

1 **Monitoring the human rights to water and sanitation: An** 2 **analysis of policy in Pacific island countries**

3 **Abstract**

4 Government monitoring of water and sanitation services is a critical step in realising the
5 human rights to water and sanitation (HRWS). In this study we investigated the national
6 water and sanitation policies of 13 Pacific island countries (PICs) to understand how they
7 envision monitoring the water and sanitation service delivery dimensions put forth by the
8 HRWS framework. In particular, we analysed the policies for fundamental aspects of
9 good monitoring governance and sought to learn how strongly monitoring of each
10 service delivery dimension was represented in the policies. We found that delineation of
11 roles and responsibilities and defined information flows are generally underdeveloped,
12 and that the policies tend to give precedence to monitoring the service delivery
13 dimensions of availability, quality, and sustainability over accessibility, affordability,
14 acceptability, and equality. Donors have considerable influence on which dimensions
15 receive the most emphasis in the policies. If realisation of the HRWS is to be effectively
16 supported in PICs, PIC governments and supporting donors must continue to refine
17 national policy to clarify aspects of good monitoring governance and to be more inclusive
18 of monitoring a wider range of service delivery dimensions.

19 **Keywords**

20 Human rights to water and sanitation, Monitoring, Pacific island countries, Water and
21 sanitation policy
22

23 **Introduction**

24 In 2010, the United Nations (UN) General Assembly and the UN Human Rights Council
25 each declared in separate resolutions¹ that safe drinking water and sanitation are human
26 rights and essential for enjoyment of all other human rights. These resolutions impose
27 obligations on governments to respect, protect, and fulfil rights to water and sanitation
28 services that are safe, sufficient, accessible, affordable, and acceptable to everyone.
29 Among specific obligations, governments are expected to take progressive, incremental
30 steps towards realising the human rights to water and sanitation (HRWS) using the
31 maximum available resources.

32 National policy and monitoring systems are crucial for establishing and developing these
33 progressive steps. Monitoring is required for governments to assess and demonstrate to
34 the public and the international community the extent to which rights are being met, and
35 to collect data for informing themselves and donors on future planning and resource
36 allocation (de Albuquerque, 2014). Setting service delivery standards and targets to
37 monitor are needed to provide guidance to local service providers to implement action on
38 realising rights (Meier et al., 2014). Further, it is the state's responsibility to enable
39 users to claim and exercise their rights to water and sanitation by providing information
40 on service delivery to the public and establishing mechanisms to receive and redress
41 complaints regarding violations of rights (Kiefer et al., 2012). Policy, in addition to being
42 a critical link between translating human rights law into water and sanitation outcomes
43 on the ground (Meier et al., 2013), helps to form the basis for monitoring the HRWS
44 (Kiefer et al., 2012). Research on how monitoring is conceptualised in national policy is
45 needed to understand if and how countries are seeking to support the realisation of the
46 HRWS through collection and use of relevant information.

47 The purpose of this paper is to investigate what steps have been taken in Pacific Island
48 Countries (PICs) to envision the monitoring of the HRWS from a national policy
49 perspective. Specifically, we focused on how relevant policies in PICs dictate the
50 monitoring of water and sanitation service delivery dimensions necessary for realising
51 human rights. By investigating these policies we investigate which outcomes are given
52 precedence over others and why. To understand if the policies support the effective use
53 of collected data, we also analysed them for aspects of good governance. Particularly,
54 we investigated how clearly roles and responsibilities are delineated and how information
55 is planned to flow between stakeholders. This analysis is important for highlighting and
56 describing areas in monitoring the HRWS that require focused attention, and for
57 identifying positive examples to draw inspiration from in the PIC region. Findings from
58 this paper can contribute to developing more targeted support from government and
59 development agencies for realising the HRWS.

60 *Government-led monitoring*

61 The UN resolutions on the HRWS and the subsequent need for monitoring coincide with a
62 recent shift in emphasis in the aid industry from piecemeal project-based and donor-
63 driven monitoring processes to monitoring owned and led by developing countries
64 themselves. This sentiment is captured in the Paris Declaration on Aid Effectiveness and
65 the Accra Agenda for Action which emphasise ownership of development priorities by
66 developing countries (OECD, 2008). The push for government-led monitoring stems from
67 concerns that donor-driven monitoring reflects the information needs, beliefs, and values
68 of donors rather than those of the beneficiary countries. This may result in knowledge
69 generated having limited relevance for local stakeholders, weak ownership and limited

¹ Resolutions A/RES/64/292 and A/HRC/RES/15/9 respectively

70 use of findings by countries, collected data becoming unavailable in-country after project
71 implementers leave, and a lack of accountability from governments on how donor and
72 taxpayer money is spent (Segone, 2009; Schouten & Smits, 2015).

73 While there is growing consensus on a need for governments to develop and implement
74 their own monitoring systems, this is known to be challenging in practice. In the water
75 and sanitation sector, governance of monitoring is frequently a major challenge
76 (Schouten & Smits, 2015). Monitoring processes are often fragmented with different
77 agencies creating parallel monitoring systems, unclear responsibilities, and poor
78 communication between implementing agencies and decision-makers (Danert, 2015).
79 Consequently, monitoring efforts may be duplicated, certain aspects of water and
80 sanitation services overlooked, conflicting information presented, and opportunities to
81 integrate complementary datasets missed. These governance issues can be addressed in
82 part by identifying stakeholder roles and responsibilities, defining how information will
83 flow from data collectors, through relevant agencies, up to decision-makers, and out to
84 relevant stakeholders, and describing what types of data are to be collected (Cross,
85 2015; Danert, 2015). Policy is a key tool for articulating appropriate governance of
86 monitoring to ensure that data is not just collected, but disseminated and used
87 effectively.

88 *Recognition of human rights to water and sanitation in the Pacific island region*

89 In this paper, we included countries that UNICEF (2013) categorises as PICs: Cook
90 Islands, Federated States of Micronesia (FSM), Fiji, Kiribati, Nauru, Niue, Palau, Papua
91 New Guinea (PNG), Republic of the Marshall Islands (RMI), Samoa, Solomon Islands,
92 Tonga, Tuvalu, and Vanuatu.

93 Numerous frameworks for monitoring water and sanitation exist (Moriarty et al., 2011;
94 Potter et al., 2011; Kayser et al., 2013), but we focus on the HRWS framework here
95 because all PICs have shown recognition of the HRWS and are obligated under
96 international law to pursue them. Of the 12 PICs that are member states of the UN², only
97 Samoa, Solomon Islands, Tuvalu, and Vanuatu voted in favour of the 2010 UN General
98 Assembly resolution while the remaining countries were absent from the vote. However,
99 Fiji and PNG were co-sponsors to the General Assembly resolution 68/157 in 2013 and
100 the UN Human Rights Council resolution 27/7 in 2014 respectively, which each
101 reaffirmed the human rights to safe drinking water and sanitation (Gonzalez et al.,
102 2014). All PICs approved the 2011 World Health Organization (WHO) resolution
103 WHA64.24 on drinking-water, sanitation, and health which urges states to support the
104 progressive realisation of the HRWS through national health strategies (WHO, 2011).
105 Each PIC that attended the first Asia-Pacific Summit in 2007 (Solomon Islands, Tonga,
106 and Vanuatu did not attend) was signatory to the Message from Beppu which recognised
107 safe drinking water and basic sanitation as basic human rights and fundamental aspects
108 of human security (Gonzalez et al., 2014). Finally, in the 2014 Global Analysis and
109 Assessment of Sanitation and Drinking-water (GLAAS) report, Cook Islands, Fiji, and
110 Tonga responded in surveys that the HRWS are recognised in their national legislation
111 (UN-Water & WHO, 2014).

112 **Methodology**

113 In order to identify areas in monitoring the HRWS that require further attention as well
114 as good examples of monitoring, this paper sought to answer the following research
115 questions in the context of national policies across the PIC region:

² Cook Islands and Niue are not member states of the UN

116 • Which service delivery dimensions of the HRWS framework are most and least
117 strongly represented in policies and what may be reasons for this?

118 • How are roles and responsibilities assigned for monitoring service delivery?

119 • How are information flows between water and sanitation users, data collecting
120 agencies, decision-makers, and other stakeholders planned?

121 • Which policies stand out as relatively strong examples of how monitoring the
122 HRWS may be envisioned?

123 To identify relevant documents, we drew on our own knowledge, searched online
124 government and non-governmental organisation websites and press releases, and
125 enquired with relevant government and non-governmental organisations. We received
126 copies of documents through open-access online downloads or through personal
127 correspondences. In addition to policies, we searched for similar visionary documents
128 that do not have the legal force of a law such as government-led strategies, plans, and
129 programmes that were approved or are under consideration for approval by national
130 government. This included any documents that were explicitly referenced by the policies
131 in regards to monitoring.

132 To frame the analysis of policies for good governance, we referred to literature for good
133 practices on governing monitoring processes (Segone 2009; Schouten & Smits 2015),
134 and did a preliminary review of the policies to see which practices we could reasonably
135 expect to be detailed in policy. We found that it would be sensible to analyse the policy
136 documents for language on delineating roles and responsibilities, and for planning
137 information flows between different government authorities and other stakeholders.
138 These aspects are included in our analytical framework alongside the service delivery
139 dimensions described below.

140 We then defined our parameters of analysis for service delivery dimensions with
141 guidance from the framework put forth in the UN Special Rapporteur's handbook on
142 realising the HRWS (de Albuquerque, 2014). Our analytical framework included
143 availability, accessibility, quality, affordability, and acceptability outcomes or service
144 delivery dimensions, plus two related general human rights principles that the
145 monitoring chapter of the handbook makes special mention of: equality and
146 sustainability. Equality and sustainability are also important because they are reflected in
147 monitoring requirements for the Sustainable Development Goals (UN, 2015). Definitions
148 of these dimensions and some examples of how they may relate to water and sanitation
149 services as described in the UN Special Rapporteur's handbook on realising the HRWS
150 are listed in Table 1 below (de Albuquerque, 2014).

151 Table 1. Service delivery dimensions of the human rights to water and sanitation
152 framework

Dimension	Description
Availability	Presence of functional water and sanitation facilities that meet the needs of users; Adequate flow rates and volume from water supplies; Collection, transport, treatment, and disposal services available for human excreta
Accessibility	Physical accessibility of water and sanitation facilities; Facilities usable by children, elderly, people with disabilities, etc; Time and distance taken to

	access facilities are not too long
Quality	Safety from health risks while using water and sanitation facilities; Drinking water free from dangerous levels of contamination; Sanitation facilities adequately separate excreta from users
Affordability	The ability of users to pay for water and sanitation services such as tariffs, connection fees, and minor and major operation and maintenance costs
Acceptability	The social and cultural acceptability of water and sanitation services; Drinking water and latrines are aesthetically acceptable; Privacy is provided where needed
Equality	Inequalities in services between different groups of people are progressively eliminated; Special effort is made to extend services to disadvantaged groups
Sustainability	Factors that affect ongoing delivery of services over the long-term; Water resources are managed sustainably; Financial mechanisms in place to pay for long-term rehabilitation of assets

153 This table does not provide an exhaustive list of examples of each service delivery
154 dimension, but rather provides qualitative guidance for identifying in the policies which
155 dimensions are explicitly stated to be monitored. We did not seek specific measurable
156 indicators because the policies typically do not go down to this level of detail.

157 We delimited our analysis on service delivery dimensions in a few ways. We did not
158 analyse goals, objectives, tasks, visions, or mission statements about service delivery in-
159 depth if there was no accompanying language about monitoring them. Next, monitoring
160 the HRWS ideally includes the involvement of government, civil society organisations,
161 international agencies, and non-governmental organisations, but we limited our analysis
162 to monitoring frameworks set by national government. Finally, we limited our analysis to
163 the monitoring of service delivery dimensions and did not include monitoring of
164 structural and process indicators (i.e. indicators for measuring the inputs and enabling
165 environment for realising the HRWS) which are less well-defined.

166 Data were extracted and analysed using thematic coding and grouping techniques.
167 Portions of text from each document were coded by category based on the above service
168 delivery dimensions and governance aspects of interest. Portions of text were then
169 grouped together by their codes and analysed in the context of the rest of document for
170 language on monitoring. This approach drew from the qualitative document analysis
171 method (Bowen, 2009; Altheide & Schneider, 2013) which was especially appropriate for
172 our purposes because it provides a systematic approach to extracting, analysing, and
173 interpreting data from written documents.

174 In this paper we present qualitative data through quoting positive examples of
175 monitoring the HRWS from the policy documents. We also count and present the number
176 of countries that have at least one policy document that makes mention of monitoring
177 for each service delivery dimension. Finally, we present a table making qualitative
178 judgements of each country to allow for comparison and follow with a discussion and
179 conclusions of the findings.

180 This paper presents a comprehensive, but not necessarily exhaustive, review of national
181 policies commenting on water and sanitation in the PIC region. Current and relevant

182 policy documents were located for all PICs except Niue. The documents reviewed for this
 183 paper are listed in Table 2 below.

184 Table 2. Water and sanitation policies of Pacific island countries

Country	Document title	Year	Ref
Cook Islands	National Integrated Water Resources Management Policy	2014	(GoC, 2014)
Cook Islands	Sanitation Policy	2013	(GoC, 2013)
Cook Islands	Draft National Water Policy	2015	(GoC, 2015)
FSM	Framework National Water and Sanitation Policy	2011	(GoFe, 2011)
Fiji	Rural Water and Sanitation Policy	2012	(GoFi, 2012)
Kiribati	National Water Resources Policy	2008	(GoK, 2008b)
Kiribati	National Water Resources Implementation Plan	2008	(GoK, 2008a)
Kiribati	National Sanitation Policy	2010	(GoK, 2010b)
Kiribati	National Sanitation Implementation Plan	2010	(GoK, 2010a)
Nauru	National Water, Sanitation and Hygiene Policy	2012	(GoN, 2012b)
Nauru	National Water, Sanitation and Hygiene Implementation Plan	2012	(GoN, 2012a)
Palau	Water Policy	2012	(GoPal, 2012)
PNG	National Water, Sanitation and Hygiene Policy	2015	(GoPap, 2015)
RMI	National Water and Sanitation Policy	2014	(GoR, 2014)
Samoa	Water for Life – Water and Sanitation Sector Plan*	2012	(GoSa, 2012)
Solomon Islands	Rural Water Supply, Sanitation and Hygiene Policy	2014	(GoSo, 2014)
Solomon Islands	Draft National Water Resources and Sanitation Policy	2013	(GoSo, 2013)
Tonga	National Water Policy	2011	(GoTo, 2011)
Tuvalu	Sustainable and Integrated Water and Sanitation Policy	2012	(GoTu, 2012)
Vanuatu	National Water Strategy	2008	(GoV, 2008)

185 *Covers implementation of the Samoa 2009 National Sanitation Policy, 2010 National
186 Water Services Policy, and 2010 National Water Resources Policy

187 This approach to understanding the development of national monitoring systems comes
188 with limitations. First, while policies may express an intent or desire of the government
189 to monitor certain dimensions of service delivery, government authorities are often
190 unable to actually monitor them in practice (Moriarty et al., 2013). Conversely, it is
191 possible that government authorities regularly collect relevant data even if there are no
192 provisions for it in national policy. Thus policy cannot provide a picture of reality on the
193 ground, but rather a reflection on the priorities of national government. Next, while
194 some policies provided context or background on their formation, we cannot see the
195 complete thought process or drivers behind each statement. Instead, we had to draw on
196 our experience in the region and our best judgement for interpreting why certain aspects
197 were or were not included. Finally, although our aim was to cover all existing relevant
198 national policies, some documents, especially those still being drafted, are not easily
199 accessible to the public. While it is possible that relevant policies were missed during this
200 study, we believe the collection of documents here provides adequate insight for our
201 research questions.

202 **Results**

203 In this section we present the findings of our analysis. All policies referred to monitoring
204 at least one of the service delivery dimensions. Table 3 below lists how many countries
205 have policy that made mention of monitoring each dimension.

206 Table 3. Countries with policy that mention monitoring each service delivery dimension

Service delivery dimension	No. of countries (n=13)
Availability	10
Accessibility	3
Quality	12
Affordability	2
Acceptability	3
Equality	2
Sustainability	12

207 In the following sections, we first present aspects of monitoring governance followed by
208 the content on monitoring each service delivery dimension as described in the policies.

209 *Governance*

210 The level of detail that the policies provide on who is responsible for monitoring which
211 service delivery dimensions varied widely. Most of the reviewed policies identified a
212 government body that is responsible for coordinating monitoring and evaluation of the
213 outcomes of policy objectives or their implementation. For example, the Kiribati National
214 Sanitation Implementation Plan stated "*At the sector level NWSCC will provide the focal
215 point for coordinating this monitoring and evaluation of the water and sanitation sector*".

216 In the policies of six of 13 countries, the responsibility for monitoring multiple service
217 delivery dimensions was broadly assigned to a single agency or collectively to a group of
218 agencies (e.g. to a newly formed task force comprising members from several
219 government departments). In the latter case, there was no delineation of which

220 departments are responsible for monitoring which service delivery dimensions. The Cook
221 Islands Draft National Water Policy presented this case, but addressed it by stating "*The*
222 *agencies responsible for testing...will prepare a Memorandum of Understanding*
223 *detailing...clarification on who does what tests across the water monitoring regime*".
224 Where all monitoring responsibilities are given to a single agency, it was often not clear
225 if they were being tasked with collecting all data by themselves or if they were expected
226 to centrally coordinate monitoring carried out by other yet to be named departments.

227 In the policies of five countries, individual service delivery dimensions to be monitored
228 were assigned to a respective agency. However, the manner in which this was done was
229 not always complete or coherent. The Samoa Water and Sanitation Sector Plan stood out
230 as an example of where responsibilities were clearly delineated. The Plan explicitly stated
231 which agencies are responsible for monitoring individual service delivery dimensions in a
232 clear tabular format.

233 It was seldom that information flows described within the policies reviewed could be
234 mapped completely from a data collection level, up to a centralised level, and reported
235 to decision-makers and other stakeholders. The results of data aggregated at a central
236 level were to be reported to stakeholders in formats such as quarterly reports or annual
237 reviews in the policies of eight of 13 countries. However, of these eight countries, only
238 two explicitly named agencies for monitoring individual service delivery dimensions and
239 thus they are the only two where information flows of individual dimensions could be
240 mapped from users to decision-makers. Some policies made provisions for maintaining a
241 central database to hold all relevant information such as in the Fiji Rural Water and
242 Sanitation Policy: "*WSD will also set up a rural water and sanitation database as part of*
243 *its monitoring processes*".

244 Information flows described in the policies were predominantly one-directional, moving
245 vertically and solely to increasingly centralised levels, although some policies made
246 statements about sharing information more widely. The Tuvalu Sustainable and
247 Integrated Water and Sanitation Policy also called for feeding information back to a
248 community level: "*Ensure the water and sanitation information is presented and*
249 *promulgated in a way that enables communities and households to make informed*
250 *decisions*". A few policies also supported sharing information horizontally between
251 different government departments or sectors such as in the Vanuatu National Water
252 Strategy which stated "*The proposed Public Relations Unit with the DoW should prepare*
253 *a communications strategy to formalise information flows for disseminating information*
254 *to all levels. This could include cross-sectoral information gathering to support the role of*
255 *the section*".

256 *Availability*

257 Monitoring of availability was represented in various forms in the policies of ten of 13
258 countries. The most common form of availability referred to in the policies was the
259 presence of an improved or adequate water supply or sanitation facility for households.
260 The WHO/UNICEF Joint Monitoring Programme (JMP) definition of an improved water or
261 sanitation facility, a type of technology that is predetermined by the JMP to be generally
262 safe to use, was sometimes cited for this, but often policy documents did not provide
263 any explicit definition. Some policies on sanitation referred to monitoring the presence of
264 systems for appropriately treating and disposing of human waste. For example the
265 Solomon Islands draft National Water Resources and Sanitation Policy referred to
266 monitoring "*sewerage outfalls and waste disposal sites in all urban centres constructed*
267 *to minimise off-site pollution*" and the Nauru National Water, Sanitation and Hygiene
268 Implementation Plan included "*sludge removal*" under its sanitation monitoring activities.
269 Policies in six of 13 countries made reference to monitoring the presence of adequate
270 infrastructure beyond households. An Example of this was seen in the Kiribati National

271 Water Resources Policy which referred to monitoring *"better water supply for schools,*
272 *hospitals and clinics"*.

273 There was little mention of monitoring forms of availability aside from the presence of
274 infrastructure. Adequate reliability or available quantity of water was mentioned as a
275 policy principle in nearly all countries, but only expected to be monitored at a user level
276 in four countries. One instance was the PNG National Water, Sanitation and Hygiene
277 Policy which called for monitoring convenient water supplies which must include *"150*
278 *litres per capita per day (l/c/d) continuous supply with a service pressure of 60 Kpa"* for
279 household piped water and *"50 l/c/d with a maximum of 50 users per water point"* for
280 standpipes and hand pumps as minimum service delivery standards.

281 *Accessibility*

282 Monitoring of the physical accessibility of water or sanitation facilities appeared only in
283 the policies of three of 13 countries. While access to water and sanitation was frequently
284 referred to, it was often not clearly defined or referred to the availability of infrastructure
285 as described above. A relatively good example of monitoring accessibility could be seen
286 in the PNG Water, Sanitation and Hygiene Policy. Convenient water and sanitation
287 facilities were to be monitored where a convenient water supply is *"no further than 150*
288 *m from the household"* for standpipes, hand pumps, and rain catchments and a
289 convenient sanitation facility is *"easily and safely accessible for all household members"*.
290 The Solomon Islands Rural Water Supply, Sanitation and Hygiene Policy and the RMI
291 National Water and Sanitation Policy referred to monitoring the construction of new
292 sanitation facilities to ensure they are accessible to people living with disabilities (as well
293 as the elderly, very young, and pregnant women in the case of RMI) where appropriate,
294 but stopped short of supporting monitoring of whether people can physically access the
295 facilities they already have.

296 *Quality*

297 Monitoring quality in regards to water supplies was referenced in the policies of 12 of 13
298 countries. Water quality monitoring was mentioned for ground and surface water
299 resources, drinking water, or both. This could be seen in the Solomon Islands draft
300 National Water Resources and Sanitation Policy which referred to *"monitoring,*
301 *assessment, storing, and reporting of yield, hydropower potential, and water quality data*
302 *for surface and groundwater sources"* and *"assessment of microbiological quality of*
303 *water supplies for human consumption"*. No policies referred to monitoring aspects of
304 household water treatment and safe storage.

305 Monitoring quality in regards to sanitation was mentioned in the policies of only five of
306 13 countries. Four of these countries had policy that calls for monitoring awareness or
307 knowledge on maintaining clean sanitation facilities or hygienic practices. For example,
308 the Samoa Water and Sanitation Sector Plan called for monitoring of the *"percentage of*
309 *targeted households with improved awareness on sanitation including wastewater*
310 *management and good hygiene practice"*. Three countries had policy that refer to
311 monitoring the sanitary condition of sanitation facilities such as the Solomon Islands
312 draft National Water Resources and Sanitation Policy which called for *"monitoring,*
313 *storing and reporting of data on and [sic] condition of rural WATSAN systems"* and the
314 *"assessment of the public health safety of sanitation systems"*.

315 *Affordability*

316 Affordable water services, and to a lesser extent affordable sanitation services, were
317 frequently mentioned as a principle, but only two of 13 countries had policy that referred
318 to monitoring it. Affordability of water consumption is addressed by Kiribati in its

319 National Water Resources Implementation Plan which included an expected output of
320 *“completed surveys and a summary report of case studies of water consumption, water*
321 *sources and capacity to pay in a range of urban and outer Island households”*. The
322 Kiribati National Sanitation Implementation Plan listed an activity for *“provision of*
323 *affordable sewerage and sanitation based on the...detailed feasibility study”* which may
324 imply information is collected on the ability of users to pay for sanitation services.
325 Meanwhile, the RMI National Water and Sanitation Policy commented that government
326 will regulate municipal water and sanitation tariffs that *“must be simple, transparent,*
327 *reflect the ability of the poor to pay and recover the cost of operation and maintenance”*.

328 *Acceptability*

329 Monitoring of the acceptability of services was referenced in the policies of only three of
330 13 countries. The Fiji Rural Water and Sanitation Policy listed a *“decrease in the number*
331 *of complaints received from rural communities”* as a performance indicator which could
332 capture issues with acceptability provided an effective mechanism for communities to
333 communicate with government was put in place. The Solomon Islands Rural Water
334 Supply, Sanitation and Hygiene Policy included *used* sanitation facilities as a component
335 of its monitoring approach. The fact that facilities are being used would imply a level of
336 acceptance from users. Finally, the draft Cook Islands National Water Policy referred to
337 monitoring drinking water that *“should be free of tastes and odours that would be*
338 *objectionable to the majority of consumers”*.

339 *Equality*

340 Policies in only two of 13 countries committed to monitoring rates of inequality or
341 progress in reaching disadvantaged groups. One monitored objective of the RMI National
342 Water and Sanitation Policy was to target the disadvantaged, defined as *“those living in*
343 *or with: extreme poverty, severe disability due to age, disease, injury or other causes,*
344 *disaster or conflict-affected households, significantly adverse ground conditions*
345 *(necessitating expensive construction), or lack of space for private facilities”*. However,
346 the performance indicator for this criterion is an overall increase in water and sanitation
347 coverage for the total population. Meanwhile, the PNG National Water, Sanitation and
348 Hygiene Policy set separate targets for coverage of adequate water and sanitation
349 facilities for urban and rural areas which were to be monitored to demonstrate increased
350 equality of services.

351 *Sustainability*

352 Monitoring of aspects related to sustainability was referenced in the policies of 12 of 13
353 countries. This predominantly pertained to environmental sustainability through
354 monitoring water resources to ensure adequate quantity or quality is being maintained.
355 For example, the FSM Framework National Water and Sanitation Policy prioritised the
356 collection of data on *“overall volume of water supplied by rainwater and accessible via*
357 *other known sources (i.e. groundwater and surface water)”* and the Cook Islands draft
358 National Water Policy stated *“We will develop appropriate water quality standards for*
359 *streams, rivers and creeks...”*. Monitoring of demand-side water use sustainability was
360 also covered in some policies such as the Palau Water Policy: *“Monitor and promote*
361 *water use efficiency. Establish measures to quantify and track water use efficiency. Set*
362 *targets and report on water use efficiency rates”*.

363 Monitoring of other forms of sustainability appeared less frequently, but some examples
364 could be seen. Monitoring of the financial sustainability of services was addressed in a
365 few documents including the Kiribati National Water Resources and Sanitation
366 Implementation Plans which set targets to recover 80 – 100% of operation and
367 maintenance costs of water and sanitation systems in urban and rural contexts.

368 Sustainable management arrangements were considered in the Solomon Islands Rural
 369 Water, Sanitation and Hygiene Policy which included “*sustained and effective*
 370 *management and maintenance of schemes by the communities*” under its “key
 371 components of monitoring and evaluation” section. The PNG National Water, Sanitation
 372 and Hygiene Policy included “*WaSH resource capacity within the sector, including human*
 373 *resources and skills and spare parts providers*” as data required to be included in its
 374 management information system. This data could help to track aspects of institutional
 375 sustainability of water and sanitation services.

376 *Country policy summaries*

377 Based on our findings, table 4 below provides a brief summary of some highlights,
 378 strengths, and potential areas for improvement for the reviewed policies of each country.

379 Table 4. Highlight summaries of national policies

Cook Islands	Water resources management, water supply, and sanitation each had separate policies. Emphasis on sharing information with the public was commendable. Specific monitoring responsibilities and information flows could be improved. Strong on monitoring environmental sustainability, water quality, and infrastructure availability.
Fiji	Section on ‘Stakeholder Roles and Responsibilities’ clearly lists agencies with monitoring roles. A body for coordinating monitoring and maintaining a database was helpfully described. Specific responsibilities and processes for sharing/reporting information could be clarified. Monitoring criteria were at times vague, but cover availability, quality, and acceptability.
FSM	A specific position was described as having the responsibility for reporting monitoring results to a national task force. Independent impact evaluations to complement monitoring were described. Roles and responsibilities for data collection were unclear. Monitoring is focused on sustainable management of water resources.
Kiribati	The implementation plans attached to the policies provided highly detailed tables of activities, indicators, and agencies responsible for implementation. However, indicators mostly focused on implementation rather than service delivery monitoring. A central body for coordinating monitoring and reporting to the national level was identified. Monitoring affordability of services was addressed, along with availability, quality, and sustainability.
Nauru	Agencies responsible for monitoring, along with implementing other activities, were listed clearly in a tabular format. A central body for coordinating monitoring was identified and a helpful diagram illustrates information flows. Monitoring was mostly limited to drinking-water quality and sustainable management of water resources. Monitoring of sanitation systems was identified, but not described further.
Palau	Monitoring roles were assigned to several agencies, but responsibilities were not delineated. Information flows were not readily described. The policy had an explicit focus on management of water resources, thus monitoring was centred on sustainability of water resources and drinking-water quality.

PNG	A plan for a service delivery database was articulated and monitoring roles were assigned to various groups including service providers. Specific responsibilities on who monitors what were vague. Minimum standards and targets relating to monitoring availability, accessibility, quality, equality, and sustainability for both water and sanitation were explicitly laid out.
RMI	Monitoring roles and responsibilities were identified, although not all criteria appeared to have a responsible agency named for monitoring them. Information flows were unclear. Monitoring criteria covered both basin and user levels, included targeting disadvantaged groups, and addressed all HRWS dimensions except acceptability.
Samoa	Agencies responsible for collecting data were clearly identified for each listed indicator. Other monitoring roles and responsibilities were also detailed. Information flows and the timing of reporting to stakeholders were clearly described. The list of indicators to be monitored was expansive, but was mostly limited in scope to the availability, quality, and sustainability of water and sanitation.
Solomon Islands	An information management plan was detailed with reporting requirements and a statement that the data should be available to all users. Some monitoring responsibilities were vaguely described. Monitoring criteria mostly focused on availability, water quality, and sustainability.
Tonga	Improving data collection, storage, management, and analysis was listed as an objective for the water sector. A statement that the data should be made available to the general public was included. Previous legislation that mandates an agency to monitor the condition of water resources was reaffirmed, but no further guidance on what data to collect was provided.
Tuvalu	Monitoring of the success of water and sanitation awareness and education programs was called for, along with monitoring drinking-water quality and water reserve levels. Aspects of monitoring governance were scanty addressed.
Vanuatu	Monitoring roles and responsibilities and information flows were addressed, but not presented coherently which made interpreting them difficult. Information flows were planned to be shared horizontally and vertically. Monitoring of service delivery focused on availability of water supplies, drinking-water quality, and sustainability of water resources.

380 **Discussion**

381 By analysing documents for fundamental components of good monitoring governance
382 and monitoring of service delivery dimensions under the HRWS framework, this research
383 has revealed that water and sanitation policies in the PIC region generally articulated
384 important governance aspects weakly and gave precedence to monitoring availability,
385 quality, and environmental sustainability of services over other dimensions. Overall,
386 these findings are not likely to be unique to the PIC region and similar issues may be
387 found in other developing country contexts. In this section we first discuss the
388 implications of the findings on governance followed by a discussion on service delivery
389 dimensions in PICs.

390 *Governance*

391 Generally, there is a need for monitoring roles and responsibilities at the data collection
392 level to be more clearly delineated to ensure accountability and avoid overlap of
393 responsibilities. Most policies did well to identify a body responsible for coordinating
394 overall monitoring, consolidating data, and reporting upward to specific decision-makers.
395 However, they were less clear about who does what exactly at a data collection level.
396 Without clarifying roles at this level, it is difficult to hold any agencies accountable for
397 ensuring particular policy objectives are being met. Naming responsible agencies is also
398 important for establishing ownership of data collection activities, developing appropriate
399 incentives, and assessing and developing the capacity of each agency to fulfil their
400 duties. Where policies gave data collection responsibilities to a collective group of
401 agencies without specifying individual roles, there is a risk of multiple agencies taking on
402 the same roles and presenting conflicting information.

403 Accountability issues may arise where information flows cannot be completely mapped
404 from users to an aggregation point to stakeholders, as is the case with the majority of
405 policies analysed in this study. If it is not clear where the information is meant to go and
406 meant to be used by whom, there is an increased likelihood that it will not be used at all.
407 Delineating roles and responsibilities would make information flows more clear at a local
408 level. Some policies, such as those in Fiji and Solomon Islands, made specific provisions
409 for maintaining a central database which is a crucial step to ensuring coherency of
410 monitoring systems. National governments and donors should seek to support and
411 develop these systems. However, information cannot be collected just to be simply
412 stored at a central location. Policies in five of 13 countries did not articulate how the
413 processed data is to be reported to stakeholders and this is crucial for gaining the
414 maximum use of the data.

415 It is important that information flows are designed to serve the information needs of a
416 range of stakeholders, and not just flow in one direction towards national government,
417 as was often the case in the reviewed policies. Ideally, monitoring processes should be
418 designed so that information also fulfils local level needs where water and sanitation
419 service delivery is actually occurring. This can help to ensure that the collected
420 information is put to good use, promotes ownership of data among collectors which can
421 aid in continuing data collection compliance, and enables learning at a local level (Welle
422 et al., 2012). Further, the HRWS framework compels governments to share information
423 with the public in an accessible and understandable way (de Albuquerque, 2014) which
424 is critical for enabling users to claim and exercise their rights. Some policies, for example
425 in Cook Islands and Vanuatu, demonstrated good examples of sharing information more
426 widely and other PICs could seek inspiration from these.

427 While it is difficult to directly transfer or compare approaches between countries due to
428 the widely varying contexts that PICs live under, table 4 shows various aspects of good
429 monitoring governance in policy that we can learn from and build on can be found
430 throughout the region. Countries that had implementation plans accompanying their
431 policies, such as in Kiribati, Nauru, and Samoa, tended to describe roles, responsibilities,
432 and information flows more clearly. In the cases of Kiribati and Nauru, these plans
433 appear to have been driven by donors (White & Falkland, 2012). Policies that do not
434 address monitoring governance should do so coherently in dedicated sections in future
435 revisions. PICs seeking guidance on delineating roles and responsibilities and defining
436 information flows could turn to the Samoa Water and Sanitation Sector Plan, which
437 explicitly listed agencies responsible for individual data collection activities and identified
438 a central body for coordinating and reporting, for inspiration.

439 *Service delivery dimensions*

440 In this section we discuss our findings on how monitoring of the service delivery
441 dimensions of the HRWS framework was envisioned in the reviewed policies. We argue
442 that conventional approaches to monitoring have likely contributed to a relatively strong
443 representation of monitoring the availability of infrastructure and water quality.
444 Monitoring of accessibility, affordability, acceptability, and equality are less well known,
445 but have important implications. We also argue that the preferences of donors were
446 likely influential on the emphasis of monitoring aspects related to environmental
447 sustainability.

448 The precedence given to monitoring availability and quality of services is likely in part
449 due to conventional approaches to monitoring. The decision of most policy-makers to
450 use the presence of infrastructure as a criterion for monitoring availability is not
451 surprising because technology type is the most commonly used water and sanitation
452 service indicator globally (Norman, 2013) and has been used to report internationally on
453 the Millennium Development Goals. This criterion is attractive because of its international
454 recognition and relative simplicity in measuring. It will likely remain an important
455 criterion as it is included in reporting for the international Sustainable Development
456 Goals.

457 Monitoring quality was usually in reference to water supplies rather than sanitation.
458 Adequate drinking water quality is often highly demanded and scrutinised by the general
459 public which may have led to its widespread inclusion in the policies. Further, the
460 international community has been assisting developing countries in monitoring water
461 quality since as early as 1976 when WHO released its first guidelines on drinking-water
462 quality surveillance for developing countries (WHO, 1976). Meanwhile, public demand for
463 improved sanitation is often less than that for improved water supplies in rural areas of
464 developing countries (Waterkeyn & Cairncross, 2005) and national spending on
465 sanitation tends to be less than that for drinking-water (UN-Water & WHO, 2014). Public
466 prioritisation of drinking-water quality may have contributed to it receiving
467 comparatively more attention in the policies, despite knowledge that both have critical
468 impacts on public health (Bartram & Cairncross, 2010).

469 In fact, across all service delivery dimensions investigated during this study, much more
470 attention was paid toward monitoring water supplies than sanitation in the reviewed
471 policies. In addition to the above reasons, this may be also in part due to practical
472 reasons because non-sewerage based sanitation in PICs is usually on-site and operation
473 and maintenance is viewed as the private responsibility of individual households whereas
474 water supplies are often viewed as more of a public service. In any case, it is just as
475 important from a human rights perspective that government is able to monitor and
476 demonstrate that rights to sanitation as well as water are being realised. Monitoring
477 sanitation service delivery should receive special attention in future revisions of policy.

478 While monitoring water quality and the availability of infrastructure have received
479 substantial recognition internationally, monitoring accessibility, affordability,
480 acceptability, and equality are relatively new ideas which may contribute to their limited
481 inclusion in the reviewed policies. It is possible that PIC governments are generally
482 unaware or do not see these dimensions as highly important, especially considering
483 guidance on monitoring these dimensions is still emerging. However, there are
484 consequences if these dimensions are not monitored.

485 The lack of references to physical accessibility in the policies, let alone statements on
486 monitoring them, is concerning. The proportions of people living with disabilities in PICs
487 have been estimated to range from 1.2% in Samoa to 12.0% in Vanuatu (UNESCAP,
488 2012). Furthermore, people, especially women, facing threats of injury or sexual
489 violence while accessing water and sanitation facilities located in distant or precarious
490 spots has been documented in Solomon Islands (Amnesty International, 2011) and this

491 likely occurs in other PICs. The limited attention toward monitoring physical accessibility
492 may reflect a lack of consultation with people living with disabilities or living in informal
493 settlements who often struggle the most with accessibility to water and sanitation
494 services in PICs.

495 Affordable services were frequently mentioned as a principle in the reviewed policies, but
496 there was little language on monitoring affordability which may indicate a lack of clarity
497 on how this dimension can actually be monitored. Indeed, developing indicators for
498 measuring affordability is particularly challenging (Hutton, 2012). PIC governments may
499 follow the lead of Kiribati and draft policy to call for the use of surveys and case studies
500 to determine the ability of users to pay for water and sanitation services.

501 Monitoring acceptability was also infrequently mentioned. In two of the three policies
502 where it did appear, only a single specific indicator was listed. This does not come as a
503 surprise since acceptability may be the most challenging service dimension of the HRWS
504 framework to monitor because definitions can vary widely between groups and
505 individuals (de Albuquerque, 2014). The criterion for tracking complaints as used in the
506 Fiji Rural Water and Sanitation Policy provides a useful example of how general issues
507 with acceptability can be monitored. However, a more nuanced look at acceptability
508 based on wide consultation with diverse groups will likely be necessary.

509 Inequalities in water and sanitation service delivery worldwide are well documented and
510 human rights law compels states to address these (Satterthwaite, 2012), but the
511 reviewed policies of PICs generally do not provide much guidance on monitoring them.
512 The RMI National Water and Sanitation Policy identified several disadvantaged groups to
513 be monitored, but uses total water and sanitation coverage as an indicator for success
514 which does not necessarily ensure that inequalities are being eliminated. There are few
515 statements in the reviewed policies regarding distinguishing between groups for
516 monitoring or disaggregation of data aside from rural and urban areas. Without
517 additional data on disadvantaged groups it is difficult for PICs to design and evaluate
518 policies and programmes for benefiting the most in need.

519 The preferences of donors active in the PIC region appear to be a factor in the
520 precedence given to monitoring sustainability, specifically environmental sustainability.
521 Several policies explicitly stated they were supported by the Global Environment Facility
522 (GEF) and/or the SOPAC division (since renamed the Geoscience division) of the
523 Secretariat of the Pacific Community who are both active in tackling national level water
524 and sanitation issues and promoting Integrated Water Resources Management (IWRM) in
525 the PIC region. IWRM was designed as a means of achieving water use efficiency, equity
526 in allocating water resources across different social and economic groups, and protecting
527 water resources and associated ecosystems (GWP, 2013). Support from SOPAC has
528 come through its IWRM programme which has the overall objectives:

529 "To improve water resource and wastewater management and water use efficiency in
530 Pacific Island Countries in order to balance overuse and conflicting uses of scarce
531 freshwater resources through policy and legislative reform and implementation of
532 applicable and effective Integrated Water Resource Management and Water Use Efficiency
533 plans" (SOPAC, 2009).

534 These objectives are strongly reflected in the monitoring approaches in many of the
535 policies which tended to have more of a basin-level than user-level focus. Monitoring of
536 the quantity and quality of water resources was more common across the policy
537 documents than any other criteria related to the HRWS dimensions. Monitoring of
538 sanitation more frequently focused on the risk of wastewater polluting water resources
539 and ecosystems than on the risk of excreta coming into contact with people. It can be
540 argued that monitoring of sanitation provision should prioritise issues of human health

541 over issues of environmental protection (Kvarnström et al., 2011), but this sentiment is
542 generally not demonstrated across the reviewed policies. The principles of IWRM can be
543 interpreted in a number of ways, but it appears in these cases that the effect of taking
544 an IWRM lens has been to steer the focus of monitoring toward water management over
545 meeting user needs.

546 This is not to say that monitoring environmental sustainability is not useful for realising
547 the HRWS. Water resources and ecosystems in PICs are uniquely fragile (WHO, 2008)
548 and efforts to monitor and address issues of over-abstraction, contamination, and
549 competing demands of water are necessary for ensuring the sustainability of the HRWS.
550 Rather than replacing this approach, it needs to be complemented by other approaches
551 to better include monitoring of services at a more localised level.

552 Donor influence was also apparent in the PNG National Water, Sanitation, and Hygiene
553 Policy which was supported by the Water and Sanitation Program (WSP) of the World
554 Bank. This policy provided highly specific targets relating to the availability of water
555 supplies and sanitation facilities that align with the WSP's expectations about what
556 constitutes basic service. It was also the only policy to mention monitoring of minimum
557 water quantity or reliability standards at a household level which reflects the WSP's pro-
558 poor focus as opposed to the water resources focus of other policies supported by donors
559 with an IWRM agenda.

560 These examples suggest that, for better or worse, donors wield considerable influence in
561 PICs on what dimensions of service delivery should be monitored according to national
562 policy. Overall, only four countries have policy that explicitly make mention of the HRWS
563 even though all of them, except for those from Kiribati and Vanuatu, were drafted or
564 approved after the 2010 UN General Resolution. Aside from visits from the UN Special
565 Rapporteur on the HRWS to Tuvalu and Kiribati in 2012, there has been very little high
566 profile advocacy on the HRWS in the PIC region compared to the rest of the developing
567 world. This limited advocacy, compared to other agendas, likely has contributed to the
568 poor overall representation of the accessibility, affordability, acceptability, and equality
569 service dimensions in national policies.

570 As with governance, no one country is perfect, but examples of monitoring each
571 dimension of the HRWS can be found across the region. In general, countries with
572 policies based on the principles of IWRM tended to be strong on monitoring at a basin-
573 level and weak at a user-level, while the inverse was true for policies not based on
574 IWRM. In future revisions of policy, PIC governments and would do well to draw on
575 monitoring approaches from their neighbours and to think critically how each HRWS
576 dimension fits within their county's context. In particular, the PNG National Water,
577 Sanitation and Hygiene Policy and the RMI National Water and Sanitation Policy are
578 relatively strong in reflecting the normative monitoring criteria of the HRWS framework.
579 While each has room for improvement in addressing the monitoring of all service
580 delivery dimensions, they provide regional examples of how HRWS criteria can be
581 included in monitoring processes as envisioned by policy.

582 **Conclusions**

583 Developing a national monitoring system to capture the service delivery dimensions laid
584 out in the HRWS framework is not easy and will take time. While envisioning a
585 monitoring system in policy does not necessarily mean any action will be taken out on
586 the ground, it provides an important first step for developing a coherent and
587 comprehensive system. Most PICs have done well to draft and approve new or updated
588 policies on water and sanitation and include steps for monitoring their objectives. This
589 proactive behaviour to contribute to creating an enabling environment for addressing
590 water and sanitation issues is increasingly necessary, especially as emerging forces in

591 PICs such as population growth, urbanisation, changing land use patterns, and climate
592 change threaten to impact how they are handled (UNICEF, 2013).

593 Donors have an important role to play in providing support to PICs in developing
594 monitoring systems and should advocate for wider inclusion of service delivery
595 dimensions and good monitoring governance. However, PICs must take the lead in
596 further developing their policies and making final decisions on what needs to be
597 monitored and how. This will help to ensure that the policies appropriately reflect the
598 values and information needs of the country rather than those of the donor.

599 There are yet other obstacles to national monitoring that need to be considered
600 alongside the issues discussed in this paper. Developing nationally and locally relevant
601 indicators that are feasible to measure and cover all aspects of the HRWS that are
602 important to each country is a significant challenge that must be overcome. And how
603 data collected on these indicators will be translated into action must be planned. Good
604 governance needs to go beyond the fundamentals investigated here. For example,
605 responsible government authorities need to be incentivised to continually collect data
606 and use it to improve service delivery without developing perverse incentives to achieve
607 high indicator scores that do little to actually improve services on the ground.
608 Stakeholders must be engaged when deciding who will monitor, what will be monitored,
609 and how in order to consider multiple perspectives on service delivery and avoid a
610 narrow framing that privileges the viewpoints of some groups over others. Finally,
611 monitoring of structural and process indicators, for instance those that demonstrate the
612 ability of users to exercise and claim their rights, warrant further attention. The service
613 delivery dimensions and aspects of governance addressed in this paper, then, are only
614 basic building blocks toward constructing a robust national monitoring system that has
615 many pitfalls.

616 Going forward, it is critical for PICs to recognise their international, regional, and
617 national obligations to progressively realise and monitor the HRWS, in particular the
618 accessibility, affordability, acceptability, and equality dimensions we have identified here
619 as being neglected the most. PICs must also continue to clarify aspects of good
620 governance in policy so that relevant government authorities may be held accountable. A
621 failure to do so risks failing to uphold the rights of citizens to pursue and maintain good
622 health and an adequate standard of living.
623

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