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Leal Filho, W, Tripathi, SK, Andrade Guerra, JBSOD, Giné-Garriga, R, Orlovic Lovren, V and Willats, J (2018) Using the sustainable development goals towards a better understanding of sustainability challenges. *International Journal of Sustainable Development and World Ecology*, 26 (2). pp. 179-190. ISSN 1350-4509

**DOI:** <https://doi.org/10.1080/13504509.2018.1505674>

**Publisher:** Taylor & Francis (Routledge)

**Version:** Accepted Version

**Downloaded from:** <https://e-space.mmu.ac.uk/621472/>

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1 **International Journal of Sustainable Development & World Ecology (2018)**

2 **<https://doi.org/10.1080/13504509.2018.1505674>**

3 **Using the Sustainable Development Goals Towards a Better Understanding of**

4 **Sustainability Challenges**

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62

63 **Abstract** The United Nations General Assembly agreed and approved in September  
64 2015 the document "2030 Agenda for Sustainable Development", which contains a set  
65 of measures aiming to balance economic progress and protection of the  
66 environment, whilst at the same time remain aware of the need to address the many  
67 disparities still seen between industrialised and developing countries. The Agenda  
68 document consists of 17 Sustainable Development Goals (SDGs), which among many  
69 other tasks, intend to eradicate poverty and create better health conditions in both  
70 developed and developing countries.

71 But despite the need for and the relevance of the SDGs, it is unclear how they  
72 may help to address present and future sustainability challenges. Based on the need to

73 shed some light on such a relationship, this paper describes each of the SDGs, and  
74 offers an analysis of the extent to which their implementation may offer support to on-  
75 going attempts to handle some of the pressing problems seen in pursuing sustainable  
76 development. Three case studies are presented to show in practice how best the SDGs  
77 can be handled. The paper concludes that the process of implementing the SDGs offers  
78 unrivalled opportunities to advance equal opportunity and foster economic  
79 empowerment, helping countries to promote the cause of sustainable development in  
80 their territories, hence benefitting their populations.

81 .

82 **Key words** Sustainability, Sustainable Development, Sustainable Development  
83 Goals, Case Studies and Challenges.

84

85

86 **1. Introduction: Sustainability Challenges**  
87

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

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

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

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

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

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

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

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

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

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

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

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

168

## 169 **2. Handling the challenges: the Sustainable Development Goals Scope**

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

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

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

207           SDG 2, which aims to end hunger and achieve food security with improved  
208 nutrition, links sustainable agriculture promotion and offers a cushion to the  
209 accomplishment of the poverty eradication goal. This goal is therefore essential to  
210 guaranteeing environmental justice. The target of ending hunger by ensuring access to  
211 safe, nutritious and sufficient food all year round to all the age groups (United Nations,  
212 2016), will prove to be a significant milestone in providing this basic and essential  
213 condition for good quality of life to poor and vulnerable sections of society. This goal  
214 details the specific food and nutritional needs of distinct groups; such as children under  
215 5 years of age, adolescent girls, pregnant and lactating women and older persons and  
216 thus, sets a foundation for bringing systematic interventions to end hunger with a  
217 minimum required nutrition level. The focus on improving the agricultural productivity  
218 and incomes of small-scale food producers, in particular women, indigenous peoples,  
219 family farmers, pastoralists and fishers, will have a direct impact on economic  
220 sustainability of small-scale agricultural producers as well as creating access to ‘food  
221 with nutrition’ at a local level. This approach aligns with Gandhi’s concept of rural and  
222 village sustainability (Rajvanshi, 2016). This goal also addresses the major bottlenecks  
223 in effective small-scale agricultural production by targeting issues of land access, know-  
224 how, financial access, value-addition and market access to small-scale agricultural  
225 producers. Increase in agricultural investment with elimination of export subsidies and  
226 trade restrictions are likely to significantly boost the agricultural production at all levels.  
227 A focus on climate friendly food production practices will help in minimizing the risks  
228 linked with natural disasters, which in some countries, such as India, have previously  
229 resulted in a number of adverse impacts, including suicide by small-scale farmers.  
230 Proposed steps to control the food commodity market volatility will not only help in

231 controlling the food prices but would also ensure better availability of cost-effective  
232 food to poor and vulnerable groups. In all, this goal seems to offer promises for self-  
233 sufficiency in food availability through indigenous production, whilst at the same time  
234 opening up agriculture as one of the major sources of living for small farmers.

235           SDG 3, which focuses on ensuring healthy lives and promoting well being for  
236 all, has a direct impact on quality of life by ending premature mortality and preventable  
237 deaths of newborns (United Nations, 2016). Efforts to end the epidemics of AIDS,  
238 tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne  
239 diseases and other communicable diseases are likely to directly enhance healthy living.  
240 Strengthening systems to prevent and treat narcotic drug abuse, harmful use of alcohol  
241 and controlling tobacco use will certainly help in improving the well being of all ages.  
242 Provisions for universal access to sexual and reproductive healthcare services would  
243 impact the healthy living of socially and/or economically disadvantaged women and  
244 girls across the world. The target to achieve universal health coverage, including  
245 financial risk protection, access to quality essential healthcare services and access to  
246 safe, effective, quality and affordable essential medicines and vaccines is particularly  
247 important for the economically disadvantaged section of society. The focus on reducing  
248 the number of deaths and illnesses from hazardous chemicals and air, water and soil  
249 pollution and contamination will create new partnerships, whilst at the same time link  
250 this goal to environmental sustainability targets. As quoted by Cutter (1995), Goal 3 and  
251 specifically its targets 3.3 and 3.9 are needed to achieve environmental justice. Efforts  
252 to increase health financing and the recruitment, development, training and retention of  
253 the health workforce in developing and least developed countries would also help in  
254 creating new jobs and thus, positively impacting SDG 1. Additionally, it highlights the

255 great participation of NGOs and other stakeholders at all levels and thereby,  
256 accelerating the employment and wage earning potential of the people involved.

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

275 Ensuring gender equality in all forms and all areas remain a key focus of the  
276 fifth SDG. Elimination of all forms of violence against women and girls in the public  
277 and private spheres, including trafficking and sexual and other types of exploitation  
278 (United Nations, 2016) would help in improving the safe and healthy living of women

279 and girls. The target to eliminate practices of early and forced marriage and female  
280 genital mutilation is a significant step in ensuring the good quality of life for women  
281 and girls, particularly in areas where these are imposed in the name of tradition or  
282 custom. Steps for social protection and regulating unpaid care and domestic work will  
283 add to dignity and quality of life for women around the world. Ensuring participation of  
284 women in decision-making and leadership would provide a sound basis for gender  
285 equality in the future. Reforms to provide equal financial and economic rights to women  
286 will not only help in improving the quality of women's life but also would positively  
287 impact the family well being, especially where the woman takes the role of leadership  
288 within the family. Overall, this is a very positive and significant goal to contribute to  
289 sustainable well being of women and girls.

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

303 some cases. Supporting and strengthening the participation of local communities in  
304 improving water and sanitation management will be closely linked with the sustainable  
305 community partnership linked development focusing on multiple dimensions of the  
306 SDGs. Expansion of international cooperation and capacity-building support to  
307 developing countries in water and sanitation related activities and programmes;  
308 including water harvesting, desalination, water efficiency, wastewater treatment,  
309 recycling and reuse technologies will also provide a strong support to promote the  
310 agricultural production (SDG2) and thus, impact the quality of life both directly as well  
311 as indirectly.

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

323 Sustaining the inclusive and sustainable economic growth with productive and  
324 decent working condition for all is the focus of SDG 8 (United Nations, 2016). This  
325 goal links the country level economic sustainability to the individual level work dignity.  
326 The focus on country level growth strategy with context specific technology and

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

340           Infrastructure and technological advancements are the key pillars of  
341 development in modern society. SDG 9 aims to promote inclusive and sustainable  
342 industrialization by focusing on technology, innovation and sustainable infrastructure  
343 (United Nations, 2016). The efforts to strengthen infrastructure will directly influence  
344 employment creation and economic development within different contexts, in addition  
345 to improving the quality of life. Providing Internet access to all by 2020 will help in  
346 ending the digital divide in developing and least developed countries. International  
347 cooperation in scientific research and technology development will help in cross border  
348 knowledge transfer. A focus on indigenous technologies will help in local capacity  
349 building for innovation driven solutions to the different human related problems.

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

363 Sustainable urbanisation requires improvement in good quality and safe housing  
364 access to all, with sustainable transportation and other support services available. SDG  
365 11 focuses on these issues to ensure that human settlements and cities are inclusive,  
366 safe, resilient and sustainable (United Nations, 2016). Specifically, it seeks to i) mind  
367 the urbanisation of shanty towns (Target 11.1), ii) guarantee sustainable public  
368 transports (11.2), iii) reduce deaths caused by water or air pollution (11.5 and 11.6), and  
369 to iv) ensure access to sustainable green areas (11.7), with special attention given to the  
370 more vulnerable populations. Access to safe housing is a major challenge of poor and  
371 vulnerable groups of the society. The target to provide safe and affordable housing and  
372 upgrading slums will help in improving the quality of life. The target to use local

373 building material in this process will help in strengthening the local building material  
374 industry.

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

387           Although climate change and environmental sustainability issues are directly or  
388 indirectly integrated with most of the SDGs, SDG 13 particularly focuses on combating  
389 climate change and its impact (United Nations, 2016). Introducing education and  
390 capacity building initiatives for climate chain mitigation, adaptation and impact  
391 reduction is one of the key priorities of SDG 13. By integrating the climate change  
392 issues in national policies and strategies, the goal sets a foundation to the climate  
393 change and environmental mainstreaming at different levels. This goal will help in  
394 controlling the adverse impacts of climate change related issues. Specifically, goal 13.b  
395 intends to support marginalized communities and vulnerable groups of women and

396 young people, in order to lower the risks of climate change and environmental  
397 degradations.

398 Conservation of natural resources is another dimensions of environmental  
399 sustainability. SDG 14 aims to conserve and ensure sustainable use of the ocean, seas  
400 and marine resources (United Nations, 2016). It aims to reduce marine pollution and  
401 protect marine and coastal ecosystems. Efforts to regulate fishing and end overfishing  
402 will help in improving the access and quality of foods linked to the fishing industry. A  
403 focus on improving economic benefits to Small Island developing states and least  
404 developed countries from the sustainable use of marine resources will also help in  
405 promoting employment and economic development.

406 Another important aspect of environmental sustainability is sustainable use of  
407 terrestrial ecosystems and forests, which is captured well by SDG 15 (United Nations,  
408 2016). The targets include protecting mountain ecosystems and biodiversity and  
409 reversing land degradation. The focus on sustainable forest management will help in  
410 reducing deforestation and thus, positively impact upon environmental sustainability.  
411 Efforts to end the poaching and trafficking of protected species will create need for  
412 alternative livelihood opportunities for the local communities, which can be planned  
413 through sustainable capacity building.

414 Peace and harmony is an essential condition for sustainable human living. SDG  
415 16 focuses on promoting peaceful and inclusive societies with access to justice (United  
416 Nations, 2016), and calls for equal access to knowledge and justice services. Reducing  
417 the illicit financial and arms flows will be a significant move towards promoting peace.  
418 Efforts to end corruption will help in mobilising more money for development efforts.  
419 This also implies more transparency in governance of institutions at all levels.

420 Participation of developing countries in the institutions of global governance would be a  
421 significant move in creating a level playing field for global development.

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

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

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

441           Many health related goals are also related to reducing inequalities, namely  
442 through: quality education; gender equality; decent work and economic growth; peace,  
443 justice and strong institutions. For Doyle and Stiglitz (2014, p.6), "Extreme inequalities

444 tend to hamper economic growth and undermine both political equality and social  
445 stability." Moreover, the World Economic Forum has already stated that inequalities  
446 slow down the process of sustainable development, and hence jeopardize cooperation  
447 for international environmental agreements on climate change (Pickett, 2015).  
448 According to Blanke and Corrigan (2016), the key answer to undermining inequalities is  
449 to find a way of conducting public and private stakeholders to a people centred  
450 economic policymaking.

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

461         Another important issue society is now facing is that of both internal and across  
462 borders displacement, also related to climate change, inequalities and health. In mid-  
463 2015 there were 20.2 million refugees and an estimate of 34 million internally displaced  
464 people (Beardmore, 2015). This issue was not well explored in the 2030 Agenda.  
465 Despite the slogan of "Leaving no one behind", little was done to situate migrants and  
466 refugees in humanitarian planning (Beardmore, 2015). Migration needs to combine the  
467 economic, environmental and social aspects of sustainable development and, thus, it

468 requires broader discussions on the matter at a global, regional and national level, so  
469 that coherent policies between those levels can be accomplished (Schraven et al., 2016).

### 470 471 **3. Case Studies: The Implications of the Sustainable Development Goals (SDGs)**

472 Three case studies have been selected based on; a) their scope, b) the thematic  
473 emphasis and c) the diversity of stakeholders, to illustrate how the implementation of  
474 coherent strategies towards the achievement of all internationally agreed development  
475 goals is put into practice. They are representative examples to give an adequate  
476 overview of sustainability challenges throughout the planet.

477

#### 478 **3.1. Spain**

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

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

493           In this context, Spain’s ability to reach the targets set out in the SDGs has been  
494 questioned, to some extent, in a recent report. On the one hand, and based on the SDG  
495 Index (Sachs et al 2016), a tool developed to rank countries with regards to their initial  
496 status on the 17 SDGs, Spain comes only 30<sup>th</sup> among 149 countries included in the  
497 study, and 26<sup>th</sup> among OECD countries (34, in total). On the other hand, the report also  
498 presents SDG Dashboards, with each goal coloured as “green,” “yellow,” or “red”,  
499 indicating whether the country has already achieved the goal (green), is in a “caution  
500 lane” (yellow), or is seriously far from achievement as of 2015 (red). Results  
501 demonstrate that Spain faces major challenges - as indicated by a red rating - in meeting  
502 nine of the SDGs, and it is only on a good path towards reaching SDG 5 on gender  
503 equality. The greatest challenges exist for climate change (SDG 13), ecosystem  
504 conservation (SDGs 14 and 15), and sustainable consumption and production (SDG 12),  
505 although red rating in specific indicators included in other goals emphasizes other acute  
506 challenges. For instance, an unemployment rate of 22.4 % places Spain in the  
507 unenviable position of tenth to last in the ranking (SDG 8), and it also ranks in the  
508 lowest positions in relation to the net Official Development Assistance (ODA) as of the  
509 GNI (SDG 17).

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

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

522

### 523 **3.2. India**

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

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

540 Another important issue links to governance. India has a federal government and  
541 two provincial governments. Provincial governments may not be from the same  
542 political party that forms the federal government. Sometimes, due to a difference in  
543 political ideologies and interests, the development work suffers. Further, the provincial  
544 level governance, in some cases, has also been blamed for less transparency in the  
545 development related projects. The corruption has been one of the major challenges in  
546 the country. The corruption takes most of the resources from development channels to  
547 individual hands. The nexus between political leaders, corporations and bureaucracy is  
548 often blamed for rising corruption in the country, which affects the development work  
549 both qualitatively and quantitatively. However, the increasing young population, which  
550 is a strong source of social capital, is actively coming forward to change the corrupt  
551 system with more transparent and reliable governance (Kattumuri, 2015). Also, in the  
552 future the corruption is likely to be reduced, as the current federal government appears  
553 to be working strongly against this.

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

562

563

564 **3.3. Serbia**

565 Serbia was actively involved in the global process of prioritizing goals for the  
566 future, as one of 56 countries participating in the campaign “The World We Want”.  
567 “The Serbia We Want” campaign was initiated in 2013, involving over 250 000 people  
568 in consultations, with 28 000 people actively participating through the web portal  
569 ([www.srbijakakvuzelim.rs](http://www.srbijakakvuzelim.rs)), social networks or direct consultations (focus groups,  
570 workshops, interviews). As a result of the consultations, nine priorities for post 2015  
571 development were recognized and grouped into three following tiers:

572 1: More and better jobs and decent employment; Eradication of poverty and  
573 better support to vulnerable groups; Good governance and reliable institutions.

574 2: Culture of responsibility, tolerance and solidarity (culture of social cohesion);  
575 Better quality of education; Better healthcare.

576 3: Sustainable environment; Equality between women and men; Better  
577 management of migration and population mobility. (UN Serbia, 2013)

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

586 Further steps in implementation of the goals need to be supported by accurate  
587 data, well-developed evaluation and monitoring models and quality coordination

588 between institutions. According to the SDG Index (Sachs et al, 2016), Serbia takes 39<sup>th</sup>  
589 position on the list of 149 countries; as shown by the SDG Dashboard, the major  
590 progress has been achieved previously in the following areas: eliminating poverty (SDG  
591 1), provision of clean water and sanitation (SDG 6) and reducing of inequalities (SDG  
592 10); SDGs 2,3,4,7,9,11 and 17 are colored “yellow”, which means that it is partially  
593 achieved, whilst the others are red – meaning that there is still a long way to its  
594 achievements. SDG 14 has been excluded for Serbia, since there is no sea within its  
595 borders. Within SDG 12, waste-water treatment has been marked red, as well as the  
596 CO<sub>2</sub> emissions from the energy in Serbia within SDG 13. Among environmental  
597 challenges there is also the issue of complete protection of terrestrial sites (SDG 15),  
598 while the government efficiency rate makes a key challenge among the indicators of  
599 achievement of SDG 16.

600

#### 601 **4. Discussion - Lessons Learned**

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

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

605 The SDGs focus strongly on reducing inequality, with many goals designed  
606 to ‘leave no one behind’. Therefore, the SDGs universally apply to all, and  
607 countries from both developed and developing countries will need to mobilise  
608 efforts to achieve the SDGs. A paradigm shift is advocated to define the poor  
609 and approach the most vulnerable segments of population. The pledge that ‘no  
610 one will be left behind’ therefore requires a focus on the poorest and most  
611 vulnerable people to reduce their exposure and vulnerability to climate-related

612 extreme events and other economic, social and environmental shocks and  
613 disasters.

614

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

617 Throughout the case studies it can be seen that there is a growing awareness of  
618 the challenges in achieving the SDGs amongst citizens, including vulnerable  
619 groups; when asked, people are ready to provide inputs and be more active in  
620 finding solutions to the socio-environmental problems they face. A variety of  
621 issues related to political changes, migration or poverty are all interrelated,  
622 affecting the implementation of the SDGs in the three countries used as case  
623 studies, and beyond. A greater coordination of the works undertaken by the  
624 different sectors is needed, in order to make progress in achieving sustainable  
625 development. At present, the Encyclopedia of the Sustainable Development  
626 Goals, currently on preparation, congregates around 1.700 sustainability experts  
627 from academia, government and NGOs working on sustainable development.\*

628

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

631 The experience of the MDGs underscores the importance of good governance,  
632 and outlines the need for using adequate indicators as early as possible  
633 (Sustainable Development Solutions Network, 2015). Indeed, indicators will be

634 (\*) Details can be seen at: <https://www.haw-hamburg.de/en/ftz->

635 [nk/publications/encyclopedias/sdgs.html](https://www.haw-hamburg.de/en/ftz-nk/publications/encyclopedias/sdgs.html)

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the backbone of the monitoring progress towards achieving the SDGs at the local, national, regional, and global levels. One lesson learnt from the MDGs is that we cannot manage what we do not measure, and what gets measured is far more likely to get done. It is therefore necessary to identify and apply specific, measurable and action-oriented indicators to turn the SDGs and their targets into a management tool to help countries develop implementation strategies and allocate resources accordingly (Sustainable Development Solutions Network, 2015), (Hák et al, 2016). In addition, a report card based on a reduced set of reliable indicators will allow them to measure progress and help ensure the accountability of all stakeholders for achieving the SDGs. However, it will take many years before the official SDG indicators framework will be underpinned by comprehensive data (Sachs et al, 2016).

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

659           **e) Improved financing mechanisms:** The success of the SDGs will need  
660 countries worldwide to invest adequately in addressing their challenges. The  
661 investments for sustainable development will not be heavy globally speaking,  
662 certainly not compared with the massive costs if no investment is made (Sachs,  
663 2012). Moreover, failing to tackle inequality will add hundreds of billions of  
664 dollars to the spending needed to end poverty: failure to tackle inequality will  
665 mean failure to deliver the SDGs (Martin and Walker, 2015). Sachs (2008)  
666 estimated that meeting the major goals of poverty reduction; biodiversity  
667 conservation; climate change mitigation, and primary health for all would need  
668 perhaps 2–3% of global income (Sachs, 2008).

669

## 670 **5. Conclusions**

671 The aim of this paper has been to explore the linking process between the SDGs and the  
672 need to provide a better understanding of the current and emerging challenges in respect  
673 of sustainable development. This is needed, since there is otherwise a risk of investing  
674 much time and resource in trying to implement the SDGs without addressing the  
675 existing and still open sets of questions on how best to pursue sustainability. The paper  
676 has demonstrated that the process of implementation of the SDGs offer unrivalled  
677 opportunities, as well as many challenges, which need to be met in advancing equal  
678 opportunity and fostering economic empowerment, which in turn may help to address  
679 problems related to discrimination and ignorance, which perpetuate poverty and restrict  
680 growth. The extent to which the SDGs will be supported by investments in education,  
681 infrastructure and scientific and technological research and hence be able to lead to

682 tangible results in the medium and long term, helping developing countries to overcome  
683 the many barriers seen in the transition process, is a point in need of further study.

684

### 685 **Acknowledgements**

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

694

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