

Manuscript version: Author's Accepted Manuscript

The version presented in WRAP is the author's accepted manuscript and may differ from the published version or Version of Record.

Persistent WRAP URL:

<http://wrap.warwick.ac.uk/141771>

How to cite:

Please refer to published version for the most recent bibliographic citation information. If a published version is known of, the repository item page linked to above, will contain details on accessing it.

Copyright and reuse:

The Warwick Research Archive Portal (WRAP) makes this work by researchers of the University of Warwick available open access under the following conditions.

Copyright © and all moral rights to the version of the paper presented here belong to the individual author(s) and/or other copyright owners. To the extent reasonable and practicable the material made available in WRAP has been checked for eligibility before being made available.

Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge. Provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way.

Publisher's statement:

Please refer to the repository item page, publisher's statement section, for further information.

For more information, please contact the WRAP Team at: wrap@warwick.ac.uk.

1 **Addressing Multi-Dimensional Injustice in Indigenous Adaptation: The Case of Uganda's**
2 **Batwa Community**

3
4 *Poshendra Satyal^{1,2*}, Morten Fibieger Byskov¹ & Keith Hyams¹*

5 ¹Department of Politics and International Studies, University of Warwick, UK

6 ²BirdLife International, Cambridge, UK

7
8 Forthcoming in *Climate and Development*

9
10 **Abstract**

11
12 Indigenous peoples, who depend on their environment for their livelihoods and are often
13 subject to poverty and socio-economic marginalisation, are some of the most vulnerable to
14 climate change. While the rights of Indigenous peoples are recognised at international level,
15 these are often not translated into adaptation responses at national and local levels. Using
16 insights from theories of environmental and social justice in the case study analysis of Batwa
17 community in Uganda, we assess how justice-related factors impact the adaptive capacities
18 of Indigenous peoples and discuss how these can be taken into account when designing and
19 implementing adaptation responses. The findings from our fieldwork reveal a multi-
20 dimensional range of systemic injustices experienced by the Batwa, resulting from their
21 continued social-economic, cultural and political marginalisation after their eviction from
22 Uganda's forests. We also observe that there is a variety of projects happening locally in
23 relation to 'adaptation' but not labelled as such, suggesting how Batwa's vulnerability to
24 climate change is rooted in wider aspects of livelihoods and development. More
25 importantly, we find that most projects tend to focus on distribution of material benefits,
26 while less attention is paid to the more intricate issues of compensation, political
27 discrimination and uneven participation. This depoliticised and compartmentalised approach
28 suggests a slow and incomplete way of operationalising justice in climate adaptation. Hence,
29 we call for sincere efforts to address recognition, rights, and disproportionate levels of
30 disadvantage for Indigenous communities, including their constitutional recognition,
31 financial redress and more opportunities for participation in decision-making.

32
33 **Key words:** climate adaptation, Indigenous peoples, multi-dimensional injustice, distributive
34 justice, recognition, participation, procedural justice, Batwa, Uganda

35

36 **1. Introduction**

37

38 The need to address socio-economic and institutional inequalities and injustices as part of
39 climate adaptation has increasingly become recognised within recent debates and policies at
40 the international level, such as the Sustainable Development Goals, United Nations
41 Framework Convention on Climate Change (UNFCCC), and the Paris Agreement (Dawson et
42 al., 2018). Indigenous peoples are particularly vulnerable to both climate change and social
43 and structural injustices. Many Indigenous communities live in fragile areas that are likely to
44 be impacted the most by climatic changes and increased frequency and intensity of extreme
45 climate events, such as the risk of flooding, soil erosion, drought, diseases, and heat waves
46 (Oxfam, 2017; Oviedo & Fincke, 2009; Salick & Byg, 2007; UN, 2009; Kronik & Verner, 2010;
47 Meybeck et al., 2019). Additionally, Indigenous communities are often socioeconomically
48 disadvantaged, experience multiple injustices and lack the institutional and economic
49 resources to foster an adequate response to climate change (IPCC, 2013, 2014; Ford et al.,
50 2016; Ford et al., 2018; Oxfam, 2017).

51

52 The particular climate vulnerabilities of Indigenous peoples have been noted in various
53 international fora, declarations, conventions, and accords. For example, the International
54 Labour Organisation (ILO) Convention 169 (1989) requires national governments of signatory
55 countries to adopt special measures deemed appropriate for safeguarding the rights of
56 Indigenous communities and vulnerable groups to decide their own priorities for the process
57 of development in general, as it affects their lives, beliefs, institutions, spiritual well-being,
58 and the lands they occupy (ILO, 1989, Article 7.1). Likewise, the United Nations Declaration
59 on Rights of Indigenous Peoples (UNDRIP) sets out the individual and collective rights of
60 Indigenous peoples as well as their rights to culture, identity, language, employment, health,
61 education, and other issues while implementing any development activities in their
62 traditional territories (UN, 2007, Articles 1-4). It also describes processes and procedures to
63 promote full and effective participation of Indigenous communities in all matters that
64 concern them and their right to remain distinct and to pursue their own visions of economic
65 and social development (UN, 2007, Articles 25–30). Accordingly, the Paris Agreement (Article
66 7) emphasises that adaptation action should be based on and guided by the best available
67 science and, as appropriate, knowledge of Indigenous peoples and local knowledge systems
68 (UNFCCC, 2015). In sum, these international provisions highlight that any interventions or

69 projects should fully respect the dignity, human rights, and cultures of Indigenous
70 communities and such projects should engage in a process of consultation for free, prior,
71 and informed consent (FPIC).

72

73 Despite these global provisions in place for Indigenous communities (i.e. ILO-169, UNDRIP,
74 FPIC) and also growing concerns on how to deal with disproportionate impacts of climate
75 change to socially vulnerable and marginalised people (e.g. Sendai Framework for Disaster
76 Risk Reduction), incorporation of such guidelines is lacking in national policy-making in many
77 countries. While Indigenous communities have been explicitly recognised within
78 international climate policies since at least the 1992 Earth Summit, the integration of
79 Indigenous and local knowledge into national and sub-national adaptation policies has been
80 and, in many cases, continues to be underdeveloped (Ford et al., 2016). The United Nations
81 note

82 *“... structural discrimination of Indigenous peoples at all levels in*
83 *many countries, a lack of political will to prioritise Indigenous*
84 *issues and provide funds to address them, the low level and*
85 *efficacy of Indigenous participation in national policy formulation*
86 *and implementation, and a lack of awareness of international*
87 *commitments amongst government officials as well as among*
88 *Indigenous peoples themselves (except for a minority who work in*
89 *leading Indigenous organizations)” (UN, 2009, p. 108).*

90

91 This raises the questions: how do justice-related factors impact the adaptive capacities¹ of
92 Indigenous peoples, and how can these be taken into account when designing and
93 implementing adaptation responses at the national and local levels? In order to investigate
94 these questions, we employed an interdisciplinary methodology that combined theoretical
95 analysis of the literature on environmental and social justice, arriving at a set of justice-
96 related adaptation indicators, with subsequent qualitative empirical field research among
97 the Indigenous Batwa community of Uganda. Our findings demonstrate how multi-
98 dimensional experiences of injustice resulting from the Batwa’s socioeconomic inequalities
99 and systematic discrimination work to undermine their capacity to adapt to climate change.

¹ According to IPCC (2018), adaptive capacity is “the ability of systems, institutions, humans, and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences”.

100

101 Two approaches to examining justice issues arising in Batwa adaptation might be
102 distinguished. The first approach focusses on *justice in (self-styled) adaptation interventions*
103 – that is, interventions that are explicitly and intentionally aimed at promoting adaptation,
104 asking how the impact of such interventions conforms or fails to conform to various
105 dimensions of justice. The second approach focusses more on *justice in adaptive capacity*
106 and looks at how a range of different interventions and background considerations shape
107 the justice context that helps or hinders the adaptive capacity of Batwa. rather than on
108 adaptation interventions designed to promote adaptation. The second approach is in a sense
109 more holistic, because it requires a focus on all interventions that have a bearing on
110 adaptation, whether they are styled as adaptation interventions or as (non-climate
111 adaptation focussed) development interventions. As has been noted in the literature, it is
112 familiar that adaptive capacity is commonly affected by development interventions in
113 general and not only by those targeted specifically at adaptation (Few et al., 2015, 2018;
114 Scoville-Simonds, 2015).

115

116 In this paper, we take the second, more holistic approach to injustice in adaptation. That is,
117 we are interested in injustices in the impact of various governmental and nongovernmental
118 initiatives in general on adaptive capacity, rather than solely on injustices in interventions
119 that are intended and styled as ‘adaptation interventions’. We do so because, particularly in
120 the case of Batwa, we observe in practice a fuzzy distinction between adaptation and social
121 or developmental interventions (for similar observation elsewhere in East Africa, see Few et
122 al., 2018 who call it ‘adaptation-development spectrum’). As Batwa’s vulnerability to climate
123 change is rooted in wider aspects of livelihoods and development, we consider it important
124 from the perspective of justice to develop a picture that includes all types of projects having
125 some potential to enhance their adaptive capacity. Nevertheless, it should be emphasised
126 that our interest in the present paper is in *adaptation justice* and not *development justice* in
127 general. Insofar as we look at the impact of development projects, our focus is on justice
128 issues arising from the impact of these projects on adaptive capacity, and not on more
129 general justice issues arising from the projects *qua* development projects independently of
130 their impact on adaptive capacity.

131

132 The paper is structured as follows. In Section 2, we introduce our conceptual framework and
133 provide a brief literature review, setting out a number of justice-related indicators against

134 which we empirically analysed issues in our case study. In Section 3, we shortly introduce the
 135 Batwa, their history of societal exclusion and marginalisation and their experience of
 136 multidimensional injustice. We also provide the details of case study, materials and methods
 137 used in the field research. In Section 4, we show how the Batwa experience marginalisation
 138 and exclusion in the implementation of adaptation responses at the local level, impacting
 139 negatively their capacity to adapt to climate change. Section 5 includes discussion and key
 140 recommendations for national and local climate adaptation initiatives and Section 6
 141 concludes the paper.

142

143 **2. Conceptual framework and literature review**

144

145 The theoretical part of the research engaged with the literature on environmental and social
 146 justice (see, for example, Walker & Bulkeley, 2006; Walker, 2013; Sikor & Newell, 2014) and
 147 its application in climate adaptation (see, for example, Sovacool, 2018; Barrett, 2013; Lindley
 148 et al., 2011; Marino & Ribot, 2012; Paavola & Adger, 2002). This literature analysis revealed
 149 multi-dimensional indicators of injustice related to climate adaptation, such as the fair
 150 distribution of social and environmental benefits and burdens (Page, 2006; Adger et al.,
 151 2006; Lindley et al., 2011; Dunk et al., 2013; Barrett, 2013) as well as issues of capabilities
 152 (Nussbaum, 2011; Schlosberg, 2012; Schlosberg et al., 2017), recognition (Schlosberg, 2003),
 153 representation, and participation among various actors, most particularly the vulnerable
 154 groups (Sikor & Newell, 2014; Schlosberg et al., 2017; Sikor, 2014). These concepts were
 155 then used to develop a research framework to inform and interpret our empirical case study
 156 of the Batwa and how their adaptive capacities are influenced by larger multi-dimensional
 157 socio-economic inequalities and injustices. In Table 1, we provide a short description of each
 158 of these environmental and social justice indicators, grouped under two major dimensions:
 159 distributive and procedural justice.

160

161 ***Table 1. A multi-dimensional framework of adaptation-related injustice based on an***
 162 ***analysis of the environmental and social justice literature***

163

	<i>Indicator</i>	<i>Description</i>	<i>Possible issues</i>
--	------------------	--------------------	------------------------

<i>Distributive justice indicators</i>	Distribution	To what extent do the Batwa have fair access to the goods and resources that they require to live a minimally decent life, such as adequate housing, land ownership, health care, and education?	The Batwa still lack fulfilment of very basic needs for human development and functioning and face serious discriminations by others, which affect their adaptive capacity.
	Capabilities	To what extent do the Batwa have substantive freedom to achieve certain doings and beings, such as the rights to food and development?	Batwa's needs of and rights to food, to development, to avoid being harmed, and to freedom are not respected, curtailing their potential for adaptation.
<i>Procedural justice indicators</i>	Recognition	To what extent are the knowledge, interests, and needs of the Batwa recognised in the design and implementation of adaptation responses?	The knowledge, interests, and needs of the Batwa are not taken seriously within society at large.
	Representation	To what extent are the Batwa represented in the design and implementation of adaptation responses, for example through interest organisations?	Interest organisations might not have the Batwa's best interest at heart; social marginalisation of the Batwa leads to their under-representation within public and political discourses.

	Participation	To what extent do the Batwa participate in and have the opportunity to participate in adaptation decision-making?	There are limited opportunities for and possible restrictions on Batwa's participation in decision-making processes.
--	---------------	---	--

164

165 As illustrated in Table 1, *distributive justice* is about fairness in allocation of benefits and
166 burdens among various actors and has a focus on outcomes (Page, 2006; Low & Gleeson,
167 1998; Lindley et al., 2011). The idea of distribution helps to consider disproportionate
168 impacts of climate change and the policy interventions and responses directed to address
169 these impacts, as vulnerable groups are the ones likely to be impacted the most. As part of
170 this, the capability approach to justice addresses how distribution affects people's ability to
171 "function", their well-being, and the substantive opportunities individuals have to do and be
172 what they choose. Thus, the capability approach to justice looks not only at distribution or
173 procedural inequity but also at the provisions of a range of basic needs and processes
174 necessary for individuals to construct a functioning life (Schlosberg et al., 2017; Nussbaum,
175 2011; Robeyns, 2016, 2017).²

176

177 Related to this, the idea of *procedural justice* is concerned with fairness in providing
178 information and opportunities necessary for people to participate in decisions and has a
179 focus on the processes of representation, involvement, and influence on decision-making
180 (Sikor 2014; Walker 2013; Schlosberg, 2003, 2012). It is about understanding who is

² The capability approach is usually defined as a normative framework for the evaluation of human well-being (Robeyns, 2016, 2017; Nussbaum, 2011, Byskov, 2018). Capabilities are the real, or substantive, freedoms or opportunities that we have to do or be certain things, such as being adequately nourished, having access to health care, and being sheltered; functionings are simply the capabilities that have been realised - e.g., actually being well-nourished versus having the opportunity to eat - whether by choice or by chance. Defining capabilities as 'real, or substantive, freedoms' means that they are distinguished from mere formal freedoms, such as rights: for example, someone may have the right to adequate housing (a formal freedom), yet not have the capability to exercise this right if they lack access to the necessary or adequate materials, if they lack the skills or capacities to build a house (e.g., due to disability), or cannot afford someone else to build the housing for them.

181 recognised as a legitimate actor in decision-making, how these actors are represented in
182 decision-making, and what procedures of participation the decision-making applies. For
183 example, increasing deprivation and exclusion caused by societal status and the impacts of
184 climate change may also impact on people's ability to be included and participate in
185 decision-making. Accordingly, research has shown that those who are most likely to be
186 affected by climate change are also those who are usually excluded and less able to
187 participate in decision-making, and therefore further reducing their capacity to adapt to
188 extreme events (Lindley et al., 2011; Dunk et al., 2016; Tan et al., 2015). In that sense,
189 concerns of recognition and participation are interrelated in our case, hence we analyse
190 these issues together (also following Martin et al., 2013, 2015).

191

192 A majority of literature on justice and adaptation have focused on the debates in the
193 international level, particularly around who pays for the adaptation costs, issues of loss and
194 damage or similar aspects of global climate policies (Lyster, 2017; Barrett, 2013). While
195 increasing studies have looked into issues of equity and justice (Sovacool, 2018; Barrett,
196 2013; Lindley et al., 2011; Marino & Ribot, 2012; Paavola & Adger, 2002), there exists a
197 limited literature on the justice-related impacts of adaptation policies and interventions on
198 the socially vulnerable groups and Indigenous peoples. In particular, there are still gaps on
199 how climate adaptation responses consider disaggregated impacts and socially just
200 outcomes amid pre-existing social inequality. It is thus necessary to consider that besides
201 the direct impacts of climate change, adaptation responses too can be unevenly distributed
202 and unequally shared (Dunk et al., 2016; Lindley et al., 2011; Marino & Ribot, 2012).

203

204 Among others, Adger et al. (2006), Paavola & Adger (2002) and Paavola & Adger (2006) were
205 the ones who initially brought attention to justice issues in climate adaptation, linking them
206 with nature of social vulnerability, wider participation, and fairness in adaptation planning
207 (Schlosberg et al., 2017). According to Paavola & Adger (2002, p. 8), fostering adaptation to
208 climate change requires actions at various levels: "adaptation is not an activity that takes
209 place exclusively at international political arenas" but also "concerns national and local
210 governments and individuals and organisations both in developed and developing
211 countries". Given the extent to which climate change and adaptation interact across scales,
212 the relationship between planning and implementation and different levels need to be
213 considered (Barrett, 2013; Byskov et al., 2019).

214

215 In their agenda to ethics and justice in climate adaptation, Byskov et al. (2019) highlighted
216 several issues that need to be addressed to enhance resilience and adaptive capacity of
217 vulnerable communities. Among others, they stressed for the need to integrate ethics and
218 justice issues right at the upstream stage of adaptation and resilience planning to further
219 downstream at the stage of implementation. More importantly, it is important to pay
220 specific attention to the needs of vulnerable communities and address justice issues arising
221 from unequal access to goods, resources, services, and institutions (Byskov et al., 2019). The
222 upshot of their argument is that we need to look beyond adaptation and consider a broad
223 range of injustices; an approach taken in this paper. Mathur et al. (2014) also proposed a
224 multi-level framework for examining climate justice in the implementation of carbon
225 sequestration projects on the ground, taking an approach also considered in this paper.
226 However, they failed to include third sector into their framework which in other contexts
227 such as in the delivery of adaptation action may play a bigger role. Their framework can be
228 particularly useful in disentangling some of the sources of injustices and attributing them to
229 different levels, arenas and actors.

230

231 Whyte (2017) characterised the way Indigenous peoples around the world have been
232 subjected to a particular type of environmental injustice – ‘settler colonial injustice’, which
233 takes myriad forms, has many layers and exhibits in sectors ranging from education and
234 philanthropy to people’s everyday behaviours. With a detailed case study of the opposition
235 by Indigenous Sioux community against Dakota Access Pipeline, Whyte (2017) highlighted
236 why it is important to be mindful about the way injustice is associated with ‘larger story’
237 such as history of colonialism, colonial mindset and continued subjugation. As he concluded,
238 “most relocating tribes, for example, are vulnerable precisely because they were forced to
239 live permanently on tiny areas of land with limited adaptive options” (p. 167). His framework
240 that links issues of (in)justice with pre-existing inequality and historical conditions (also
241 referred to as ‘epistemic injustice’ by others; Fricker, 2007; Alfanso, & Skorburg, 2018) is
242 useful to understand multi-dimensional injustices operating in adaptation contexts.

243

244 Various studies have indicated that local communities’ capacities to adapt are in practice
245 limited, particularly in the Global South due to many factors, including limited resources,
246 inadequate financial and institutional infrastructures, lack of inclusive decision-making, and
247 lack of leadership and coordination (Brooks et al., 2005; Smit & Wandel, 2006; Byskov et al.,
248 2019). In particular, wider political and economic inequalities tend to result in higher levels

249 of climate adaptation costs for the vulnerable groups. Lack of accountable and participatory
250 governance structures and processes further complicate the possibility of achieving just
251 adaptation responses. For example, Sovacool et al. (2015) highlighted a range of processes
252 that can occur during the implementation of adaptation responses (enclosure, exclusion,
253 encroachment and entrenchment) which can result in unjust and inequitable outcomes,
254 exacerbating inequality and conflict in some cases. According to Anguelovski et al. (2016),
255 injustice in adaptation responses occurs due to “acts of commission” (i.e. new
256 infrastructures and land use policies disproportionately impacting disadvantaged groups) or
257 “acts of omission” (i.e. plans that protect valuable areas over marginalised people or exclude
258 them from decision-making or frame adaptation as an individual responsibility). Similarly,
259 Tan et al. (2015) highlighted how severity of climate impacts can be influenced by social
260 inequalities and how this also impacts local decision-making. Thew et al. (2020) showed how
261 different aspects of environmental justice operates on the ground in their empirical
262 investigation of youth participation in climate change negotiations and showed how the
263 ability to make justice claims can be limited by both subjective and objective factors.

264

265 Amid this existing body of research, we focus our empirical analysis on a range of multi-
266 dimensional injustices experienced by the Indigenous Batwa community and assess how
267 these can impact their adaptation to climate change.

268

269 **3. Case study, materials and methods**

270

271 *3.1 Case study context*

272

273 *National context*

274

275 In order to explore how socio-cultural and political marginalisation can influence the
276 vulnerability of marginalised groups such as the Batwa, it is necessary first to understand the
277 national context of Indigenous rights, climate adaptation and relevant aspects of Uganda’s
278 political economy. The country’s inequitable political economy, restricted civil liberties and
279 limited political space to criticise government policy have restricted ability to address deep-
280 rooted injustices such as status inequalities faced by marginalised and Indigenous groups
281 (Dawson et al., 2018). As a result, issues of Indigenous rights become diluted as Indigenous
282 communities do not feature as a distinct group but are often couched under the minority

283 groups in Uganda.³ Additionally, public perceptions and national policies tend to focus on
284 certain dimensions of justice (e.g. distributive justice concerns expressed in the equitable
285 development agenda) at the expense of others (e.g. addressing recognition and rights of
286 Indigenous peoples).

287

288 Although Uganda is party to different international treaties, including on human rights and
289 Indigenous issues, many of the international provisions have not been domesticated fully.⁴
290 In fact, issues of Batwa and Indigenous communities are handled mainly through the
291 activities of non-governmental organisations (NGOs) and donors. There are also some civil
292 society networks such as the Civil Society Coalition on Indigenous Peoples in Uganda and
293 United Organisation on Batwa Development Uganda (UOBDU) both of which lobby for policy
294 and institutional frameworks to support Indigenous communities, however their influence in
295 the policy process is limited. Furthermore, as compared to gender issues, mainstreaming of
296 Indigenous issues and provision of affirmative action remain unfulfilled. Hence, the
297 Indigenous communities feel excluded in decision-making processes in all levels.

298

299 In order to address potential challenges of climate change, Uganda has sought to implement
300 an adaptation agenda through a number of policy measures (e.g. National Adaptation Plan
301 and National Development Plan-II).⁵ Although these policies generally refer to

³ In fact, the politics of who is an Indigenous group have always been a contested issue in Uganda and other countries of Africa, due to complex ethnic politics and power dynamics. For example, Article 36 of Uganda's Constitution states "*minorities have a right to participate in decision-making processes and their views and interests shall be taken into account in the making of national plans and programmes*". While constitutional measures guarantee the rights of some vulnerable groups, particularly women and children, there are no specific provisions for Indigenous communities. In short, in public discourses and national policies and practices, it is generally the principle of equality that becomes a dominant approach while the specific needs and rights of Indigenous communities such as the Batwa do not get the priority.

⁴ For example, Uganda is part of African Commission on Human and Peoples' Rights and signatory to UNDRIP but has not ratified the ILO-169. Even if some provisions (e.g. FPIC, equitable benefit-sharing) are mentioned in respective policies (e.g. the Uganda National Culture Policy developed by the Ministry of Gender, Labour and Social Development), there are gaps in implementation.

⁵ In 2007, Uganda formulated medium-term national policies and strategies for climate adaptation via National Adaptation Programme of Actions (NAPAs), which sets out country-specific aims and

302 disproportionate impacts of climate change across different sectors, places or vulnerable
303 groups, they do not provide specific attention to the needs of Indigenous communities.
304 Similarly, while these documents prioritise immediate and urgent actions as a short-term
305 measure as well as long-term climate impacts and risks, the support (e.g. the costed budget)
306 for vulnerable groups is very low as compared to sectoral distribution of costs (Few et al.,
307 2015). Besides issues of distributional aspects, these documents do mention the need for a
308 public participation in decision-making, however they lack specific details on how to
309 operationalise it for the marginalised groups, including the Indigenous communities.

310

311 A large number of adaptation responses have been implemented in Uganda, primarily by
312 bilateral agencies and international NGOs or as part of regional initiatives (Few et al., 2015;
313 Hove et al., 2011; Kansiime, 2012), mostly in conjunction with local NGOs, government
314 agencies and/or community groups. The majority of initiatives described as adaptation focus
315 on capacity building, policy formation, technological development, information sharing and
316 research (Few et al., 2015). Accordingly, there are a range of initiatives happening on the
317 ground in relation to Batwa's adaptation, including both adaptation-focused projects as well
318 as social or development interventions supposedly contributing to their adaptive capacity
319 (Section 1).

320

321 *Local context and the Batwa*

322

323 It is generally believed that the Batwa were one of the first inhabitants of the equatorial
324 forests of the Great Lakes Region of central Africa (Tadie, 2010; Gusinde, 1955); they are
325 now found in forest fringes of South West Uganda. They used to live as hunter-gatherer
326 communities inside the forests on which they depended for their survival and livelihoods: for
327 food, medicine, clothing, shelter, crafts and tools, and tradition and folklore (Gusinde, 1955).
328 Batwa's low impact on forest resources, in combination with their non-hierarchical social
329 structure, made them able to live a self-sustainable life based on the principle of sharing
330 (Tadie, 2010). They were also largely able to adjust to the dynamics of ecosystems and in the

activities to synchronise adaptation measures across different sectors (Alterra, 2010; Hove et al.,
2011; Few et al., 2015). The country is now in the process of updating NAPA to produce National
Adaptation Plan (NAP), which reflects a more concrete commitment to specific adaptation initiatives.
Additionally, some aspects of climate adaptation have also been incorporated and fit with the
National Development Plan-II (2015/16-2019/20) and the Vision 2040 (Few et al., 2015).

331 times of scarcity due to their capacity to shift frequently and through bartering forest
332 products (e.g. wild honey) to food items (e.g. beans, sorghum, potato) with the neighbouring
333 non-Batwa groups.

334

335 There is a long history of Batwa's marginalisation that still continues today. The Batwa have
336 been discriminated against and exploited due to their physical appearance and simple
337 lifestyles. Historically, they were pushed deeper into the forests when early settlers and
338 farmers cleared the forests for agriculture, taking the land from them (Tadie, 2010; Gusinde,
339 1955). In the 1930s when the British colonial government declared the areas as forest
340 reserves, Batwa's displacement started as their access to forest was only restricted for
341 livelihood purposes and practicing their culture. The Batwa were progressively evicted since
342 the 1960s (when Bwindi was declared as an animal sanctuary), with the majority required to
343 leave in the early 1990s (Martin et al., 2015). In the early 1990s, the declaration of
344 conservation areas (e.g. creation of national parks in Bwindi and Mgahinga areas as well as
345 Echuya Central Forest Reserve) by the Ugandan government as a result of a strong global
346 advocacy for gorilla conservation led to their eviction from these forests, resulting in their
347 further impoverishments. Consequently, many of the evicted Batwa became landless
348 labourers on the lands of Bahuntu group. While some of the evicted Batwa were later on
349 supported by a number of organisations, more than half still remained as squatters. Many of
350 them ended up on the streets of Kisoro town, earning their livelihood through begging,
351 stealing or prostitution, with attendant problems of drug and alcohol abuse. In short, lack of
352 compensation for loss of ancestral land and livelihoods combined with discrimination and
353 neglect by the government and neighbouring ethnic groups have further marginalised the
354 Batwa. These historical patterns of Batwa's marginalisation thus mirror with the 'settler
355 colonial injustice' associated with many Indigenous peoples worldwide (Whyte, 2017). A
356 number of earlier studies have also highlighted how the Batwa had to experience
357 'conservation injustice' as a result of their eviction and exclusion from materially and
358 culturally significant forest areas and resources (Martin et al., 2013, 2015; Blomley, 2003;
359 Blomley et al., 2010; Hamilton et al., 2000).

360

361 Present day, Batwa communities are scattered outside the protected areas, often in remote,
362 hilly and isolated locations in groups of 10-20 households (with 4-10 family members). The
363 areas where the Batwa live are often prone to climatic and other hazards such as flash
364 floods, soil and land erosion, and incidence of diseases. They live in temporary huts that are

365 poorly constructed, made out of shrub branches, banana leaves and grass, and thatched
366 with plastic or rubbish bags. Many still live as landless labourers on other people's land,
367 paying with their labour in return for permission to live. They lack basic standards of living,
368 such as food, clothing, shelter, health, education and paid employment. The Batwa
369 population suffers from extremely high infant and under-5 mortality (57%); their life
370 expectancy is very low (about 28 years); adult literacy rate is less than 10% (Berrang-Ford et
371 al., 2012); and only 51% Batwa children attend school (with very high dropout rate when
372 they reach secondary school) (Tadie, 2010; BMCT, 2016). The Batwa's vulnerability is also
373 exacerbated by lack of social capital network, as they do not have sufficient resources to
374 help each other (such as with loans, food or property) in the time of climatic and non-
375 climatic stresses.

376

377 Climate change is bringing a new dimension to Batwa's vulnerability. The impacts of climate
378 change are unequally distributed and disproportionately experienced by the Batwa, as they
379 live in remote and fragile ecosystems and with high levels of poverty. Batwa have already
380 started experiencing the impacts, particularly in terms of food insecurity, as they have been
381 getting less yield from crop farming in the limited lands (often of poor quality) provided to
382 them. The unpredictable patterns of rainfall and the increased incidence of diseases (e.g.
383 cough, malaria, malnutrition, stomach disorders, respiratory disease and Brusellosis) often
384 worsen their situation further (Berrang-Ford et al., 2012; Labbe et al., 2016). Additionally,
385 the Batwa's climate vulnerability is exacerbated by a lack of land ownership and asset
386 endowment, and pre-existing socio-cultural discrimination, particularly in terms of accessing
387 food, water and livelihoods.⁶

388

389 *3.2 Methods of data collection and analysis*

390

391 Our field research was undertaken in December 2018 and employed a variety of qualitative
392 research methods. The fieldwork mainly consisted of semi-structured interviews and focus
393 group discussions, using an interview checklist, with a range of actors at the community,
394 district and national levels, identified through a snowball technique. Other methods of data
395 collection included: key informant interviews, community visits and direct observation, and

⁶ Land tenure and adaptive capacity are closely linked and the benefits of owning land are greater, particularly for smallholder farmers and poor households in Uganda as land constitutes between 50-60% of their asset endowment (World Bank, 2003, 2013; Below et al., 2012).

396 review of existing documents (i.e. adaptation-related policy documents and secondary
397 literature).

398

399 The main focus of the fieldwork consisted of a site visit to Batwa communities living in South
400 West Uganda (mainly Kisoro district), where we carried out direct observation and focus
401 group discussions. The field sites were purposefully selected based on suggestions from key
402 informants at district and community levels. The main criterion for community site selection
403 was to represent different types of project initiatives and capture a variety of experiences
404 and issues pertaining to their justice-related impacts. Although there were some logistical
405 challenges (e.g. continuous rains and some cases of landslides coinciding with the visit to
406 these remote sites), we managed to travel and cover most of the locations where the Batwa
407 live. In total, six focus group discussions were held with the Batwa community in five
408 different sites: Birara, Getebe, Nyagakyenkye, Rukeri and Nteko/Sanurio Batwa villages
409 (Table 2). The focus group questions were focused on understanding Batwa's history, socio-
410 economic status and inequalities in terms of land use, housing, access to food and
411 livelihoods, perceptions about climate change, the activities they were involved in, their
412 experience and views on existing projects and future prospects. Focus group discussions
413 were conducted in local language with the support of an interpreter and research assistant
414 (female). The focus group discussions consisted of mixed group (male and female, young and
415 old) as well as separate ones (female only or male only group). The selection of focus group
416 discussants was done in joint consultation with Batwa leaders and local partners based on
417 pre-set criteria of the research team (i.e. taking an inclusive approach). Despite our efforts, it
418 was not possible to separate male or female group in certain sites due to additional time
419 required on part of the participants (as both groups had already arrived at the same time) or
420 when female only group was not conversational. At the start of the focus group discussion,
421 participants were first informed about the purpose of the study, data management strategy
422 and confidentiality of their responses and were told that they could refuse to answer or quit
423 any time. Altogether, we interacted with 64 Batwa (28 females and 36 males) through focus
424 group discussions.

425

426 **Table 2. Key features of local sites and data collection methods**

427

<i>Batwa settlement</i>	<i>Number of households</i>	<i>Types of project and implementer</i>	<i>Methods of data collection</i>
-------------------------	-----------------------------	---	-----------------------------------

Site-1 (Birara village)	56	Housing (mostly permanent) and 0.5 acre of land for crop growing provided by the Adventist Relief and Development Agency (ADRA-Uganda), also supported previously by the UOBDU and CARE Uganda	Focus group discussion (FGD) (mixed), direct observation
Site-2 (Getebe village)	58	Housing (only 12 permanent houses, the rest are temporary shelters) and 0.5 acre land per household (mostly barren); housing project supported by the Lift Up Jesus Church; Nature Uganda supporting in vegetable growing and soil and water conservation measures; also supported by UOBDU and ADRA	Focus group (mixed), direct observation
Site-3 (Nyagakyenkye village)	28	Housing (relocated in mid-2018), crop farming and tourism activities supported by a private company - Volcano Safari; Batwa heritage trail (eco-tourism project) supported by the Uganda Wildlife Authority (UWA); advocacy and capacity building (UOBDU)	Separate focus groups (male only and female only), direct observation
Site-4 (Rukeri village)	30	Housing (relocated in mid-2018) supported by the Kisoro Concern for Marginalised People Organization (set up by a local councillor); health project supported by CARE; ADRA and African International Christian Ministry supporting agricultural	Focus group (mixed), direct observation

		projects (e.g. provision of Irish potato seeds)	
Site-5 (Nteko/Sanurio village)	30	Settlement started in 1995 with support from Bwindi and Mgahinga Conservation Trust (BMCT); 240-260 Batwa now live in mostly tin-thatched houses; training on craft making and sale provided by UOBDU (through a Global Greengrants Fund); Batwa kid's education supported by BMCT and Nkuringo Community Conservation and Development Foundation which is also supporting in tourism (e.g. Batwa trail in Buniga pocket forest) and livelihood improvements projects (e.g. provisioning of heifers, sheep and pigs through revolving loan schemes)	Focus group (mixed), direct observation

428

429 Additionally, we also had the opportunity to carry out participant observation of a one-day
430 workshop (number of participants >30) organised by the Nature Uganda for partners
431 working on conservation and development, including on Batwa issues. Additional data about
432 climatic conditions, associated risks, and adaptation plans and projects in place were
433 collected and analysed from existing reports and secondary sources. Similarly, five
434 community (sub-county and village) and six district level key informant interviews were
435 conducted with a number of actors working on the Batwa (e.g. officials from UOBDU, Kisoro
436 district government, and representatives of humanitarian and development organisations) in
437 order to understand a range of issues that the Batwa have. We also conducted four national
438 level key informant interviews with both state and non-state actors in Kampala, involving
439 representatives from organisations working on issues of marginalised people, Indigenous
440 communities and the Batwa (see Annexes 1 and 2 for further details).

441

442 Data generated from interviews and focus group discussions were recorded in fieldnotes
443 (after obtaining consent from the participants), which were then transcribed and analysed
444 through thematic coding, according to dominant narratives on different aspects of justice
445 and adaptation. To support our analysis, we have also presented some relevant quotes from
446 the respondents, anonymising their identities. Besides the analysis of research data
447 generated from interviews and focus group discussions, we also draw on other secondary
448 sources to validate the information provided.

449

450 **4. Justice and adaptation at the local level**

451

452 In general, all the case study sites (Table 2) have been supported by a variety of non-state
453 actors (NGOs, community-based organisations or CBOs, charities as well as private actor)
454 through a range of projects. As highlighted earlier (Section 1), these range from adaptation-
455 focused interventions such as installation of household rainwater harvesting tanks and
456 adoption of climate-smart agriculture, to those with more of a development focus such as
457 housing and education projects, through to interventions based on awareness raising and
458 early training on adaptation (DK-2, DK-3).⁷ However, these projects are not always successful
459 in achieving their targets due to a combination of factors such as lack funds, corruption,
460 capacity deficit or lack of coordination (DK-5, DK-6).⁸ The piece-meal approach to improving
461 the livelihood conditions of the Batwa means that there are limited successes in terms of
462 achieving justice-related impacts. We show below how multi-dimensional experience of
463 distributive and procedural injustices resulting from Batwa's socio-economic and political
464 marginalisation contribute to impede their capacity to adapt to climate change.

465

466 *4.1 Batwa's basic needs and distributional issues*

⁷ This is necessarily a loose trichotomy: as noted in the introduction it is not always easy to separate climate adaptation interventions from other development interventions, since the latter often have an impact on adaptive capacity even if that is not the explicitly stated aim of the intervention. Many supposedly 'development' activities do contribute to reducing climate vulnerability of the Batwa through provision of housing, land, capacity building, income generation and livelihood support.

⁸ As the Chief Administrative Officer of Kisoro district explained: "*We need more coordination... We need to make sure that we are not competing, but all working together for the same purpose.... Some people are buying land here, others there, planting bamboos here and there in the name of Batwa. We should avoid such duplications* (Nature Uganda workshop)."

467

468 A key dimension of injustice is the issue of benefit-sharing and distributional implications of
469 a number of projects targeted for the Batwa (e.g. provision of land, housing, income
470 generation, tourism etc.) as well as other larger concerns of distributive justice related to
471 their marginalisation, particularly in the contexts of pre-existing structural inequity and
472 climate change challenges. The focus-group discussions and interviews that we conducted
473 with Batwa and related organisations reveal at least six distributive injustices and
474 inequalities that, we argue, negatively affect the adaptive capacities of the Batwa.

475

476 First, among the issues raised during the focus group discussions, forced eviction of the
477 Batwa from their original habitat where they purely lived as a hunter gatherer lifestyle
478 without putting in place any alternative livelihood options or compensatory mechanisms for
479 them was perceived by many interviewees as the major case of 'historical injustice' (FGD-1,
480 FGD-2, FGD-5, FGD-6), jeopardising their adaptive capacity. While the UWA officials claimed
481 that "*Batwa owned nothing whilst they still lived in the forests and hence were not eligible
482 for compensation*" (DKI-1), various Batwa members and those working on Batwa issues
483 considered this a case of injustice, lack of empathy and gross violation of human rights (FGD-
484 1, FGD-2, DKI-4). The lack of ownership, tenure and access rights to land and forest
485 resources (both formal and customary) for Batwa, despite their high dependency on these
486 resources, have increased Batwa's vulnerabilities to cope with the challenges of climate
487 change. This is further exacerbated by their traumatic experience of displacement and loss
488 of ancestral lands. Lack of land ownership also limits their opportunity to access credit via
489 mechanisms such as collateral, which reduces adaptive capacity.

490

491 Second, although UWA has a benefit sharing mechanism where a certain percentage of the
492 revenue from the park and its enterprises (e.g. lodges and tourism) goes to the local
493 community (including Batwa) for enhancing their adaptive capacity, the revenue is often
494 used for community services such as the building of schools. Batwa members that we talked
495 to often showed their resentment with this arrangement of redistribution, as there are
496 insufficient benefits going directly to the Batwa. UWA also allows permits for local
497 community (including Batwa) to access forest and collect firewood in the park, however the

498 level of benefit for individual Batwa household is considered ‘negligible’ (FGD-5).⁹ Even
499 though they have been helped with housing, they do not have any land and employment
500 (FGD-4, FGD-5). This lack of land asset endowment and access to any other forms of capital,
501 as well as no or limited opportunities for stable income (e.g. paid employment), further
502 diminishes Batwa’s adaptive capacity as they are unable to afford, for example, food to
503 compensate for low agricultural output, building materials, such as bricks and mortar, to
504 construct resilient housing, and, more intangibly, education, skills training, and other basic
505 services.

506

507 Third, in a range of other projects focused on Batwa, benefit-sharing involves direct benefits
508 (e.g. cash payment to Batwa members or supply of food items such as maize flour and
509 beans, and support for individual housing) and indirect benefits (e.g. community facilities
510 such as schools, health centre or training on income generation or capacity building
511 activities). However, the benefits from some of the household and community-based
512 adaptation schemes (such as rainwater catchment investment in the form of household roof
513 tanks or community tanks) are limited to only the minority of the Batwa who have
514 permanent houses while the majority of landless Batwa living in temporary houses and often
515 working as full-time labourers have not benefitted. The Batwa members that we interacted
516 with think that they have been supported to a larger extent by these projects run by a
517 number of organisations, but these are not sufficient (FGD-1, FGD-2, FGD-5). For example,
518 they have not been able to benefit from some of the government initiatives such as the
519 National Agricultural Advisory Services and Operation Wealth Creation that aim at creating
520 wealth and reducing poverty through profitable agricultural production, as “*there are strings*
521 *attached*”, requiring sufficient landholdings and co-funding which the Batwa cannot afford
522 (FGD-5; CKI-3; DK1-4). Furthermore, even though primary schooling is free in Uganda,
523 poverty affects the retention and performance of Batwa children, particularly girls. Neither
524 can they continue secondary education unless they are supported through external
525 sponsorships for school fees, accommodation and food (CKI-1, CKI-3). With limited
526 education and skills, Batwa children will have limited livelihood options in the future, which
527 further restricts their adaptive capacity (e.g. due to limited potential to diversify livelihoods
528 and income in the time of climatic risks). Furthermore, direct cash payment and food

⁹ For example, the revenue sharing of 20 per cent of gate fee, plus the additional 1 per cent of gorilla permits raised from protected areas that goes to Batwa is considered inadequate as it fails to reach those Batwa households living in poverty.

529 supplies to Batwa households have increased their dependency rather than providing
530 sustainable livelihood options, which could otherwise have enhanced their adaptive
531 capacity.

532

533 Fourth, Batwa's vulnerability is exacerbated by the lack of provision of basic needs and
534 insufficient affirmative actions. In the views of Batwa members, the government is running
535 from its obligation to cater for their basic needs (e.g. housing, food, clothing, health and
536 education). In fact, in some instances the money that was to be targeted for the Batwa has
537 been diverted elsewhere for the benefit of others. For example, in some sites, the benefits
538 from local projects (e.g. eco-tourism, Batwa Heritage Trail) have been used instead for local
539 development activities such as to build schools, which should have been the mandate of the
540 local government (FGD-1, FGD-2, FGD-5).

541

542 Fifth, according to UOBDU, Batwa's illiteracy and critical impoverishment have been used by
543 some organisations to *"use Batwa as a ladder to improve their own livelihoods"* (DKI-4). For
544 example, in one of the sites, an organisation bought some land and resettled Batwa
545 strategically as their marketing tool for foreigners. In another case, one charity would
546 consider that *"they own the Batwa group there"*, as they would even go to the extent of
547 blocking another charity from constructing permanent houses for the Batwa (DKI-4). In yet
548 another site, we found that a local organisation was charging USD 25 per person for visiting
549 the Batwa settlements, however there was no transparency in the redistribution of funds
550 (FGD-6). There were also some anecdotes of certain individuals engaged in malpractices of
551 pocketing money generated from Batwa handicraft sale and forceful religious conversion
552 (FGD-6). Furthermore, while there seems to be a general level of acknowledgement about
553 the role of Indigenous knowledge and skills that the Batwa possess (e.g. their sharing
554 culture, conflict management skills, and ability to adjust to changing ecosystem), a large
555 number of interventions for them have focused on modifying, rather than strengthening
556 their adaptive capacity, livelihoods and practices (DKI-4). In fact, Batwa's Indigenous
557 knowledge and skills have been damaged over the years through a chain of insensitive
558 interventions, rendering them out of use.

559

560 Sixth, abject poverty and illiteracy have further contributed to perpetuating injustices and
561 the limited potential to have a functioning life. For example, Batwa groups were resettled in
562 single-room narrow box houses built by a charity, however they were reluctant to ask

563 questions, as *“it is better to have something than having nothing at all”* (FGD-4). The project
564 was considered by a local organisation and many others as a case of *“violation of Batwa*
565 *rights to decent accommodation, proper family life and privacy”* (CKI-4). In another location,
566 the Batwa have been resettled on a barren land in steep slopes where they are expected to
567 live and do farming (FGD-3). In most sites, the Batwa have been resettled in isolated
568 locations, with very limited chance of integration with the rest of the other communities,
569 which further perpetuates their marginalisation and discrimination. In particular, their
570 adaptive capacity is affected by this relocation because of the limited potential for growing
571 crops on the steep slopes. They also do not have property rights and land titles where they
572 live and are in a constant fear that their settlement may be taken away (DKI-2; FGD-5).

573

574 In summary, although it has been almost three decades of the Batwa’s eviction from their
575 ancestral lands and forests, their concerns for compensation and distributive justice have
576 not been heard nor they have been able to benefit directly from a range of projects. Despite
577 the different forms of revenue sharing and benefit distribution, which have become a
578 commonplace in different projects (e.g. Batwa Heritage Trail), there still remains larger
579 issues of distributive injustice such as lack of financial redress for Batwa and other complex
580 issues of epistemic injustice (e.g. lack of recognition and rights of Indigenous communities
581 and their exclusion in decision-making processes; see Section 4.2).

582

583 *4.2 Issues of recognition and deficits in procedural justice*

584

585 In addition to distributive injustices affecting their adaptive capacity, the Batwa are also
586 subject to many procedural injustices in terms of recognition, representation, and
587 participation in the design and implementation of adaptation responses at the local level.

588

589 The public perception of Batwa is negative among a range of other stakeholders, including
590 some of the organisations claiming to work for them. As a representative from Kisoro District
591 Government argued, *“if land titles were given to Batwa, they would sell off the lands and*
592 *waste the money... Batwa would slaughter goats and cows the next day when these animals*
593 *are given for rearing”* (DKI-6). One of the interviewees who was also the main architect of
594 designing national parks and evicting Batwa from forests held very strong views: *“because*
595 *Batwa are careless people, their misery has been out of control... those Batwa who still roam*
596 *around the Kisoro town are a public nuisance”* (DKI-3). Another government official argued:

597 *“on their part too, the Batwa must understand their rights and feel that they are equal*
598 *citizens of this country... Improvement in their living condition is slow, for which they are to*
599 *be blamed to some extent”* (DKI-1). These examples show the stereotypes about the Batwa
600 and the on-going discriminations against them in Uganda even today.

601

602 On the other hand, there are continued grievances among the Batwa that they cannot
603 continue to access the local forests for their basic needs (e.g. collection of food, medicine)
604 and practice their culture (e.g. pray inside the forests). The loss of access rights to their
605 ancestral land and nature, in which Batwa used to live in harmony for centuries, not only
606 resulted in loss of their livelihoods but also eroded their traditional knowledge systems to
607 cope with natural disasters and other risks (including climate risks). Most Batwa members
608 that we talked to feel that they have become psychologically tortured due to hunger,
609 starvation, poverty and disease; they have been curtailed of their cultural rights and are like
610 a ‘lost generation’ (FGD-1, FGD-2). Conversely, the UWA officials would see that the eviction
611 was inevitable due to the mandatory provisions for creation of national parks and that
612 Batwa used to live *“like aliens on the rock”* and *“were threats to wild animals, UWA*
613 *employees, private operators and tourists”* (DKI-1).

614

615 In general, there is a lack of recognition of specific identity, history and rights of Indigenous
616 communities in Uganda, as it is commonly held belief that *“everyone in Africa is Indigenous...
617 and obviously some (e.g. Batwa) are more Indigenous than others”* (NKI-1, NKI-3). Batwa are
618 often couched under marginalised/minority groups, lacking specific identity and provisions
619 as Indigenous groups. Hence it can only be assumed that they also fall within the ambit of
620 those entitled to affirmative actions (e.g. along with other minority groups). Although
621 national policies and plans recognise the increased vulnerability of marginalised groups such
622 as the Batwa and highlight the need for wider consultation in decision-making (Section 3),
623 they do not provide specific guidelines on operationalisation of procedural justice (i.e.
624 equitable representation and meaningful participation of marginalised groups such as the
625 Batwa). As a result, the implementation of adaptation responses and related project
626 interventions (such as on housing, land and income generation) has happened without
627 following any specific protocols. While in some cases, the Batwa have been represented
628 through UOBDU, the lack of their meaningful participation in the local decision-making
629 means that most of the adaptation responses targeted at them actually are implemented
630 with their very limited inputs.

631

632 Although some specific projects targeted at the Batwa have helped them to improve their
633 livelihoods and adaptive capacity to some extent, these projects have not been able to
634 change their societal status. In the majority of adaptation responses targeted at the Batwa,
635 there are limited opportunities for their participation in the design of such projects (FGD-1,
636 FGD-2, DKI-4, CKI-3). Accordingly, there are also gaps between need or vulnerability
637 assessment and project design and implementation (CKI-3), as evidenced from box-like
638 houses built by a charity.

639

640 The lack of public consultation and limited opportunities for participation is evident from the
641 concerns raised by a UOBDU representative during the Nature Uganda workshop: *“While we
642 are discussing here today on the proposal to upgrade the Echuya forest to national park
643 status, I want to ask few questions: have the local communities been consulted? Is FPIC of
644 the Batwa and others considered? Why cannot we learn lessons from the past, as the
645 livelihoods of local people, particularly the Batwa have been affected from the top-down
646 declaration of Mgahinga and Bwindi national parks?”* Another respondent shared similar
647 concerns: *“Sadly, many projects in Uganda are developed in air-conditioned offices and hotel
648 meeting rooms, and then implemented, without prior consultation with the Indigenous
649 peoples”* (NKI-1). Furthermore, capacity deficit in terms of leadership and communication
650 skills and time commitment required to attend frequent meetings also put off many Batwa
651 from participating in decision-making processes.

652

653 The exclusion of Batwa from local decision-making has resulted in negative or limited
654 outcomes of adaptation responses in some cases, as these projects were designed by others
655 (e.g. external organisations) in a somewhat top-down manner. For example, the relocation
656 of Batwa on steep and rocky slopes proved a misguided project, as Batwa could not do any
657 farming there. Another example is the box-like housing project, as mentioned earlier. In a
658 further case, we found that a charity was distributing crop seeds to Batwa households who
659 did not even have any farmland. Similarly, few other projects labelled as adaptation were
660 more like usual development projects (e.g. projects focused on tourism or income
661 generation activities) with no clear links to adaptation, even in some cases amounting to
662 maladaptation (e.g. water-harvesting open ponds which no one uses and have high rates of
663 evaporation). In sum, lack of proper vulnerability assessment and limited consultations in

664 the project design have resulted in poor design and implementation of the projects targeted
665 at the Batwa.

666

667 Besides their limited participation in specific projects, Batwa members also feel very much
668 excluded from the political processes in Uganda due to systemic structural barriers (NKI-1,
669 DKI-4), which also limits their ability to influence national policies, including climate and
670 adaptation policies. First, most of them even do not have national identification and birth
671 certificates. Second, there are certain minimum educational criteria to take part in political
672 structures, which most of the Batwa do not have. Third, it needs certain skills and
673 competition to take part and succeed in elections in free or reserved quota among other
674 marginalised/minority groups. Batwa local leaders from a community are thus only limited
675 to their own community, it is hard for them to go beyond that level. So far, Batwa can only
676 hope that their voices are taken up and heard in higher levels of decision-making processes
677 through their indirect representation such as UOBDU and their networks who participate in
678 district meetings (e.g. organised by the Office of Community Development) and national
679 level consultations (e.g. organised by the Office of the Prime Minister) (DKI-4, DKI-5, NKI-1).
680

681 In summary, recognition injustice against the Batwa stem from the inequitable societal and
682 political structures that have been produced from historical injustices, resulting in
683 perpetuation of lack of respect, discrimination and domination against the group (see also,
684 Martin et al., 2013, 2015; Fraser, 2001; Marino & Ribot, 2012). This also influences the way
685 they can participate in national and local decision-making, including the designing and
686 implementation of adaptation responses.

687

688 **5. Discussion**

689

690 With a case of Uganda's Batwa Indigenous community, this paper set out to investigate
691 empirically the gaps between justice conceptualisation (in the existing literature and climate
692 policies) to its contextualisation in national policies and operationalisation in the local
693 implementation of adaptation responses. In so doing, we highlighted the importance of
694 looking into the chain of processes from poor planning to poor delivery and linking the
695 current pattern of injustice with wider social inequalities, history of marginalisation, and
696 past interventions. In this sense, we are in agreement with multi-level approach to justice
697 analysis as stressed by earlier studies (Paavola & Adger, 2002; Barrett, 2013; Byskov et al.,

698 2019; Matur et al., 2014) and looking into the 'larger story' to injustice experienced by
699 Indigenous peoples (Whyte, 2017) as well as being mindful of multiple layers and forms of
700 epistemic injustice (Fricker, 2007; Alfanso & Skorburg, 2018).

701

702 Employing the conceptual framework that we detailed in Section 2, the findings from our
703 fieldwork reveal a multi-dimensional range of systemic injustices experienced by the Batwa,
704 resulting from their continued social-economic, cultural and political marginalisation after
705 their eviction from Uganda's forests. This suggests that the design and implementation of
706 adaptation responses need to pay more specific attention to the issues of recognition,
707 participation and deliberative processes than the existing depoliticised and technical
708 approach focused on distribution. In that sense, we need to look into a broad range of things
709 beyond adaptation (Byskov et al., 2019) and consider how existing inequality and lack of
710 epistemic power further aggravate the climate vulnerability of marginalised groups (Tan et
711 al., 2015; Holland, 2017; Sovacool et al., 2015; Anguelovski et al., 2016; Fricker, 2007).

712

713 As we illustrated in the specific case of the Batwa, on the distributive side, they still lack
714 fulfilment of very basic needs for human development and functioning (food, clothing,
715 shelter, access to education and health) and face serious discrimination by others. There
716 have been small-scale projects focusing on enhancing their adaptive capacity (e.g. provision
717 of land, housing, income generation etc.) run by a range of non-state actors (NGOs, local
718 organisations and charities). However, there is a lack of coordination and/or overlap among
719 these actors and activities. Additionally, there is a concentration of initiatives in certain areas
720 (also see Few et al., 2015), often resulting in duplication of efforts and non-transparency and
721 lack of accountability and sustainability. In many cases, there is also no apparent distinction
722 between pre-existing development activities and projects labelled as adaptation,
723 highlighting part of the problem in the designing and implementation of adaptation
724 responses (Section 1; see also Scoville-Simonds, 2015; Few et al., 2015, 2018). In this
725 context, we argue that adaptation responses need to be effectively mainstreamed with
726 wider development goals and practices, which might also facilitate paths to their
727 implementation (see also, Few et al., 2015, 2018).

728

729 A crucial procedural issue is the degree of participation in designing and implementing
730 adaptation activities: while public consultation in planning processes do happen, they are
731 mainly because of donor driven demands than the ones asked by the communities

732 themselves. In some cases, national policies may emphasise the requirement, however the
733 problem is of implementation of these provisions on the ground. The lack of enabling
734 conditions (e.g. democratic ideals of fairness, equity and justice in national policies and
735 programmes, supportive policies and legal frameworks on rights of Indigenous communities)
736 and lack of operationalisation of international frameworks and provisions (e.g. ILO-169 or
737 UNDRIP or FPIC) in Uganda mean that there is a long way to go for enhancing their effective
738 representation and participation in decision-making, including in adaptation planning and
739 implementation. In this regard, we agree that more attention is needed on procedural issues
740 related to the implementation of adaptation initiatives (Sovacool et al., 2015; Anguelovski et
741 al., 2016).

742

743 Most importantly, for the realisation of environmental and social justice in a true sense, it is
744 necessary to link distribution with capabilities (i.e. needs of and rights to food, to
745 development, to avoid being harmed, to freedom) and incorporate other elements of
746 justice, including the recognition of distinct status and histories of the affected groups, and
747 focussing on procedural matters (Schlosberg et al., 2017; Nussbaum, 2011; Sikor, 2014; Sikor
748 & Newell 2014; Byskov, 2018); Wood et al., 2018; Marion & Ribot, 2012). However, as we
749 have seen in our case, most of the existing projects that are targeted to the Batwa at the
750 local level tend to emphasise on one particular dimension of justice, often focusing on
751 distribution of material benefits while less attention is paid to the more intricate issues of
752 compensation, political discrimination and uneven participation in decision-making. This is
753 also supported by the fact that there is limited body of empirical studies focused on detailed
754 assessment of justice and adaptation, as much of the studies tend to take a technical and
755 simplistic approach to justice analysis (Section 2). This depoliticised and compartmentalised
756 approach (i.e. with focus only on distributional aspect) at the expense of socio-cultural and
757 historical issues of injustice and other complexities such as addressing recognition and rights
758 of Indigenous peoples (Martin et al., 2015; Wood et al., 2018) suggests the slow and
759 incomplete way of operationalising justice in the design and implementation of adaptation
760 responses.

761

762 In sum, our research particularly demonstrates how socio-economic factors and issues of
763 representation coalesce to generate systematic injustices for Indigenous communities. This
764 is especially so in response to climate change, where Indigenous communities are some of
765 the most vulnerable populations and lack the epistemic power to influence a particular

766 discourse, such as the adaptation planning process (cf. Fricker, 2007, p. 1; Ford et al., 2016;
767 Ford et al., 2018; Oviedo & Fincke, 2009; Salick & Byg, 2007; Byskov et al., 2019). As we have
768 illustrated through the case of the Batwa, Indigenous communities are often subject to
769 multi-dimensional and systematic injustices and inequalities, including the lack of provision
770 of basic needs (e.g. adequate nourishment, housing, and clothing), with little to no way of
771 having these injustices addressed due to a lack of political representation. The Batwa's
772 vulnerability to the negative effects of climate change is both reinforced by a lack of basic
773 goods necessary to withstand these effects as well as a lack of opportunity to rectify this
774 situation due to social, cultural, and political marginalisation.

775

776 In light of these findings, we call for sincere efforts to address recognition, rights, and
777 disproportionate levels of disadvantage for Indigenous communities like the Batwa,
778 including their official/constitutional recognition, financial redress and more opportunities
779 for participation in decision-making at all levels. More specifically, we suggest at least three
780 actions that need to be considered for promoting environmental and social justice to
781 Indigenous communities and developing a just and effective framework of climate
782 adaptation.

783

784 Most fundamentally, first, it is necessary to recognise the equal rights and voices of
785 Indigenous communities as important stakeholders in addressing and adapting to climate
786 change, as well as recognising their distinct history, identity, values and views. It is necessary
787 to uphold and implement the provisions set out in international accords, such as the Paris
788 Agreement, ILO 169 and UNDRIP. In that regard it would be worthwhile to draw on best
789 practices and lessons from similar cases, for example in Peru, and using the lessons from the
790 recently established Local Communities and Indigenous Peoples Platform to the UNFCCC.

791

792 Second, because many Indigenous communities suffer from additional social, economic, and
793 democratic inequalities and injustices that negatively influence their epistemic power
794 (Alfanzo & Skorburg, 2018; Fricker, 2007) to influence the agenda on climate change and
795 climate adaptation, it is necessary to address structural and socioeconomic inequalities and
796 pre-existing politics of exclusion at the national and local levels. Theories of distributive
797 justice, such as the capability approach (Nussbaum, 2011; Lindley et al., 2011; Robeyns,
798 2016, 2017), could help establish what is owed to the Batwa and other Indigenous peoples in

799 terms of socioeconomic justice, in general, and in relation to climate adaptation justice, in
800 particular.

801

802 Third, more efforts are required to end discrimination and domination against Indigenous
803 communities and promote more inclusive structures and processes through legal and policy
804 reforms and strengthening of a rule of law. Normative political theories and philosophical
805 approaches (i.e. applied ethics) could be of help to articulate the moral duties of authorities
806 and practitioners to include Indigenous communities in climate adaptation planning and
807 implementation (Byskov et al., 2019). Social movements around climate change and
808 Indigenous rights in both the Global North and the Global South are also increasingly seeking
809 to provide a channel for marginalised voices, including Indigenous peoples (Whyte, 2017),
810 but there is still a long way to go.

811

812 **6. Conclusion**

813

814 Using insights from theories of environmental and social justice, this paper focused on
815 understanding a range of injustices experienced by the Batwa, such as inequalities in terms
816 of land use, housing, access to food. We sought to understand both how these injustices are
817 exacerbated by climate change (e.g. reduced food security or increased exposure to natural
818 hazards) and how they affect the adaptive capacities of the Batwa. Our case study analysis
819 shows how there is a fuzzy distinction between adaptation responses and development
820 interventions operating on the ground, highlighting the need to mainstream and reinforce
821 adaptation more widely in development plans and projects. Our findings also illustrate how
822 socioeconomic inequalities and systematic injustices limit Batwa's access to resources, such
823 as land, capital, employment, and other basic needs (housing, health, education), and how
824 these collectively hinder their adaptive capacity. More importantly, we show how existing
825 interventions that have an impact on adaptive capacity – including both those styled as
826 specifically adaptation interventions and those styled more generally as development
827 projects – have disproportionately focused on distributional aspects and often neglected
828 procedural aspects. In such a context of partial and insufficient approaches to justice, we
829 argue that recognition and procedural aspects are pivotal core issues without which no
830 justice is possible (see Honneth, 1995; Wood et al., 2018; Scoville-Simonds, 2015). Recent
831 theorising on recognition and environmental justice even goes further to urge
832 decolonisation of justice (see Pellow, 2016; Pulido & Lara, 2018) and understanding 'larger

833 stories' and many layers to the injustices experienced by the Indigenous peoples (Whyte,
834 2017).

835

836 Our analysis of the Batwa situation provides valuable insights and lessons for both the
837 Ugandan context as well as other contexts, in particular in Africa, where Indigenous peoples
838 share similar experiences of socio-economic inequalities and systemic injustices. Indigenous
839 peoples around the world are more vulnerable to climate change challenges as they lack
840 appropriate capacity and resources to adapt (Oxfam, 2017; Kronik & Verner, 2010; Meybeck
841 et al., 2019; Ford et al., 2018). However, the support for Indigenous peoples in adaptation
842 initiatives remains largely ad hoc, small in scale, and insecure. Insights from this research can
843 help to upscale and place issues of Indigenous peoples higher on the adaptation agenda; this
844 can also guide efforts to enhance rights and opportunities for them, whether by
845 governments, development partners, civil society organisations or Indigenous peoples'
846 organisations and their leaders.

847

848 **Acknowledgements**

849

850 This study was part of the Remediating Injustice in Indigenous Climate Adaptation Planning
851 project in the Department of Politics and International Studies at the University of Warwick.
852 The project was funded by a grant from the British Academy's Tackling UK's International
853 Challenges Programme 2018 (Grant number IC2_100139). The authors are grateful to the
854 individuals interviewed and Batwa community members who participated in our
855 focus group discussions. We also thank David Mwayafu and Joy Bonjyereire for their support
856 during the fieldwork. Finally, we appreciate the comments from the editor and two
857 anonymous reviewers which were useful in refining the earlier draft of the paper.

858

859 **References**

860

- 861 Adger, W.N., Paavola, J. & Huq, S. (2006) 'Toward justice in adaptation to climate change'.
862 In: Adger, W.N., Paavola, J., Huq, S. & Mace, M. (eds.) *Fairness in Adaptation to*
863 *Climate Change*, MIT Press, Cambridge, MA.
- 864 Alfonso, M. & Skorborg, G. (2018) 'Extended knowledge, the recognition heuristic, and
865 epistemic injustice'. In: Pritchard, D., Kallestrup, J., Palermos, O., and Carter, A. (eds.)
866 *Extended Knowledge*, Oxford University Press.

867 Alterra (2010) *Climate change in East Africa: Towards a methodological framework on*
868 *adaptation and mitigation strategies of natural resources*, Wageningen.

869 Anguelovski, I., Shi, L., Chu, E., Gallagher, D., Goh, K., Lamb, Z., Reeve, K. & Teicher, H. (2016)
870 'Equity impacts of urban land use planning for climate adaptation: critical
871 perspectives from the Global North and South', *Journal of Planning Education and*
872 *Research*, 36(3): 333-48.

873 Barrett, S. (2013) 'The necessity of a multiscalar analysis of climate justice', *Progress in*
874 *Human Geography*, 37(2): 215-233.

875 Below, T.B., Mutabazi, K.D., Kirschke, D., Franke, C., Sieber, S., Siebert, R. & Tscherning, K.
876 (2012) 'Can farmers' adaptation to climate change be explained by socio-economic
877 household-level variables?', *Global Environmental Change*, 22: 223-235.

878 Berrang-Ford, L., Dingel, K., Ford, J.D., Lee, C., Lwasa, S., Namanya, D.B., Henderson, J.,
879 Llanos, A., Carcamo, C. & Edge, V. (2012) 'Vulnerability of indigenous health to
880 climate change: a case study of Uganda's Batwa pygmies', *Social Science and*
881 *Medicine*, 75: 1067-1077.

882 Blomley, T., Namara, A., McNeilage, A., Franks, P., Rainer, H., Donaldson, A., Malpas, R.,
883 Olupot, W., Baker, J., Sandbrook, C., Bitariho, C. & Infield, M. (2010) *Development*
884 *and Gorillas: Assessing 15 years of Integrated Conservation and Development in*
885 *South-Western Uganda*, IIED, London.

886 Blomley, T. (2003) *Natural resource conflict management: the case of Bwindi Impenetrable*
887 *and Mgahinga Gorilla National Parks, South Western Uganda*, Natural Resource
888 Conflict Case Studies, FAO, Rome.

889 Brooks, N., Adger, W.N., & Kelly, P.M. (2005) 'The determinants of vulnerability and adaptive
890 capacity at the national level and the implications for adaptation', *Global*
891 *Environmental Change*, 15(2): 151-163.

892 Byskov, M.F. (2018) *The Capability Approach in Practice: a new ethics in setting development*
893 *agendas*, Routledge, London.

894 Byskov, M.F., Hyams, K., Satyal, P., Anguelovski, I., Benjamin, L., Blackburn, S., Borie, M.,
895 Caney, S., Chu, E., Edwards, G., Fourie, K., Fraser, A., Heywrd, C., Jeans, H.,
896 McQuistan, C., Paavola, J., Page, E., Pelling, M., Priest, S., Swiderska, K., Tarazona,
897 M., Thornton, T., Twigg, J. & Venn, A. (2019) 'An agenda for ethics and justice in
898 adaptation to climate change', *Climate and Development*, DOI:
899 10.1080/17565529.2019.1700774

900 BMCT (2016) *Batwa Population Census Report 2016*. Bwindi Mgahinga Conservation Trust,
901 Kisoro.

902 Dawson, N, Mason, M., Mwayafu, D., Dhungana, H., Satyal, P., Fisher, J., Zeitoun, M. &
903 Schroeder, H., (2018) 'Barriers to equity in REDD+: deficiencies in national
904 interpretation processes constrain adaptation to context', *Environmental Science
905 and Policy*, 88, 1-9.

906 Dunk, R., Satyal, P. & Bonaventura, M. (2016) 'A novel impact assessment methodology for
907 evaluating distributional impacts in Scottish climate change adaptation policy' In:
908 Leal Filho, W., Adamson, K., Dunk, R., Azeiteiro, U.M, Illingworth, S. & Alves, F. (eds.)
909 *Implementing Climate Change Adaptation in Cities and Communities: Integrating
910 Strategies and Educational Approaches*, Springer International Publishing, 75-98 pp.

911 Few, R., Satyal, P., Assen, M., Camfield, L., Leavy, J. & McGahey, D. (2018) The development-
912 adaptation spectrum in dryland East Africa: mapping risks, responses and critical
913 questions for social research, CARIAA-ASSAR Working Paper. International
914 Development Research Centre, Ottawa, Canada and UK Aid, London, United
915 Kingdom. [http://www.assar.uct.ac.za/news/development-adaptation-spectrum-
916 dryland-east-africa-mapping-risks-responses-and-critical](http://www.assar.uct.ac.za/news/development-adaptation-spectrum-dryland-east-africa-mapping-risks-responses-and-critical) (accessed on 20 May 2020).

917 Few, R., Satyal, P., McGahey, D., Leavy, J., Budds, J., Assen, M., Camfield, L., Loubser, D.,
918 Adnew, M., & Bewket, W. (2015) *Vulnerability and Adaptation to Climate Change in
919 Semi-Arid Areas in East Africa – Regional Diagnostic Report*, ASSAR Project
920 Management Unit, South Africa, 111 pp.
921 [http://www.assar.uct.ac.za/sites/default/files/image_tool/images/138/RDS_reports
922 /EAST-AFRICA/East%20Africa%20RDS%20full%20report%20-%20updated.pdf](http://www.assar.uct.ac.za/sites/default/files/image_tool/images/138/RDS_reports/EAST-AFRICA/East%20Africa%20RDS%20full%20report%20-%20updated.pdf)
923 (accessed 20 March 2019)

924 Ford, J., Maillet, M., Pouliot, V., Meredith, T., Cavanaugh, A., Lwasa, S., Llanos, A. et al.
925 (2016) 'Adaptation and Indigenous Peoples in the United Nations Framework
926 Convention on Climate Change', *Climatic Change* 139 (3): 429–43.

927 Ford, J.D., Sherman, M., Berrang-Ford, L., Llanos, A., Carcamo, C., Harper, S., Lwasa, S.,
928 Namanya, D., Marcello, T. & Maillet, M. (2018) 'Preparing for the health impacts of
929 climate change in Indigenous communities: the role of community-based
930 adaptation', *Global Environmental Change*, 49: 129-139.

931 Fricker, M. (2007) *Epistemic Injustice: Power and the Ethics of Knowing*, Oxford University
932 Press, Oxford.

933 Gusinde, M. (1955) 'Pygmies and pygmoids: Twides of tropical Africa', *Anthropological*
934 *Quarterly*, 28: 3-61.

935 Hamilton, A., Cunningham, A., Byarugaba, D. & Kyanja, F. (2000) 'Conservation in a region
936 of political instability: Bwindi Impenetrable Forest, Uganda', *Conservation Biology*,
937 14(6): 1722-1725.

938 Honneth, A. (1995) *The Struggle for Recognition: The Moral Grammar of Social Conflicts*,
939 Polity Press, Cambridge.

940 Hove, H., Ecevarria, D. & Parry, J. (2011) *Review of Current and Planned Adaptation Action:*
941 *East Africa – Uganda*, IISD, Ottawa.

942 ILO (1989) "Indigenous and Tribal Peoples Convention, 1989 (No. 169)." *Convention*
943 *concerning Indigenous and Tribal Peoples in Independent Countries*.
944 [https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO](https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C169)
945 [CODE:C169](https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C169) (accessed 15 March 2019).

946 IPCC (2018) 'Glossary' [https://www.ipcc.ch/site/assets/uploads/2018/02/WGIIAR5-](https://www.ipcc.ch/site/assets/uploads/2018/02/WGIIAR5-AnnexII_FINAL.pdf)
947 [AnnexII_FINAL.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/WGIIAR5-AnnexII_FINAL.pdf) (accessed 22 January 2020)

948 IPCC (2014) *Climate Change 2014: Impacts, Adaptation and Vulnerability: Contribution of*
949 *Working Group II to the IPCC Fifth Assessment Report*, Cambridge University Press,
950 Cambridge.

951 IPCC (2013) *Climate Change 2013: The Physical Science Basis: Working Group I Contribution*
952 *to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*,
953 Cambridge University Press, Cambridge.

954 Kansiime, M.K. (2012) 'Community-based adaptation for improved rural livelihoods: a case in
955 eastern Uganda', *Climate and Development* 4(4): 275-287.

956 Kronik, J. & Verner, D. (2010) *Indigenous peoples and climate change in Latin America and*
957 *Caribbean*, World Bank, Washington DC.
958 [http://documents.worldbank.org/curated/en/654311468010837927/pdf/555400PU](http://documents.worldbank.org/curated/en/654311468010837927/pdf/555400PUB0IIndi1EPI1958810601PUBLIC1.pdf)
959 [B0IIndi1EPI1958810601PUBLIC1.pdf](http://documents.worldbank.org/curated/en/654311468010837927/pdf/555400PUB0IIndi1EPI1958810601PUBLIC1.pdf) (accessed 24 January 2020)

960 Labbe, J., Ford, J.D., Berrang-Ford, L., Donnelly, B., Lwasa, S., Namanya, D.B., Twesigomwe,
961 S., IHACC Research Team, Haper, S.L. (2016) 'Vulnerability to health effects to
962 climate variability in rural southwestern Uganda', *Mitig Adapt Strateg Glob Change*,
963 21: 931-953.

964 Lindley, S., O'Neill, J., Kandeh, J., Lawson, N., Christian, R. & O'Neill, M. (2011) *Climate*
965 *Change, Justice and Vulnerability*, Joseph Rowntree Foundation, York.

966 Lyster, R. (2017) 'Climate justice, adaptation and the Paris Agreement: a recipe for
967 disasters?', *Environmental Politics*, 26(3): 438–58.

968 Marino, E. & Ribot, J. (2012) Special Issue Introduction: Adding insult to injury: Climate
969 change and the inequities of climate intervention, *Global Environmental Change*, 22:
970 323-328.

971 Martin, A., Akol, A. & Phillips, J. (2013) 'Just conservation? on the fairness of sharing
972 benefits'. In: Sikor, T. (ed.) *The Justices and Injustices of Ecosystem Services*,
973 Routledge, London, 69-91 pp.

974 Martin, A., Akol, A. & Gross-Camp, N. (2015) 'Towards an explicit justice framing of the social
975 impacts of conservation', *Conservation and Society*, 13(2): 166-178.

976 Mathur, V., Afionis, S., Paavola, J., Dougill, A.J. & Stringer, L.C. (2014) 'Experiences of host
977 communities with carbon market projects: towards multi-level climate justice',
978 *Climate Policy*, 14: 42-62.

979 Meybeck, A., Roese, S. & Gitz, V. (2019) *Climate change vulnerability assessment of forests
980 and forest-dependent people*, Food and Agriculture Organisation, Rome.

981 Nussbaum, M.C. (2011) *Creating capabilities: the human development approach*, Harvard
982 University Press, Cambridge.

983 Oviedo, G., & Fincke, A. (2009) *Indigenous Peoples and Climate Change*, European
984 Parliament, Brussels.

985 Oxfam (2017) *Uprooted by climate change: responding the growing risk of displacement*,
986 Oxfam International, Oxford. [https://www-cdn.oxfam.org/s3fs-](https://www-cdn.oxfam.org/s3fs-public/file_attachments/bp-uprooted-climate-change-displacement-021117-en.pdf)
987 [public/file_attachments/bp-uprooted-climate-change-displacement-021117-en.pdf](https://www-cdn.oxfam.org/s3fs-public/file_attachments/bp-uprooted-climate-change-displacement-021117-en.pdf)
988 (accessed 24 January 2020)

989 Page, E.A. (2006) *Climate Change, Justice and Future Generations*, Edward Elgar Publishing,
990 Cheltenham, UK.

991 Paavola, J. & Adger, W.N. (2002) *Justice and Adaptation to Climate Change*, Working Paper
992 No. 23, Tyndall Centre for Climate Change, Norwich.

993 Paavola, J., & Adger, W.N. (2006) 'Fair adaptation to climate change', *Ecological Economics*,
994 56(4): 594-609.

995 Pellow, D. N. (2016) 'Toward a critical environmental justice studies: Black lives matter as an
996 environmental justice challenge', *Du Bois Review: Social Science Research on Race*,
997 13(2): 221-236.

- 998 Pulido, L. & Lara, J.D. (2018) 'Remaining 'justice' in environmental justice: Radical ecologies,
999 decolonial thought and Black Racial Tradition', *Environment and Planning E: Nature
1000 and Space*, 1(1-2).
- 1001 Robeyns, I. (2016) 'The capability approach'. In: Zalta, E.N. (ed.) *The Stanford Encyclopaedia
1002 of Philosophy*, Metaphysics Research Lab, Stanford University.
1003 <https://plato.stanford.edu/archives/win2016/entries/capability-approach/>
1004 (accessed 20 May 2020)
- 1005 Robeyns, I. (2017) *Well-being, Freedom and Social Justice: The Capability Approach Re-
1006 Examined*, Open Book Publishers, Cambridge, UK.
- 1007 Salick, J., & Byg, A. (2007) *Indigenous Peoples and Climate Change*, Tyndall Centre
1008 Publication, Norwich.
- 1009 Schlosberg, D. (2003) 'The Justice of Environmental Justice: Reconciling Equity, Recognition
1010 and Participation in a Political Movement', In: de-Shalit, A. & Light, A. (eds.) *Moral
1011 and Political Reasoning in Environmental Practice*, Massachusetts Institute of
1012 Technology Press, Cambridge, 77-106 pp.
- 1013 Schlosberg, D. (2012) Climate justice and capabilities: a framework for adaptation policy,
1014 *Ethics & International Affairs*, 26(04), 445-461.
- 1015 Schlosberg, D., Collins, L.B. & Niemeyer, S. (2017) 'Adaptation policy and community
1016 discourse: risk, vulnerability, and just transformation', *Environmental Politics*, 26(3):
1017 413-437.
- 1018 Scoville-Simonds, R. (2015) *Adaptation-as-development: "socializing" and "depoliticizing"
1019 climate change adaptation, from the international to the local level*, The Graduate
1020 Institute of International and Development Institute, Geneva, Switzerland.
- 1021 Sikor, T. (2014) *The Justices and Injustice of Ecosystem Services*, Routledge, London.
- 1022 Sikor, T. & Newell, P. (2014) 'Globalising Environmental Justice?', *Geoforum*, 54: 151-157.
- 1023 Smit, B., & Wandel, J. (2006) 'Adaptation, adaptive capacity and vulnerability', *Global
1024 Environmental Change*, 16(3): 282-292.
- 1025 Sovacool, B.K. (2018) 'Bamboo beating bandits: Conflicts, inequality, and vulnerability in the
1026 political ecology of climate change adaptation in Bangladesh', *World Development*,
1027 102: 183-194.
- 1028 Tadie, K. (2010) *The Batwa of Uganda - A forgotten people*, United Organisation for Batwa
1029 Development in Uganda, Kisoro.

1030 Tan, Y. & Liu, X. & Hugo, G. (2015) 'Exploring relationship between social inequality and
1031 adaptations to climate change: evidence from urban household surveys in the
1032 Yangtze river', *Population and Environment*, 36: 400-428.

1033 Thew, H., Middlemiss, L. & Paavola, J. (2020) "Youth is not a political position": Exploring
1034 justice claims-making in the UN Climate Negotiations', *Global Environmental*
1035 *Change*, 61, 102036.

1036 UN (2007) *United Nations Declaration on the Rights of Indigenous Peoples*.
1037 https://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf (accessed 15
1038 March 2019).

1039 UN (2009) *State of the World's Indigenous Peoples*, United Nations, New York.

1040 UNFCCC (2015) The Paris Agreement. [https://unfccc.int/process-and-meetings/the-paris-](https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement)
1041 [agreement/the-paris-agreement](https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement) (accessed 10 October 2019).

1042 Walker, G. (2013) *Environmental Justice: Concepts, Evidence and Politics*, Routledge, London.

1043 Walker, G., & Bulkeley, H. (2006) 'Geographies of Environmental Justice', *Geoforum* 37 (5):
1044 655-659.

1045 Whyte, K.P. (2017) 'The Dakota access pipeline, environmental injustice, and US colonialism',
1046 *Red Ink: An International Journal of Indigenous Literature, Arts, & Humanities*, 19(1):
1047 154-169.

1048 Wood, B.T., Dougill, A.J., Stringer, L.C. & Quinn, C.H. (2018) 'Implementing climate-
1049 compatible development in the context of power: lessons for encouraging
1050 procedural justice through community-based projects', *Resources*, 7(2): 36.

1051 World Bank (2003) *Land Policies for Growth and Poverty Reduction: A World Bank Policy*
1052 *Research Report*, The World Bank, Washington DC.

1053 World Bank (2013) Country profile of Uganda. Available at: <http://data.worldbank.org/>
1054 (accessed 15 March 2019)

1055

1056

1057 **Annex 1. Additional methods of data collection**

1058

<i>Type of data collection</i>	<i>Number</i>	<i>Types of organisation and place</i>
Community key informant interviews (CKIs)	5	Representatives of local authorities and community-based organisations working on Batwa issues in various locations in Kisoro
District key informant interviews (DKIs)	6	Representatives of government, non-government and charity organisations in Kisoro
National key interviews (NKIs)	4	Government and non-government organisations in Kampala
Participant observation of a workshop	Number of participants = >30	Nature Uganda (host); government officials from Kisoro, Kabale and Rubanda districts; Charities, non-governmental organisations or NGOs and community-based organisations or CBOs
Secondary data and policy analysis	-	Organisational reports of various NGOs, charities working on Batwa, analysis of national development and adaptation plans and policies

1059

1060

1061

Annex 2: List of interviews

1062

<p><i>Focus group discussions</i></p> <ol style="list-style-type: none">1. FGD-1, focus group discussion with mixed Batwa members in site-1 (4 female, 7 male), 13/12/20182. FGD-2, focus group discussion with mixed Batwa members in site-2 (8 female, 16 male), 13/12/20183. FGD-3, focus group discussion with Batwa 10 female members in site-3, 14/12/20184. FGD-4, focus group with Batwa 4 male members in site-3, 14/12/20185. FGD-5, focus group with Batwa members (4 male, 4 female) in site-4, 14/12/20186. FGD-6, focus group with Batwa members (5 male, 2 female) in site-5, 15/12/2018
<p><i>Community level</i></p> <ol style="list-style-type: none">1. CKI-1, interview with a non-Batwa member in site-2, 13/12/20182. CKI-2, interview with a grassroots organisation official near site-5, 15/12/20183. CKI-3, interview with a grassroots organisation official, 15/12/20184. CKI-4, interview with a local government official, 16/12/20185. CKI-5, interview with a grassroots organisation official, 17/12/2018
<p><i>District level</i></p> <ol style="list-style-type: none">1. DKI-1, district level government official, 14/12/20182. DKI-2, district level I/NGO official, 16/12/20183. DKI-3, district level NGO official, 17/12/20184. DKI-4, district level Batwa network NGO (i.e. UOBDU) official, 17/12/20185. DKI-5, district level government official, 17/12/20186. DKI-6, district level government official, 17/12/20187. <i>Participant observation of inter-district workshop:</i> Nature Uganda, local government officials from Kisoro, Kabale and Rubanda districts, National Forest Authority officials, Charities (Bwindi Mgahinga Conservation Trust, African International Christian Ministry), NGOs and CBOs (UOBDU, Bamboo for Good), 18/12/2018
<p><i>National level</i></p>

1. NKI-1, national level NGO official, also affiliated with the Civil Society Coalition on Indigenous Peoples in Uganda, 10/12/2018
2. NKI-2, national level INGO official, 10/12/2018
3. NKI-3, national level NGO official, 11/12/2018
4. NKI-4, national level government official, 20/12/2018

1063