region for the topic, reaching all communities can be challenging due to the remoteness and isolation of many SIDS locations and, sometimes, reticence or lack of resources on the part of the national SIDS governments to make those locations more accessible. 	<ul style="list-style-type: none"> •SIDS tend not to have the expertise or the capacity to gain expertise that would be able to address all CCA aspects, due to small population size and limited resources for training personnel in all the topics required to govern a country. 	<ul style="list-style-type: none"> •The same scale issue regarding human resources emerges as for an entire SIDS. •Climate change as an external imposition onto SIDS, with few options open to SIDS to stop climate change, undermines community-based power structures and conflict resolution mechanisms.
<p>4. Means and methods to manage the problem</p>	<ul style="list-style-type: none"> •Gaining tacit permission from government to acquire and use 	<ul style="list-style-type: none"> •Pooling resources in regional agencies. 	<ul style="list-style-type: none"> •Connecting the future under climate change with day-to-day living and livelihood challenges and options.

		external resources, even if not active support.		
SOLUTION-ORIENTATED FRAMEWORK	5. Authority and responsibility	<ul style="list-style-type: none"> •Each agency has a specific mandate given to it by its governing council. •Donors have a say over specific programmes. 	<ul style="list-style-type: none"> •Government ministries. •National agencies. •Donors have a say over specific programmes. 	<ul style="list-style-type: none"> •Leaders of traditional governance structures. •Sub-national authorities, governments, and agencies. •Donors have a say over specific programmes.
	6. Expertise, knowledge, and wisdom	<ul style="list-style-type: none"> •Individuals within each agency and programme, both expatriate and regional staff. •External consultants, donors, and organisation officials, e.g. from the European Union, United Nations, financial institutions, non-governmental organisations, 	<ul style="list-style-type: none"> •Government ministers and civil servants. •Agency and programme staff. •External consultants, donors, and organisation officials, e.g. from the European Union, United Nations, financial institutions, non-governmental organisations, 	<ul style="list-style-type: none"> •Local leaders. •Local authority and agency staff. •External consultants, donors, and organisation officials, e.g. from the European Union, United Nations, financial institutions, non-governmental organisations, development agencies, and academic institutions.

		development agencies, and academic institutions.	development agencies, and academic institutions.	
	7. Decision making parties	<ul style="list-style-type: none"> •Individuals within each agency. •Governing council of each agency. •Donors to each agency. 	<ul style="list-style-type: none"> •National parliamentary procedures. •Internal national ministry and agency procedures. 	<ul style="list-style-type: none"> •Usually based on community governance structures with national government influencing or involved.
	8. Actors most directly affected	<ul style="list-style-type: none"> •Supranational, national, and subnational governments and governance structures. •Individuals and communities involved in disaster risk reduction or affected by disasters. 		