

1 **To cite this article:** W. Leal Filho, S. K. Tripathi, J. B. S. O. D. Andrade Guerra, R. Giné-
2 Garriga, V. Orlovic Lovren & J. Willats (2018): Using the sustainable development goals
3 towards a better understanding of sustainability challenges, International Journal of
4 Sustainable Development & World Ecology

5 **To link to this article:** <https://doi.org/10.1080/13504509.2018.1505674>

6
7 **Using the Sustainable Development Goals Towards a Better Understanding of**
8 **Sustainability Challenges**

9
10 **Walter Leal Filho**

11 Hamburg University of Applied Sciences

12 Research and Transfer Centre “Sustainability and Climate Change Management”

13 Umenliet 20

14 D-21033 Hamburg

15 Germany

16 E-mail: walter.leal2@haw-hamburg.de

17
18 **Shiv K. Tripathi**

19 Mahatma Gandhi University

20 13th Mile, G.S. Road

21 Khanapara, Under Ri-Bhoi

22 Guhawati

23 Meghalaya 793101

24 India

25 E-mail: shivktripathi@hotmail.com

26
27 **José Baltazar Salgueirinho Osório de Andrade Guerra**

28 Research Centre of Energy Efficiency and Sustainability from the University of

29 Southern Santa Catarina

30 UNISUL

31 Avenida Pedra Branca, 25

32 Cidade Universitária Pedra Branca

33 88132 000

34 Palhoça

35 SC

36 Brasil

37 E-mail: baltazar.guerra@unisul.br

38

39 **Ricard Giné-Garriga**
40 Department of Civil and Environmental Engineering (DECA)
41 Engineering Sciences and Global Development (Esc&GD)
42 Barcelona School of Civil Engineering
43 Universitat Politècnica de Catalunya
44 Campus Nord
45 Calle Jordi Girona, 1-3, 08034
46 Barcelona
47 Spain
48 E-mail: ricard.gine@upc.edu
49

50 **Violeta Orlovic Lovren**
51 Department for Pedagogy and Andragogy
52 Faculty of Philosophy
53 University of Belgrade
54 Studentski trg 1
55 Beograd
56 Serbia
57 E-mail: violeta.orlovic@f.bg.ac.rs
58

59 **Jessica Willats**
60 Green Academy
61 Nottingham Trent University
62 50 Shakespeare Street
63 Nottingham NG1 4FQ
64 UK
65 Email: jesswillats@hotmail.co.uk
66

67 **Abstract** The United Nations General Assembly agreed and approved in September
68 2015 the document "2030 Agenda for Sustainable Development", which contains a set
69 of measures aiming to balance economic progress and protection of the
70 environment, whilst at the same time remain aware of the need to address the many
71 disparities still seen between industrialised and developing countries. The Agenda
72 document consists of 17 Sustainable Development Goals (SDGs), which among many

73 other tasks, intend to eradicate poverty and create better health conditions in both
74 developed and developing countries.

75 But despite the need for and the relevance of the SDGs, it is unclear how they
76 may help to address present and future sustainability challenges. Based on the need to
77 shed some light on such a relationship, this paper describes each of the SDGs, and
78 offers an analysis of the extent to which their implementation may offer support to on-
79 going attempts to handle some of the pressing problems seen in pursuing sustainable
80 development. Three case studies are presented to show in practice how best the SDGs
81 can be handled. The paper concludes that the process of implementing the SDGs offers
82 unrivalled opportunities to advance equal opportunity and foster economic
83 empowerment, helping countries to promote the cause of sustainable development in
84 their territories, hence benefitting their populations.

85 .

86 **Key words** Sustainability, Sustainable Development, Sustainable Development
87 Goals, Case Studies and Challenges.

88

89

90 **1. Introduction: Sustainability Challenges**

91

92 The main goals to address present and future sustainability challenges, on a
93 global scale, are moulded within a series of objectives adopted by the United Nations in
94 the scope of the document “Transforming our World: the 2030 Agenda for Sustainable
95 Development”, where the adherent states manifest a clear intention of creating a
96 connection between the three levels of sustainable development: economic, social and
97 environmental, throughout 17 goals and 169 objectives (UN, 2015). According to
98 Waage et al. (2015), the SDGs will mainly act in the areas of environmental justice,
99 governance, and partnership among the subscribing states.

100 Article 3 of the Universal Declaration of Human Rights states: “Everyone has
101 the right to life, liberty and security of person” (UN, 1948). These ideals are clearly
102 integrated in the pathway for sustainable development, aiming to balance economic
103 progress and protection of the environment, but also mindful of social interests (Emas,
104 2015; Dempsey et al., 2011), which are fundamental factors for a healthy and
105 prosperous life. This is why the 2030 Agenda for Sustainable Development is heavily
106 marked by a human rights approach, also present in the 17 Sustainable Development
107 Goals mentioned within the document.

108 The SDGs are an improved adaptation of the Millennium Development Goals
109 (MDGs), which reached their deadline in 2015, which intended to eradicate misery and
110 create better health conditions within developing countries (IPEA, 2010; Sachs, 2012;
111 Osborn et al., 2015; Constanza et al., 2016). Pursuant to a more ambitious vision, the
112 SDGs will be a key instrument to guide social development and environmental
113 sustainability globally. The SDGs are intended to embody a universally shared vision of
114 development towards a safe, just and sustainable space for all human beings. They are

115 based on the principle that everyone and every country should resume responsibility for
116 playing their part in delivering on this vision. Therefore, the focus will be not only on
117 international cooperation, but also on eliminating discrimination and inequalities within
118 the countries.

119 In addition, the SDGs will pay more attention to issues of environmental
120 sustainability than was expressed by the MDGs (Griggs et al., 2013). A global concept
121 of environmental injustice reflects segregation in the access to goods, areas and
122 environmental risks among socially different groups (defined by race, class, gender and
123 other characteristics), beyond their involvement and recognition of environmental issues
124 (Agyeman et al., 2002; Agyeman, 2005; Elvers et al., 2008; Schlossberg, 2013).

125 In a context post-2015 of the Agenda of Sustainable Development, came the
126 critical evaluation of its results, which led to different opinions with regards to whether
127 the Millennium Development Goals were successful. For example, goals associated
128 with poverty and hunger eradication had positive results in some specific regions, such
129 as Eastern Asia, but ended up having insignificant accomplishments in sub-Saharan
130 Africa, Southern Asia and Oceania (Yiu and Saner, 2015). Whilst the MDGs were
131 focused mainly on developing countries and extremely dependant on funding from
132 richer countries, the SDGs consider human development, human rights and equity in all
133 countries, creating partnerships with the private sector, the public sector and the civil
134 society organisations, in order to achieve sustainable development (Kumar et al., 2016).

135 For the public sector, barriers regarding the adoption of environmental policies
136 include: lack of political commitment; inadequate or unclear responsibilities; inadequate
137 cooperation between political actors; insufficient financial and human resources; lack of
138 evidence or certainty regarding global scenarios, and insufficient knowledge-brokerage

139 and networking (Clar et al., 2013). On this path, the SDGs can also be used to facilitate
140 the implementation of strategies for sustainable development, both in public and private
141 sectors, serving as a guideline for those actions.

142 Nonetheless, the public's participation remains an essential tool in the
143 achievement of sustainable development. On that note, behaviour changes are a good
144 example of how to make progress. However, individual changes are not enough to
145 concrete the SDGs, there is yet a necessity for "changes in household behaviours -
146 particularly in the areas of food consumption, transport, energy use and leisure - if we
147 are to achieve more sustainable consumption of natural materials and energy"
148 (Hayward, 2015, p. 65). Behaviour changes can also contribute to the acceptance and
149 proper use of physical and technical innovations reducing environmental impacts (Steg
150 and Vlek, 2008).

151 The 2030 Agenda states that the determination to mobilize global partnerships
152 "[...] based on a spirit of strengthened global solidarity, focused in particular on the
153 needs of the poorest and most vulnerable and with the participation of all countries, all
154 stakeholders and all people" (UN, 2015, p. 2). The many important challenges that the
155 SDGs are proposing are not something that countries can deal with in isolation. To
156 achieve a long-term sustainability, those partnerships must be based on mutual interests,
157 whilst learning to work together in the making of a real change (Evans and van der
158 Heijden, 2014).

159 Even though the responsibility of conducting national policies for a sustainable
160 economy and sustainable human development relies on each country, with the support
161 of strong and coherent global economic governance, the ideals behind the SDGs will
162 transform into real policymaking. This is the background against which this research

163 has been conducted. In particular, it critically reviews the SDGs, and subsequently
164 analyses the extent to which their implementation may offer support to on-going
165 attempts to handle some of the pressing problems seen in pursuing sustainable
166 development. The paper is organized as follows: section 2 provides an in-depth
167 description of the SDGs, with a view to providing better understanding of related
168 sustainability challenges and their connections; three different case studies are presented
169 in detail in the following section; in section 4, the discussion is centred on the lessons
170 learnt from the case studies and the paper ends in section 5 with a synthesis of
171 conclusions and recommendations.

172

173 **2. Handling the challenges: the scope of the Sustainable Development Goals**

174 According to Sachs (2012, p. 2207), our society is facing many challenges given
175 that human activity has been changing the Earth's dynamic, leading to massive
176 greenhouse gas emissions and environmental pollution, acidification of the oceans and
177 loss of biodiversity. Therefore, "in view of these dire and unprecedented challenges, the
178 need for urgent, high profile and change producing global goals should be obvious".
179 This is the basic idea behind the creation of the SDGs.

180 SDG1 places an emphasis on ending all forms of extreme poverty, which is
181 currently measured as people living on less than \$1.25 a day (United Nations, 2016). It
182 puts an emphasis on reducing poverty by half the proportion of people of all ages,
183 according to respective national definitions. This would require implementation of
184 nationally appropriate social protection systems. The target of providing equal rights to
185 economic resources, as well as access to basic services (Target 1.4), creates an
186 ambitious ground for mass proliferation of integrated and inclusive economic

187 development. This, if achieved, will help in mainstreaming poor and vulnerable groups
188 in the process of economic development and thus, positively influencing the ‘economic
189 well-being’ of the target groups, and help to reduce the risk outlined by Kopnina (2016)
190 of having “victims of unsustainability”.

191 Linking the impact of economic, social and environmental shocks, including
192 extreme natural disasters, to poverty is an especially significant measure in ensuring the
193 sustainability of the planned poverty reduction target. This should be of great help in
194 sustaining the economic well being of the poor, as often, such disasters and shocks
195 reduce the developmental impact by significant levels, as well as limiting the
196 opportunities to pursue inclusive economic growth. If good measures can be
197 implemented to protect the poor from such extreme adversities, it would definitely be a
198 milestone in accelerating the efforts towards improving the economic conditions of the
199 target groups. This goal also focuses on significant mobilisation of resources from a
200 variety of sources through enhanced development cooperation, which will help in
201 extending access of resources to poor and vulnerable people in developing and lesser-
202 developed countries. This not only sets out ground for more harmonized economic
203 development across the world but also creates many opportunities, through collective
204 development process innovations, moving seamlessly beyond the geographical
205 boundaries. However, this also poses a challenge in terms of country preferences and
206 bias in promoting the development cooperation according to their choices, which is
207 sometimes subjectively objective. Overall, SDG1 brings hope with tangible
208 mechanisms to realize them and thus, making the world free of poverty. At the same
209 time, one has to be cautious of issues of income inequality, as efforts to reduce poverty
210 on the one side and increasing income inequality on another, this may not help in

211 developing balanced and inclusive economies with poverty eradication goals in the
212 truest sense.

213 SDG 2, which aims to end hunger and achieve food security with improved
214 nutrition, links sustainable agriculture promotion and offers a cushion to the
215 accomplishment of the poverty eradication goal. This goal is therefore essential to
216 guaranteeing environmental justice. The target of ending hunger by ensuring access to
217 safe, nutritious and sufficient food all year round to all the age groups (United Nations,
218 2016), will prove to be a significant milestone in providing this basic and essential
219 condition for good quality of life to poor and vulnerable sections of society. This goal
220 details the specific food and nutritional needs of distinct groups; such as children under
221 5 years of age, adolescent girls, pregnant and lactating women and older persons and
222 thus, sets a foundation for bringing systematic interventions to end hunger with a
223 minimum required nutrition level. The focus on improving the agricultural productivity
224 and incomes of small-scale food producers, in particular women, indigenous peoples,
225 family farmers, pastoralists and fishers, will have a direct impact on economic
226 sustainability of small-scale agricultural producers as well as creating access to ‘food
227 with nutrition’ at a local level. This approach aligns with Gandhi’s concept of rural and
228 village sustainability (Rajvanshi, 2016). This goal also addresses the major bottlenecks
229 in effective small-scale agricultural production by targeting issues of land access, know-
230 how, financial access, value-addition and market access to small-scale agricultural
231 producers. Increase in agricultural investment with elimination of export subsidies and
232 trade restrictions are likely to significantly boost the agricultural production at all levels.
233 A focus on climate friendly food production practices will help in minimizing the risks
234 linked with natural disasters, which in some countries, such as India, have previously

235 resulted in a number of adverse impacts, including suicide by small-scale farmers.
236 Proposed steps to control the food commodity market volatility will not only help in
237 controlling the food prices but would also ensure better availability of cost-effective
238 food to poor and vulnerable groups. In all, this goal seems to offer promises for self-
239 sufficiency in food availability through indigenous production, whilst at the same time
240 opening up agriculture as one of the major sources of living for small farmers.

241 SDG 3, which focuses on ensuring healthy lives and promoting well being for
242 all, has a direct impact on quality of life by ending premature mortality and preventable
243 deaths of newborns (United Nations, 2016). Efforts to end the epidemics of AIDS,
244 tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne
245 diseases and other communicable diseases are likely to directly enhance healthy living.
246 Strengthening systems to prevent and treat narcotic drug abuse, harmful use of alcohol
247 and controlling tobacco use will certainly help in improving the well being of all ages.
248 Provisions for universal access to sexual and reproductive healthcare services would
249 impact the healthy living of socially and/or economically disadvantaged women and
250 girls across the world. The target to achieve universal health coverage, including
251 financial risk protection, access to quality essential healthcare services and access to
252 safe, effective, quality and affordable essential medicines and vaccines is particularly
253 important for the economically disadvantaged section of society. The focus on reducing
254 the number of deaths and illnesses from hazardous chemicals and air, water and soil
255 pollution and contamination will create new partnerships, whilst at the same time link
256 this goal to environmental sustainability targets. As quoted by Cutter (1995), Goal 3 and
257 specifically its targets 3.3 and 3.9 are needed to achieve environmental justice. Efforts
258 to increase health financing and the recruitment, development, training and retention of

259 the health workforce in developing and least developed countries would also help in
260 creating new jobs and thus, positively impacting SDG 1. Additionally, it highlights the
261 great participation of NGOs and other stakeholders at all levels and thereby,
262 accelerating the employment and wage earning potential of the people involved.

263 SDG 4, touches on one of the most important areas, inclusive and quality
264 education. The target to ensure that all people have access to completely free, equitable
265 and quality primary and secondary education will be a catalyst in strengthening the
266 capacity building, required for other SDG indicators in the future. A focus on quality
267 early childhood development, care and pre-primary education (United Nations, 2016), is
268 an effort to improve the education value-chain from the very earliest stage. Affordable
269 and quality technical, vocational and tertiary education, including university education,
270 will open new opportunities for all. Elimination of gender disparities in education and
271 vocational training would be particularly helpful in enhancing women's participation in
272 the job market and economy. An increase in scholarships would open the way for
273 seamless global knowledge exchange, especially for those in developing or least
274 developed countries. Mainstreaming of the SDGs in education at all levels remains a
275 key focus of this goal. This implies that the process of higher education would call for
276 significant innovations in terms of 'what is being delivered' and 'how it is being
277 delivered.' This goal will also help in creating jobs within the educational sector at
278 different levels and would also contribute to large number of employment generation
279 with a global movement of teachers. Overall, if implemented carefully and
280 systematically, this goal will have direct impact on the success of all the other SDGs.

281 Ensuring gender equality in all forms and all areas remain a key focus of the
282 fifth SDG. Elimination of all forms of violence against women and girls in the public

283 and private spheres, including trafficking and sexual and other types of exploitation
284 (United Nations, 2016) would help in improving the safe and healthy living of women
285 and girls. The target to eliminate practices of early and forced marriage and female
286 genital mutilation is a significant step in ensuring the good quality of life for women
287 and girls, particularly in areas where these are imposed in the name of tradition or
288 custom. Steps for social protection and regulating unpaid care and domestic work will
289 add to dignity and quality of life for women around the world. Ensuring participation of
290 women in decision-making and leadership would provide a sound basis for gender
291 equality in the future. Reforms to provide equal financial and economic rights to women
292 will not only help in improving the quality of women's life but also would positively
293 impact the family well being, especially where the woman takes the role of leadership
294 within the family. Overall, this is a very positive and significant goal to contribute to
295 sustainable well being of women and girls.

296 Goals 6 and 7, as a whole, are required to guarantee environmental justice in a
297 global context, by providing universal and secure access to water and renewable sources
298 of energy. Water, hygiene and sanitation remain a key developmental challenge in many
299 areas of the world. The sixth SDG aims to ensure availability and effective management
300 of water and sanitation for all (United Nations, 2016). The target to achieve universal
301 and equitable access to safe and affordable drinking water for all with access to
302 adequate and equitable sanitation and hygiene will help in significantly improving
303 sustainable living. A focus on increased water-use efficiency across all sectors will help
304 in addressing water scarcity and thus, substantially reduce the number of people
305 suffering from water scarcity. The efforts to improve water quality will link this goal to
306 the various SDGs on environmental sustainability. Trans-boundary cooperation in

307 integrated water resource management will have additional impacts on social and
308 economic cooperation across boundaries and thereby, limit the political tensions in
309 some cases. Supporting and strengthening the participation of local communities in
310 improving water and sanitation management will be closely linked with the sustainable
311 community partnership linked development focusing on multiple dimensions of the
312 SDGs. Expansion of international cooperation and capacity-building support to
313 developing countries in water and sanitation related activities and programmes;
314 including water harvesting, desalination, water efficiency, wastewater treatment,
315 recycling and reuse technologies will also provide a strong support to promote the
316 agricultural production (SDG2) and thus, impact the quality of life both directly as well
317 as indirectly.

318 Access to affordable energy is instrumental in promoting all the development
319 efforts. This access to energy remains a key challenge in many developing or lesser-
320 developed countries and is a major bottleneck affecting GDP growth. SDG 7 addresses
321 this issue by committing to ensure access to affordable, reliable, sustainable and modern
322 energy for all (United Nations, 2016). This goal focuses on improving the energy
323 efficiency on the one side, whilst enhancing the share of renewable energy on the other.
324 The focus on energy infrastructure expansion will also result in increased economic
325 activities and employment opportunities. International cooperation for clean energy
326 research and technology transfer will have direct linkages with the international
327 cooperation in education. The accomplishment of the targets in this area is likely to
328 significantly contribute to poverty reduction and sustainable living.

329 Sustaining the inclusive and sustainable economic growth with productive and
330 decent working condition for all is the focus of SDG 8 (United Nations, 2016). This

331 goal links the country level economic sustainability to the individual level work dignity.
332 The focus on country level growth strategy with context specific technology and
333 industry choice should definitely help in accomplishing the minimum 7 percent GDP
334 growth target, a level set for the least developed countries. The provisions to ensure
335 labour standards and human dignity will help in strengthening the working conditions in
336 global supply chains. Prevention of forced labour, including child labour and child
337 recruitment in the military will help in mainstreaming children within the development
338 process. The target to link tourism to local culture will help in preserving the cultural
339 identities and values, whilst contributing to employment creation and entrepreneurship
340 at the same time. An increase in banking and financial services will provide new
341 employment opportunities for young people. If accomplished, this goal would
342 significantly eradicate unemployment and economic challenges within different country
343 contexts. Remarkably, this goal also intends to dissociate economic growth from
344 environmental degradation (Target 8.4), thus pointing out the responsibility of great
345 producers and other controllers in promoting environmental justice.

346 Infrastructure and technological advancements are the key pillars of
347 development in modern society. SDG 9 aims to promote inclusive and sustainable
348 industrialization by focusing on technology, innovation and sustainable infrastructure
349 (United Nations, 2016). The efforts to strengthen infrastructure will directly influence
350 employment creation and economic development within different contexts, in addition
351 to improving the quality of life. Providing Internet access to all by 2020 will help in
352 ending the digital divide in developing and least developed countries. International
353 cooperation in scientific research and technology development will help in cross border

354 knowledge transfer. A focus on indigenous technologies will help in local capacity
355 building for innovation driven solutions to the different human related problems.

356 Reducing inequalities amongst countries remains the key focus of SDG 10
357 (United Nations, 2016). The target on progressively achieving income growth of the
358 bottom 40 percent of the population at a rate higher than the national average is a
359 significant move to improve the conditions of those who are at the bottom of the
360 pyramid. By promoting the social, economic and political inclusion of all, irrespective
361 of age, sex, disability, race, ethnicity, origin, religion or economic or other status offers
362 hope for a more globalized world in the next 15 years to come. Fiscal, wage and social
363 protection policies on the one hand, but proper legislation on the other (Franch, Kotzé
364 2018), may help in achieving greater equality. This goal aims at more regulated and
365 integrated global financial markets to prevent artificial economic shocks. Planned and
366 well managed migration targets with a focus on equal opportunity promises for
367 systematic talent movement across the globe. An increase in financial assistance to the
368 least developed and developing countries will help in fighting the different economic,
369 social and consequent political challenges within these countries.

370 Sustainable urbanisation requires improvement in good quality and safe housing
371 access to all, with sustainable transportation and other support services available. SDG
372 11 focuses on these issues to ensure that human settlements and cities are inclusive,
373 safe, resilient and sustainable (United Nations, 2016). Specifically, it seeks to i) mind
374 the urbanisation of shanty towns (Target 11.1), ii) guarantee sustainable public
375 transports (11.2), iii) reduce deaths caused by water or air pollution (11.5 and 11.6), and
376 to iv) ensure access to sustainable green areas (11.7), with special attention given to the
377 more vulnerable populations. Access to safe housing is a major challenge of poor and

378 vulnerable groups of the society. The target to provide safe and affordable housing and
379 upgrading slums will help in improving the quality of life. The target to use local
380 building material in this process will help in strengthening the local building material
381 industry.

382 Sustainable consumption and production patterns are the key focus of SDG 12
383 (United Nations, 2016). The second half of 20th century witnessed exponential growth
384 in consumption and production, which is believed to have lead to a state of uncontrolled
385 growth with adverse environmental impacts. This can also be considered as a major
386 cause behind the growing income inequality despite numerically growing GDP. Under
387 the proposed framework, the developed countries will be taking the lead in
388 implementing a 10 year framework of programmes on sustainable consumption and
389 production. This goal focuses on encouraging efficient use of natural resources and
390 reducing food wastage at all stages of the food value-chain. Improvement in public
391 procurement procedures will help in checking the corruption from both the demand as
392 well as from the supply side. The shift towards sustainable production will also have a
393 positive impact on environmental sustainability.

394 Although climate change and environmental sustainability issues are directly or
395 indirectly integrated with most of the SDGs, SDG 13 particularly focuses on combating
396 climate change and its impact (United Nations, 2016). Introducing education and
397 capacity building initiatives for climate chain mitigation, adaptation and impact
398 reduction is one of the key priorities of SDG 13. By integrating the climate change
399 issues in national policies and strategies, the goal sets a foundation to the climate
400 change and environmental mainstreaming at different levels. This goal will help in
401 controlling the adverse impacts of climate change related issues. Specifically, goal 13.b

402 intends to support marginalized communities and vulnerable groups of women and
403 young people, in order to lower the risks of climate change and environmental
404 degradations.

405 The conservation of natural resources is another dimension of environmental
406 sustainability. SDG 14 aims to conserve and ensure the sustainable use of the ocean,
407 seas and marine resources (United Nations, 2016). It aims to reduce marine pollution
408 and protect marine and coastal ecosystems. Efforts to regulate fishing and end
409 overfishing will help in improving the access and quality of foods linked to the fishing
410 industry. A focus on improving economic benefits to Small Island developing states and
411 least developed countries from the sustainable use of marine resources will also help in
412 promoting employment and economic development.

413 Another important aspect of environmental sustainability is sustainable use of
414 terrestrial ecosystems and forests, which is captured well by SDG 15 (United Nations,
415 2016). The targets include protecting mountain ecosystems and biodiversity and
416 reversing land degradation. The focus on sustainable forest management will help in
417 reducing deforestation and thus, positively impact upon environmental sustainability.
418 Efforts to end the poaching and trafficking of protected species will create need for
419 alternative livelihood opportunities for the local communities, which can be planned
420 through sustainable capacity building.

421 Peace and harmony are essential conditions for sustainable human living. SDG
422 16 focuses on promoting peaceful and inclusive societies with access to justice (United
423 Nations, 2016), and calls for equal access to knowledge and justice services. Reducing
424 the illicit financial and arms flows will be a significant move towards promoting peace.
425 Efforts to end corruption will help in mobilising more money for development efforts.

426 This also implies more transparency in governance of institutions at all levels.
427 Participation of developing countries in the institutions of global governance would be a
428 significant move in creating a level playing field for global development.

429 SDG 17 focuses on issues related to effective implementation of all the other
430 remaining SDGs, promoting peaceful and inclusive societies with access to justice
431 (United Nations, 2016). This would involve domestic resource mobilisation, assisting
432 developing countries in external resource mobilisation, international cooperation for
433 transfer of environmentally sound technologies, capacity building, policy coherence,
434 data monitoring and multi-stakeholder partnerships. This goal promises more resources
435 and innovative partnerships, pushing for more collective efforts towards sustainable
436 development.

437 In terms of sustainability challenges, and from an environmental perspective,
438 there is evidence that all previous goals are strongly interlinked. More specifically, in
439 much the same way as a "chain is only as strong as its weakest link", sustainable
440 development and environmental justice will only perform to the limits of its weakest
441 SDG.

442 As a case in point, climate change mitigation will require major transformations
443 in the water, energy and food sectors, and it is also indispensable to protect people's
444 well being. It has been proven that climate change has direct effects on health, with the
445 increase in heat related deaths, the consequences of food crisis, and various health
446 problems related to greenhouse gases such as respiratory disorders as well as mental
447 health disorders associated with natural disasters (Patz et al., 2014).

448 Many health related goals are also related to reducing inequalities, namely
449 through: quality education; gender equality; decent work and economic growth; peace,

450 justice and strong institutions. For Doyle and Stiglitz (2014, p.6), "Extreme inequalities
451 tend to hamper economic growth and undermine both political equality and social
452 stability." Moreover, the World Economic Forum has already stated that inequalities
453 slow down the process of sustainable development, and hence jeopardize cooperation
454 for international environmental agreements on climate change (Pickett, 2015).
455 According to Blanke and Corrigan (2016), the key answer to undermining inequalities is
456 to find a way of conducting public and private stakeholders to a people centred
457 economic policymaking.

458 Aside from lowering inequalities, the reduction of all forms of violence is also
459 highlighted as extremely important in order to pursue sustainable development. Studies
460 in this area reveal that the more countries are affected by violence and fragility, the
461 lesser they manage to achieve sustainable human development (Crawford, 2015).
462 Furthermore, gender based exclusion is one of the characteristics of conflict regions
463 (Chandran et al., 2015), which is unfortunate because the participation of women in the
464 process of ending violence is considered to be extremely valuable. According to Fink
465 and Bhulai (2015), women play major roles as peace builders and countering violent
466 ideologies. Once again, promoting equality is linked not only to economic aspects, but
467 is also a major driver to maintain local and regional stability.

468 Another important issue society is now facing is that of both internal and across
469 borders displacement, also related to climate change, inequalities and health. In mid-
470 2015 there were 20.2 million refugees and an estimate of 34 million internally displaced
471 people (Beardmore, 2015). This issue was not well explored in the 2030 Agenda.
472 Despite the slogan of "Leaving no one behind", little was done to situate migrants and
473 refugees in humanitarian planning (Beardmore, 2015). Migration needs to combine the

474 economic, environmental and social aspects of sustainable development and, thus, it
475 requires broader discussions on the matter at a global, regional and national level, so
476 that coherent policies between those levels can be accomplished (Schraven et al., 2016).
477 (Spaiser, Shyam, Bali, Sumpter 2017). Based on the plurality of approaches and
478 methods used to pursue the SDGs, quantifying and modelling their incompatibility is
479 equally important (Spaiser, Shyam, Bali, Sumpter 2017).

480

481

482 **3. Case Studies: The Implications of the Sustainable Development Goals (SDGs)**

483 In order to provide an illustration of the ways via which some countries
484 currently handle the SDGs, a set of five case studies are provided. These have been
485 selected based on; a) their scope, b) the thematic emphasis and c) the diversity of
486 stakeholders, to illustrate how the implementation of coherent strategies towards the
487 achievement of all internationally agreed development goals is put into practice. The
488 case studies derive from a small sample of five countries, as follows:

- 489 • Spain: as one industrialised nation, and member of the European Union;
- 490 • India: as a developing country struggling to address poverty develop and
491 striving to itself industrially;
- 492 • Serbia: as a transition economy, not quite as industrialised as Spain, but
493 the conditions and infra-structures are more advanced than in India or
494 Brazil;
- 495 • Brazil: a large emerging country, with a wide range of natural resources;
- 496 • Kenya: a prominent African country which handles high levels of poverty
497 combined with the limitations posed by arid and semi-arid lands.

498 Table 1 describes some of the features of the sampled nations used as case studies. It
 499 can be seen that in India, Kenya and Brazil the status of implementation of the SDGs is
 500 at an initial stage, whereas in Serbia and Spain it can be regarded as moderate, with
 501 some concrete policies aimed at implementing the SDGs. In none of these countries can
 502 the implementation of the SDGs currently be regarded as advanced, although this trend
 503 can be changed.

504

Country/Features	Brazil	India	Kenya	Serbia	Spain
Area	8.516 million km ²	3.287 million km ²	581,309 km ²	88,361 km ²	505,990 km ²
Population	207.7 million	1.324 billion	48 million	7.057 million	46.56 million
Gross national income (GNI) per capita	14.145	5.663	2.881	12.202	32.779
Ranking as per the 2017 UN Human Development Index	79	131	147	66	26

505

506 **Table 1- Some features of the sampled countries used as case studies**

507

508 Even though the sample is small and cannot thus be regarded as being
509 comprehensive, it provides a representation of some of the sustainability challenges
510 faced by the various categories of nations throughout the planet.

511

512 **3.1. Spain**

513 In the discussion on the post-2015 development agenda, particularly in the
514 definition of the Sustainable Development Goals (SDGs), Spain has maintained an
515 active position (Pedrajas 2014). Specifically, Spain has led, in 2013, the High-Level
516 Consultation in Hunger, Food Security and Nutrition. It has supported consultations
517 with the private sector in Latin America in 2014 and it has actively participated in the
518 Open Working Group of the General Assembly on the Sustainable Development Goals,
519 which has been in charge of the definition of all SDGs and their targets. There is
520 however an issue: its international position does not necessarily complement its
521 domestic policies.

522 In brief, Spain's economic and social situation remains marked by a
523 comprehensive, multidimensional, global crisis. The austerity measures in public
524 policies adopted in the past few years have severely impacted on the Spanish society,
525 particularly on the most vulnerable segments of the population. The inequality gap has
526 increased significantly and the poverty rate continues to grow, especially among minors.

527 In this context, Spain's ability to reach the targets set out in the SDGs has been
528 questioned, to some extent, in a recent report. On the one hand, and based on the SDG
529 Index (Sachs et al 2016), a tool developed to rank countries with regards to their initial
530 status on the 17 SDGs, Spain comes only 30th among 149 countries included in the
531 study, and 26th among OECD countries (34, in total). On the other hand, the report also

532 presents SDG Dashboards, with each goal coloured as “green,” “yellow,” or “red”,
533 indicating whether the country has already achieved the goal (green), is in a “caution
534 lane” (yellow), or is seriously far from achievement as of 2015 (red). Results
535 demonstrate that Spain faces major challenges - as indicated by a red rating - in meeting
536 nine of the SDGs, and it is only on a good path towards reaching SDG 5 on gender
537 equality. The greatest challenges exist for climate change (SDG 13), ecosystem
538 conservation (SDGs 14 and 15), and sustainable consumption and production (SDG 12),
539 although red rating in specific indicators included in other goals emphasizes other acute
540 challenges. For instance, an unemployment rate of 22.4 % places Spain in the
541 unenviable position of tenth to last in the ranking (SDG 8), and it also ranks in the
542 lowest positions in relation to the net Official Development Assistance (ODA) as of the
543 GNI (SDG 17).

544 Spain is obliged to contribute to the implementation of the 2030 Agenda in
545 developing countries. For this purpose, besides the issue of increasing the level of ODA,
546 it should also rethink development cooperation as a state policy, strengthen the technical
547 capacities the Spanish Agency for International Cooperation for Development
548 (AECID), and focus action in least developed countries to provide them with basic
549 services, particularly for children and women.

550 Finally, the role of local governments should be promoted, as decentralised
551 governments seem to be better placed to shape viable policies that respond to the need
552 and aspirations of local people and, for instance, are more likely to conceive and
553 implement pro-poor policies. Interestingly, various examples exist in Spain of
554 Autonomous Governments defining a local agenda to meet the SDGs (Generalitat
555 Valenciana, 2016), (Generalitat de Catalunya, 2016).

556

557 **3.2. India**

558 India appears to be preparing well for commitment towards the SDGs. The
559 reflections can be easily traced in the planning documents of both federal government as
560 well as most of the provincial governments. Different organisations from different
561 sectors, including corporate houses, government departments, civil society
562 organizations, academic institutions, amongst others, all are gearing up towards aligning
563 activities to SDG targets. However, there are a number of context specific challenges in
564 the process.

565 Based on the SDG Index (Sachs et al 2016), India ranks 110 out of 149 countries
566 included in the study, and results indicate that this country faces several challenges
567 related to the majority of the SDGs. More specifically, population growth is one of the
568 more challenging areas. Sekhawat (2015) observes that if India's population reaches 1.7
569 billion by 2050, as estimated by UN, the country is likely to face a widening ecological
570 deficit even if its current per-capita levels of resource-consumption remain the same.
571 This is important to note that the population growth will also be a challenging area for
572 social and economical sustainability, as it can adversely hit most of the development
573 programs.

574 Another important issue links to governance. India has a federal government and
575 two provincial governments. Provincial governments may not be from the same
576 political party that forms the federal government. Sometimes, due to a difference in
577 political ideologies and interests, the development work suffers. Further, the provincial
578 level governance, in some cases, has also been blamed for less transparency in the
579 development related projects. The corruption has been one of the major challenges in

580 the country. The corruption takes most of the resources from development channels to
581 individual hands. The nexus between political leaders, corporations and bureaucracy is
582 often blamed for rising corruption in the country, which affects the development work
583 both qualitatively and quantitatively. However, the increasing young population, which
584 is a strong source of social capital, is actively coming forward to change the corrupt
585 system with more transparent and reliable governance (Kattumuri, 2015). Also, in the
586 future the corruption is likely to be reduced, as the current federal government appears
587 to be working strongly against this.

588 At a micro level, the SDG implementation requires awareness and capacity
589 building programmes in this area. Many of the executives, both in the public sector and
590 private sector, still view the SDGs mainly as environmental sustainability initiatives.
591 Therefore, there is a great need to harmonize and integrate all of the three dimensions in
592 SDG implementation capacity building programmes. Despite the challenges, the
593 country is moving well in the direction of achieving the SDGs. With commitment and
594 clarity, it is expected that India will be making significant progress in SDG
595 implementation in times to come.

596

597 **3.3. Serbia**

598 Serbia was actively involved in the global process of prioritizing goals for the
599 future, as one of 56 countries participating in the campaign “The World We Want”.
600 “The Serbia We Want” campaign was initiated in 2013, involving over 250 000 people
601 in consultations, with 28 000 people actively participating through the web portal
602 (www.srbijakakvuzelim.rs), social networks or direct consultations (focus groups,
603 workshops, interviews). As a result of the consultations, nine priorities for post 2015
604 development were recognized and grouped into three following tiers:

605 1: More and better jobs and decent employment; Eradication of poverty and
606 better support to vulnerable groups; Good governance and reliable institutions.

607 2: Culture of responsibility, tolerance and solidarity (culture of social cohesion);
608 Better quality of education; Better healthcare.

609 3: Sustainable environment; Equality between women and men; Better
610 management of migration and population mobility. (UN Serbia, 2013)

611 The Republic of Serbia took part in the adoption of the 2030 Agenda for
612 Sustainable Development, as a member of the UN Economic and Social Council -
613 ECOSOC (for the period 2014-2016) and of the Open Working Group, as well as of the
614 Intergovernmental Committee of Experts for financing Sustainable Development. At the
615 end of 2015, the Government of Serbia adopted the Decision on the establishment of the
616 Interdepartmental Working Group for the implementation of the 2030 Agenda for
617 Sustainable Development, with responsibility for monitoring and implementation of the
618 Agenda and all goals and objectives (<http://www.mfa.gov.rs>).

619 Further steps in implementation of the goals need to be supported by accurate
620 data, well-developed evaluation and monitoring models and quality coordination
621 between institutions. According to the SDG Index (Sachs et al, 2016), Serbia takes 39th
622 position on the list of 149 countries; as shown by the SDG Dashboard, the major
623 progress has been achieved previously in the following areas: eliminating poverty (SDG
624 1), provision of clean water and sanitation (SDG 6) and reducing of inequalities (SDG
625 10); SDGs 2,3,4,7,9,11 and 17 are colored “yellow”, which means that it is partially
626 achieved, whilst the others are red – meaning that there is still a long way to its
627 achievements. SDG 14 has been excluded for Serbia, since there is no sea within its
628 borders. Within SDG 12, waste-water treatment has been marked red, as well as the

629 CO₂ emissions from the energy in Serbia within SDG 13. Among environmental
630 challenges there is also the issue of complete protection of terrestrial sites (SDG 15),
631 while the government efficiency rate makes a key challenge among the indicators of
632 achievement of SDG 16.

633

634 **3.4. Brazil**

635 Brazil, which is the world's fifth largest country and has the 7th largest
636 economy, has also taken an active role in the preparation process and the strategies for
637 the implementation of the 2030 Agenda as of September 2015, when the Federal
638 government committed to the SDGs and their targets.

639 A study on the convergence between the Federal government's planning
640 instrument, public policy implementation and the SDGs targets has shown that the
641 relation between the programmes, goals, targets and initiatives of the 2016-2019
642 Pluriannual Plan and the 169 targets of the Sustainable Development Goals are still
643 diffuse. A positive sign has been the creation of the National Commission for the
644 Sustainable Development Goals (UNCSD 2018). This is meant to be the main
645 institutional governance mechanism for fostering dialogue, engagement and integration
646 of the initiatives carried out by subnational entities and civil society UNCSD (2018).
647 The aim of the Commission is to internalize, disseminate and ensure the transparency of
648 the 2030 Agenda implementation process. However, despite a positive background, the
649 current social, economic and environmental data do not suggest that the SDGs are being
650 implemented as they should, chronic poverty, social inequalities, violence and the
651 intensive degradation of ecosystems such as the Amazon rainforests show.

652

653

654

655 **3.5. Kenya**

656 Kenya is one of the most prominent countries in Africa. Yet, the proportion of
657 people living below the national poverty line (less than \$1.25 per day) in 2014 was
658 estimated at 45.2%, constituting 50.2% in the rural areas and 33.5% in urban area - it
659 means that about half of the country's population in Kenya lives below the poverty line,
660 according to the Kenyan National Bureau of Statistics (KNBS 2014).

661 The country pursues a "domestication of the SDGs" so as to adjust their
662 implementation to make it more relevant to Kenya's development context. Structurally,
663 all ministries have been advised to take the SDGs into consideration in their planning
664 strategies, and to link them to the "Vision 2030" in Kenya, whose main pillars are:

- 665 • Economic: to maintain sustained economic growth of 10% p.a.
- 666 • Social: a just and cohesive society enjoying equitable social development
667 in a clean and secure environment
- 668 • Political: an issue-based, people-centered, result-oriented and accountable
669 democratic political system.

670 A SDGs Specialist Unit was created in May 2016 to serve as a National Focal
671 Point, linking the national government agencies with county governments, UN
672 agencies, donors and civil society organizations. Kenya has decided to give priority to a
673 set of SDGs: health, agriculture and food security, employment and enterprise,
674 universal education and gender, and environment. Whereas this may be understandable,
675 the fact that comparatively little emphasis is given to the other SDGs by Government,

676 means that a great reliance on external donors is seen (SDG Philanthropy Platform,
677 2017).

678 **4. Discussion - Lessons Learned**

679 The diversity of examples and perspectives from the case studies allow the
680 identification of some lessons learned. These are as follows:

681 **a) Inclusiveness: no one must be left behind.**

682 The SDGs focus strongly on reducing inequality, with many goals designed
683 to ‘leave no one behind’. Therefore, the SDGs universally apply to all, and
684 countries from both developed and developing countries will need to mobilise
685 efforts to achieve the SDGs. A paradigm shift is advocated to define the poor
686 and approach the most vulnerable segments of population. The pledge that ‘no
687 one will be left behind’ therefore requires a focus on the poorest and most
688 vulnerable people to reduce their exposure and vulnerability to climate-related
689 extreme events and other economic, social and environmental shocks and
690 disasters.

691

692 **b) The need for improved cooperation and stronger alliances between the** 693 **public sector, the private sector and civil society.**

694 Throughout the case studies it can be seen that there is a growing awareness of
695 the challenges in achieving the SDGs amongst citizens, including vulnerable
696 groups; when asked, people are ready to provide inputs and be more active in
697 finding solutions to the socio-environmental problems they face. A variety of
698 issues related to political changes, migration or poverty are all interrelated,
699 affecting the implementation of the SDGs in the countries used as case studies,

700 and beyond. A greater coordination of the works undertaken by the different
701 government agencies and sectors is needed, in order to make progress in
702 achieving sustainable development. At present, the Encyclopedia of the
703 Sustainable Development Goals, currently on preparation, congregates around
704 1.700 sustainability experts from academia, government and NGOs working on
705 sustainable development. Details can be seen at: [https://www.haw-](https://www.haw-hamburg.de/en/ftz-nk/publications/encyclopedias/sdgs.html)
706 [hamburg.de/en/ftz-nk/publications/encyclopedias/sdgs.html](https://www.haw-hamburg.de/en/ftz-nk/publications/encyclopedias/sdgs.html)

707

708 **c) The need for Governance, Indicators and a Monitoring Framework for**
709 **the implementation of the Sustainable Development Goals.**

710 The experience of the MDGs underscores the importance of good governance,
711 and outlines the need for using adequate indicators as early as possible
712 (Sustainable Development Solutions Network, 2015). Indeed, indicators will be
713 the backbone of the monitoring progress towards achieving the SDGs at the
714 local, national, regional, and global levels. One lesson learnt from the MDGs is
715 that we cannot manage what we do not measure, and what gets measured is far
716 more likely to get done. It is therefore necessary to identify and apply specific,
717 measurable and action-oriented indicators to turn the SDGs and their targets into
718 a management tool to help countries develop implementation strategies and
719 allocate resources accordingly (Sustainable Development Solutions Network,
720 2015), (Hák et al, 2016). In addition, a report card based on a reduced set of
721 reliable indicators will allow them to measure progress and help ensure the
722 accountability of all stakeholders for achieving the SDGs. However, it will take

723 many years before the official SDG indicators framework will be underpinned
724 by comprehensive data (Sachs et al, 2016).

725

726 **d) The need for increased accountability:** A crucial element to promote and
727 accelerate the SDG results will be citizens holding governments and donors
728 accountable. The raw material for accountability is high-quality data providing
729 the right information on the right things at the right time (Independent Expert
730 Advisory Group on a Data Revolution for Sustainable Development, 2014), and
731 especially data on public spending and revenue/aid in budget-related documents
732 will allow civil society to track increases in ‘means of implementation’ for the
733 SDGs (Martin and Walker, 2015).

734

735 **e) Improved financing support to the implementation of the SDGs:** The
736 success of the SDGs will need countries worldwide to invest adequately in
737 addressing their challenges. The investments for sustainable development will
738 not be heavy globally speaking, certainly not compared with the massive costs if
739 no investments are made (Sachs, 2012). Moreover, failing to tackle inequality
740 will add hundreds of billions of dollars to the spending needed to end poverty:
741 failure to tackle inequality will mean failure to deliver the SDGs (Martin and
742 Walker, 2015). Sachs (2008) estimated that meeting the major goals of poverty
743 reduction; biodiversity conservation; climate change mitigation, and primary
744 health for all would need perhaps 2–3% of global income (Sachs, 2008).

745 Also, as outlined by Fukuda-Parr (2016), the implementation of the SDGs also requires
746 shifts in purpose, concept, and politics of global goal setting for development. Overall,

747 the implementation of the SDGs may reinvigorate the sustainable development research
748 agenda worldwide (Leal Filho et al 2017).

749

750 **5. Conclusions**

751 The aim of this paper has been to explore the linking process between the SDGs and the
752 need to provide a better understanding of the current and emerging challenges in respect
753 of sustainable development. This is needed, since there is otherwise a risk of investing
754 much time and resource in trying to implement the SDGs without addressing the
755 existing and still open sets of questions on how best to pursue sustainability. The paper
756 has demonstrated that the process of implementation of the SDGs offer unrivalled
757 opportunities, as well as many challenges, which need to be met in advancing equal
758 opportunity and fostering economic empowerment, which in turn may help to address
759 problems related to discrimination and ignorance, which perpetuate poverty and restrict
760 growth.

761 For the future, it is important that the implementation of the SDGs is not seen as a
762 matter of concern to the UN only (Bexell, et al 2017). In order to lead to the expected
763 outputs, countries need to be deeply involved. Similar to universities which have
764 developed methodologies for evaluating how sustainability is implemented at the
765 institutional level (Madeira, Carravilla, Oliveira, Costa 2011), it is important that
766 countries work towards the development of metrics and criteria to allow them to assess
767 the progress they are making in introducing the SDGs at the national level.

768

769 In a publication which handled the theory and practice of sustainable development in
770 higher education, Leal Filho, Brandli and Newman (2017) outlined the fact that socio-

771 economic inclusion and ecological sustainability are important parts of the process and
772 that education alone does not suffice. In an attempt to support this process, the Hamburg
773 University of Applied Sciences, Germany, created in 2017 the World Sustainable
774 Development Research and Transfer Centre (WSD-RTC) [https://www.haw-](https://www.haw-hamburg.de/en/ftz-nk/programmes/wsd-rtc.html)
775 [hamburg.de/en/ftz-nk/programmes/wsd-rtc.html](https://www.haw-hamburg.de/en/ftz-nk/programmes/wsd-rtc.html), which has been instrumental in
776 organising specialist events and producing publications on the topic. Moreover, we need
777 to find ways to test, quantify and model possible inconsistencies among the SDGs, to
778 ensure they are accurate and duplications may be avoided.

779 Finally, the extent to which the SDGs will be supported by investments in education,
780 infrastructure and scientific and technological research and hence be able to lead to
781 tangible results in the medium and long term, helping developing countries to overcome
782 the many barriers seen in the transition process, is a point in need of further study.

783

784 **Acknowledgements**

785 The authors would like to thank Jéssica Garcia and Sthefanie Aguiar da Silva for their
786 contributions in the revision of part of this paper, for which a study was conducted by
787 the Research Centre on Energy Efficiency and Sustainability (Greens), from the
788 University of Southern Santa Catarina (Unisul), in the context of the projects: Building
789 Resilience in a Dynamic Global Economy: Complexity across scales in the Brazilian
790 Food-Water-Energy Nexus (BRIDGE) funded by the Newton Fund, Fundação de
791 Amparo à Pesquisa e Inovação do Estado de Santa Catarina and the Research Councils
792 United Kingdom (RCUK).

793

794

795 **References**

- 796 Agyeman J, Bullar R, Evans B (2002) Just sustainabilities: development in an
797 unequal world. London: Earthscan.
- 798 Agyeman J. (2005) Sustainable communities and the challenge of environmental
799 justice. New York: New York University Press.
- 800 Beardmore L (2016) Displacement and development. In: Sustainable
801 Development Goals: The people's agenda. UNA-UK.
- 802 Blanke J, Corrigan G (2016) Promoting inclusive growth for healthy economies.
803 In: Sustainable Development Goals: The people's agenda. UNA-UK.
- 804 Bexell, M. et al (2017) Responsibility and the United Nations' Sustainable
805 Development Goals. Forum for Development Studies, 44 (1), 13-29.
- 806 Chandran R, Cooper H, Ivanovic A (2015) Managing major risks to sustainable
807 development: Conflict, disaster, the SDGs and the United Nations. A report prepared for
808 the United Nations Department of Economic and Social Affairs for the 2016
809 Quadrennial Comprehensive Policy Review. Available at
810 <<http://www.un.org/en/ecosoc/qcpr/pdf/sgr2016-deskreview-transition.pdf>>
- 811 Clar C, Prutsch A, Steurer S (2013) Barriers and guidelines for public policies
812 on climate change adaptation: A missed opportunity of scientific knowledge-brokerage.
813 Natural Resources Forum 37 (2013) 1–18. DOI: 10.1111/1477-8947.12013
- 814 Crawford A, (2015) Climate Change, Conflict, and the Sustainable Development
815 Goals. International Institute for Sustainable Development. Available at
816 <[https://www.iisd.org/blog/climate-change-conflict-and-sustainable-development-](https://www.iisd.org/blog/climate-change-conflict-and-sustainable-development-goals)
817 goals>

818 Cutter S L (1995) Race, class and environmental justice. *Progress in human*
819 *geography*, 19, 111-111.

820 Dempsey N, Bramley G, Power S, Brown C (2011) The Social Dimension of
821 Sustainable Development: Defining Urban Social Sustainability. *Sustainable*
822 *Development*, 19, 289–300. DOI: 10.1002/sd.417

823 Doyle M W, Stiglitz J E (2014) Eliminating Extreme Inequality: A Sustainable
824 Development Goal, 2015–2030. *Ethics & International Affairs*, 28, 5-13. DOI:
825 <http://dx.doi.org/10.1017/S0892679414000021>

826 Elvers H.D, Gross M, Heinrichs H (2008) The diversity of environmental
827 justice. *European Societies*, 10(5), 835–856.

828 Emas R (2015) The Concept of Sustainable Development: Definition and
829 Defining Principles. Brief for GSDR 2015. Available at
830 [https://sustainabledevelopment.un.org/content/documents/5839GSDR%202015_SD_co](https://sustainabledevelopment.un.org/content/documents/5839GSDR%202015_SD_concept_definition_rev.pdf)
831 [ncept_definition_rev.pdf](https://sustainabledevelopment.un.org/content/documents/5839GSDR%202015_SD_concept_definition_rev.pdf)

832 Evans A, van der Heijden K, (2014) A Global Partnership for Sustainable
833 Development: Essential Ingredients. Independent Research Forum. Available at
834 [http://www.irf2015.org/sites/default/files/publications/Retreat%20%235_Background%](http://www.irf2015.org/sites/default/files/publications/Retreat%20%235_Background%20Paper%202_Final.pdf)
835 [20Paper%202_Final.pdf](http://www.irf2015.org/sites/default/files/publications/Retreat%20%235_Background%20Paper%202_Final.pdf)

836 Fink N C, Bhulai R (2016) Development and countering violent extremism. In:
837 *Sustainable Development Goals: The people's agenda*. UNA-UK.

838 Generalitat de Catalunya (2016) Pla Nacional per als Objectius de
839 *Desenvolupament Sostenible*. Barcelona.

840 Franch, D., Kotzé, L. J. (Eds) (2018) *Sustainable Development Goals. Law,*
841 *Theory and Implementation*. Edward Elgar, London.

842 Griggs D, Stafford-Smith M, Gaffney O, Rockström J, Öhman M C,
843 Shyamsundar, P, Noble I (2013) Sustainable development goals for people and planet.
844 Nature, 495, 305-307. doi:10.1038/495305a

845 Fukuda-Parr, S. (2016) From the Millennium Development Goals to the
846 Sustainable Development Goals: shifts in purpose,
847 concept, and politics of global goal setting for development. Gender &
848 Development, 24 (1), 43-52.

849 Generalitat Valenciana (2016) Una Comunitat compromesa amb la Cooperació i
850 l'Agenda 2030 per al Desenvolupament Sostenible. Valencia, Spain.

851 Hák, T, Svatava Janoušková, Bedřich Moldan, Sustainable Development Goals:
852 A need for relevant indicators, Ecological Indicators, Volume 60, January 2016, Pages
853 565-573, ISSN 1470-160X, <http://dx.doi.org/10.1016/j.ecolind.2015.08.003>.
854 (<http://www.sciencedirect.com/science/article/pii/S1470160X15004240>)

855 Hayward B (2016) Changing behaviour to achieve progress. In: Sustainable
856 Development Goals: The people's agenda. UNA-UK.

857 Independent Expert Advisory Group on a Data Revolution for Sustainable
858 Development (2014) A World That Counts: Mobilising The Data Revolution for
859 Sustainable Development [Internet]. New York and Geneva; Available:
860 <http://www.undatarevolution.org/report/>.

861 IPEA (2010) Objetivos do Milênio - Relatório Nacional de Acompanhamento.
862 Available at:
863 <[http://ba.one.un.org/content/dam/undp/library/MDG/english/MDG%20Country%20Re](http://ba.one.un.org/content/dam/undp/library/MDG/english/MDG%20Country%20Reports/Brazil/brazilinformenacionalodm2005.pdf)
864 [ports/Brazil/brazilinformenacionalodm2005.pdf](http://ba.one.un.org/content/dam/undp/library/MDG/english/MDG%20Country%20Reports/Brazil/brazilinformenacionalodm2005.pdf)>. Last accessed on 27.09.2016.

865 Kattumuri R (2015) Sustainable Development: The goals and the challenges
866 ahead [online] International Growth Centre. Available at:
867 [http://www.theigc.org/blog/sustainable-development-the-goals-and-the-challenges-](http://www.theigc.org/blog/sustainable-development-the-goals-and-the-challenges-ahead/)
868 [ahead/](http://www.theigc.org/blog/sustainable-development-the-goals-and-the-challenges-ahead/) [Accessed 4th Nov. 2016].

869 Kenya National Bureau of Statistics (KNBS) (2014) Integrated Household
870 Budget Survey. KNBS, Nairobi.

871 Kopnina, H. (2016) The victims of unsustainability: a challenge to sustainable
872 development goals International Journal of Sustainable Development & World Ecology,
873 23 (2), 113-121.

874 Kumar S, Kumar N, Vivekadhish S (2016) Millennium development goals
875 (MDGS) to sustainable development goals (SDGS): Addressing unfinished agenda and
876 strengthening sustainable development and partnership. Indian Journal of Community
877 Medicine (Editorial Commentary), 41, 1-4. DOI: 10.4103/0970-0218.170955.

878 Leal Filho, W., Brandli, Castro, P., Newman, J. (Eds.) (2017) Handbook of
879 Theory and Practice of Sustainable Development in Higher Education. Springer Berlin,
880 ISBN 9783319478685. Volume 1.

881 Leal Filho, W., Azeiteiro, U., Alves, F., Pace, P., Mifsud, M., Brandli, L.,
882 Caeiro, S., Disterheft, A. (2017). Reinvigorating the sustainable development research
883 agenda: the role of the sustainable development goals (SDG). International Journal of
884 Sustainable Development & World Ecology,
885 <http://dx.doi.org/10.1080/13504509.2017.1342103>

886

887 Madeira, A.C., Carravilla, M.A., Oliveira, J.F., Costa, C.A.V. (2011) A
888 Methodology for Sustainability Evaluation and Reporting in Higher Education

889 Institutions. Higher Education Policy, 24 (4), pp. 459–476. Available at:
890 <http://dx.doi.org/10.1057/hep.2011.18>
891

892 Martin M, Walker J (2015) Financing the Sustainable Development Goals:
893 Lessons from Government Spending on the MDGs. Washington D.C.

894 Osborn D, Cutter A, Ullah F (2015) Universal Sustainable Development Goals:
895 Understanding The Transformational Challenge For Developed Countries. : Stakeholder
896 Forum.

897 Pa Patz J A, Frumkin H, Holloway T, Vimont D J, Haines A (2014) Climate
898 Change: Challenges and Opportunities for Global Health. The Journal of the American
899 Medical Association, 312(15), 1565-1580. doi:10.1001/jama.2014.13186

900 Pedrajas Herrero M (2014) Las prioridades de la posición española para la
901 Agenda post-2015. Glob y Desarro. ;880: 127–140.

902 Pickett K (2015) 5 reasons why we need to reduce global inequality. World
903 Economic Forum. Available at [https://www.weforum.org/agenda/2015/09/5-reasons-](https://www.weforum.org/agenda/2015/09/5-reasons-why-we-need-to-reduce-global-inequality/)
904 [why-we-need-to-reduce-global-inequality/](https://www.weforum.org/agenda/2015/09/5-reasons-why-we-need-to-reduce-global-inequality/)

905 Progress of the realization of Millennium Development Goals in the
906 Republic of Serbia. (2009). Belgrade: United Nations Development
907 Programme Serbia.

908 Rajvanshi A (2016) How Gandhiji's Ideas Show The Path To A Sustainable
909 Planet. [online] Huffington Post. Available at: [http://www.huffingtonpost.in/dr-anil-k-](http://www.huffingtonpost.in/dr-anil-k-rajvanshi/how-gandhijis-ideas-show-the-path-to-a-sustainable-planet/)
910 [rajvanshi/how-gandhijis-ideas-show-the-path-to-a-sustainable-planet/](http://www.huffingtonpost.in/dr-anil-k-rajvanshi/how-gandhijis-ideas-show-the-path-to-a-sustainable-planet/) [Accessed 29 Oct.
911 2016]

912 Sachs J D (2008) Common wealth: economics for a crowded planet. New York:
913 Penguin Press.

914 Sachs J D (2012) From millennium development goals to sustainable
915 development goals. Lancet. 2012;379: 2206–11. doi:10.1016/S0140-6736(12)60685-0

916 Sachs J, Schmidt-Traub G, Kroll C, Durand-Delacre D, Teksoz K (2016) SDG
917 Index and Dashboards - Global Report. Bertelsmann Stiftung and Sustainable
918 Development Solutions Network (SDSN). New York

919 Schraven B, Keijzer N, Knoll A (2015) Post 2015: Making Migration Work for
920 Sustainable Development. German Development Institute. Available at
921 https://www.die-gdi.de/uploads/media/BP_21.2013.pdf

922 Schlosberg D (2013) Theorising environmental justice: the expanding sphere of
923 a discourse. Environmental Politics, 22(1), 37–55.

924

925 SDG Philanthropy Platform (2017) Investing in the Sustainable Development
926 Goals in Kenya. Foundation Centre, New York.

927 Sekhawat R (2015) The real challenges to sustainable development . [online]
928 Indiatgether.Org. Available at: [http://indiatgether.org/challenges-to-sustainable-](http://indiatgether.org/challenges-to-sustainable-development-government)
929 [development-government](http://indiatgether.org/challenges-to-sustainable-development-government) [Accessed 4th Nov. 2016].

930 “Serbia we Want” – second phase of consultations on Culture and Development,
931 Final Report (2014) retrieved on September 10,2016 from www.srbijakakvuzelim.rs

932 Statement on international cooperation on the official web page of the Ministry
933 of Foreign Affairs of Serbia, retrieved on September 15, from <http://www.mfa.gov.rs>

934

935 Spaiser, V., Shyam, R., Bali, S., Sumpter, D. J.T. (2017) The Sustainable
936 Development Oxymoron: Quantifying and Modelling the Incompatibility of Sustainable
937 Development Goals. *International Journal of Sustainable Development & World
938 Ecology*, 24 (6): 457–470.

939 Steg L, Vlek C (2008) Encouraging pro-environmental behaviour: An
940 integrative review and research agenda. *Journal of Environmental Psychology*, 29, 309–
941 317. doi:10.1016/j.jenvp.2008.10.004

942

943 Sustainable Development Solutions Network (2015) Indicators and a Monitoring
944 Framework for the Sustainable Development Goals: Launching a data revolution for the
945 SDGs. Paris and New York.

946

947 UN (1948) The Universal Declaration of Human Rights. Available at
948 <http://www.un.org/en/universal-declaration-human-rights/>

949 UN (2013) Final Report on consultations “Serbia we Want”, retrieved on
950 September 5,2016 from www.srbijakakvuzelim.rs

951 UN (2015) Transforming our World: The 2030 Agenda For Sustainable
952 Development. Available at <[http://www.un.org/pga/wp-](http://www.un.org/pga/wp-content/uploads/sites/3/2015/08/120815_outcome-document-of-Summit-for-adoption-of-the-post-2015-development-agenda.pdf)
953 [content/uploads/sites/3/2015/08/120815_outcome-document-of-Summit-for-adoption-](http://www.un.org/pga/wp-content/uploads/sites/3/2015/08/120815_outcome-document-of-Summit-for-adoption-of-the-post-2015-development-agenda.pdf)
954 [of-the-post-2015-development-agenda.pdf](http://www.un.org/pga/wp-content/uploads/sites/3/2015/08/120815_outcome-document-of-Summit-for-adoption-of-the-post-2015-development-agenda.pdf)>

955 UNCSD (2018) Brazil: voluntary review 2017. UNCSD, New York, available
956 at: <https://sustainabledevelopment.un.org/memberstates/brazil>

957 United Nations Economic and Social Council (2016) Report of the Inter-Agency
958 and Expert Group on Sustainable Development Goal Indicators (Ref

959 E/CN.3/2016/2/Rev.1). New York; 19 February 2016. Un.org (2016 a) United Nations
960 Official Website. [online] Available at: <https://sustainabledevelopment.un.org/sdg1>
961 [Accessed 28th Oct 2016].

962

963

964 United Nations (2016) United Nations Official Website. [online] Available at:
965 <https://sustainabledevelopment.un.org> [Accessed 28th Oct 2016].

966 Yiu L S, Saner R (2015) Sustainable Development Goals and Millennium
967 Development Goals: an analysis of the shaping and negotiation process. Asia Pacific
968 Journal of Public Administration, 36 (2), 89-107. DOI: 10.1080/23276665.2014.911487

969 Waage J, Yap C, Bell S, Levy C, Mace G, Pegram T, Mayhew S (2015)
970 Governing the UN Sustainable Development Goals: interactions, infrastructures, and
971 institutions. The Lancet Global Health, 3(5), e251-e252.

972

973