Received: 13 February 2020 | Revised: 8 May 2020 | Accepted: 22 May 2020

DOI: 10.1002/sd.2092

RESEARCH ARTICLE

Sustainable Development | WILEY

A policy framework for social sustainability: Social cohesion, equity and safety

Jerome Ballet[1] | Damien Bazin[2] | François-Regis Mahieu[3]

[1]University of Bordeaux, CNRS, GREThA, Bordeaux, France

[2]Côte d'Azur University, CNRS, GREDEG, Nice, France

[3]Fund for Research in Economic Ethics, FREE, France

Correspondence
Damien Bazin, Côte d'Azur University, CNRS, GREDEG, Nice, France.
Email: damien.bazin@gredeg.cnrs.fr

Abstract

The purpose of our paper is to characterize the social pillar using the three criteria of social cohesion, equity and safety. Alongside this characterization we develop a policy framework to promote social sustainability, which has been the subject of much academic interest in recent years. In addition, we demonstrate that the social sustainability policies we advocate are capable of embracing environmental sustainability. Our work therefore provides a fresh perspective on sustainable development policies by emphasizing the importance of the social pillar to the policy making process.

KEYWORDS

equity, redistribution, safety, social cohesion, social precautionary principle, social protection, social sustainability

1 | INTRODUCTION

Since the IPAT debate (Commoner, Corr, & Stamler, 1971 vs. Ehrlich & Holdren, 1974), our understanding of the issues surrounding the sustainability of the human way of life has advanced considerably. Beck (1992) notes that from the 1960s onwards modernity has been portrayed as the anticipation and control of the future consequences of human activity. This hypothesis assumes that once society has become aware of the hazards it has caused endogenously, it grows increasingly preoccupied by the management of risk. Indeed, modern society is closely bound to the concept of uncertainty. From both a spatial and temporal perspective (due, for instance, to the irreversibility of adverse ripple effects), the existence of global risk reinforces our need for anticipation and control (Beck, 2005). Within this line of thought, sustainable development may simply envision a potential future for society which is consistent with the risks incurred from our present activity in relation to nature (Eizenberg & Jabareen, 2017). Such a conception of sustainable development forces us to examine head-on the effects of economic consumption and production on nature. This is why the goal of standard analysis has been to scrutinize the economic model of growth in order to avoid ecological disasters and other irreversible damage that will prevent humanity living a "genuine human life" on Earth (Jonas, 1984), or at least not at the level currently enjoyed. Sustainable development is generally understood as consisting of three interlocking pillars, that is, the economic pillar, the environmental pillar and the social pillar. This conception encourages us to examine each pillar separately and to consider how all three pillars interact with each other (Lehtonen, 2004). However, the majority view is that sustainable development is associated with defending the environment, preserving nature and enhancing the value of ecology, as well as reconciling economic development (growth) and respect for the environment (ecosystemic integrity). And yet this conception is flawed if we neglect the social pillar, and this neglect of the social pillar may create bias in the way public policies are applied (Murphy, 2012).

A considerable body of literature has been written on the social pillar (Cuthill, 2010; Dempsey, Bramley, Power, & Caroline Brown, 2011; Eizenberg & Jabareen, 2017; Kunz, 2006; Griessler & Littig, 2005; Partridge, 2005; Murphy, 2012; Vifell & Soneryd, 2012; Vallance, Perkins, & Dixon, 2011; Weingaertner & Moberg, 2014, among others), and this has led to the emergence of three distinctive, yet complementary, issues. Firstly, the social pillar acts as an interface between the economic and environmental pillars (Lehtonen, 2004). According to Vatn (2009), there is an assumption in sustainable development that change will occur in the social roles individuals agree to perform. Sustainability therefore requires social change, but several studies have revealed a weak social acceptance of the change necessary in achieving sustainable development (Clark, 2005; Eskeland & Feyzioglu, 1997). Secondly, the social pillar, like the environmental and economic pillars, is also susceptible to social shockwaves, and is

therefore vulnerable, for instance, mass exoduses due to climate change become a source of tension when migrants from rural areas are packed together in unsuitable, barely controllable urban areas (Barrios, Bertinelli, & Strobl, 2006; Reuveny, 2007). Cohen et al. (2013) highlight this interrelationship between the climate crisis, migration/forced displacement and population concentration in the insalubrious slum quarters of Mexico City, which affects social cohesion. In the same vein, Cutter, Boruff, and Shirley (2003); Cutter, Emrich, Webb, and Morath (2009) and Zahran, Brody, Peacock, Vedlitz, and Grover (2008), among others, have underlined that social fragmentation and natural environmental hazards are correlated, so the challenge is not only to preserve the natural environment, but to preserve society as a whole. Thirdly, the literature on environmental justice emphasizes the fact that pollution and positive environmental amenities are distributed inequitably. The spatial segregation of disadvantaged populations in highly polluted areas thus cements the connection between social inequity and environmental inequity (Pellow, 2000; Schlosberg, 2007). This leads to the simple conclusion that if we are to understand environmental issues we also need to understand the nature of social inequity.

In this paper we tackle the issue of sustainable development by focusing on the role of the social pillar and social sustainability. First, we characterize the social pillar so that we can delineate it and elucidate its contribution to social policy goals. Second, we link the social pillar with socially sustainable development and present a triangle of social sustainability that recommends a policy approach for each criterion of the social pillar. In consequence, our framework provides a fresh perspective on sustainable development. Indeed, we advocate that social sustainability is an essential feature of sustainable development, and that social sustainability policies inherently embrace environmental sustainability. This implies that sustainable development policies could be enhanced by borrowing from social policies.

2 | WHAT DOES THE SOCIAL PILLAR ENCOMPASS?

The social pillar has frequently been underrated (Griessler & Littig, 2005; Kunz, 2006; Partridge, 2005; Vifell & Soneryd, 2012) and even rejected by certain preservationists for being less of a priority than nature (Daly, 1996; Locke & Dearden, 2005; Redford & Sanderson, 2000), or because it is deemed to have been subsumed by one or other of the economic and environmental pillars (Sachs, 1999), and hence warrants no particular designation. At best the social pillar has become a "catchword" (Griessler & Littig, 2005) for a whole range of forces that either bring the other two pillars together or force them apart.

Notwithstanding, a large number of studies have pointed out the importance of the social pillar and attempted to define it. The literature reviews by Griessler and Littig (2005), Vallance et al. (2011) and Murphy (2012) conclude that the social pillar has typically been constructed from an open-ended list of elements that help make society socially livable. Cuthill (2010) offers an example of this list, which includes social justice, social/community well-being, human scale development, engaged governance (e.g., participatory democracy, citizen participation and community engagement), human services, social infrastructure, community and/or human-scale development, community capacity building, and human and social capital. On completion of a literature review on urban social sustainability, Dempsey et al. (2011) proposed a list of 27 elements, whereas Weingaertner and Moberg (2014) identified 17 elements. What is clear from the research is that the various lists connect the social pillar to social sustainability, but we have to remember that despite being intricately linked, these two concepts should be differentiated heuristically. On the one hand the social pillar reflects elements that characterize society; on the other, social sustainability is a blueprint for the types of policy that should be implemented according to the characteristics of a society and the goals it has set, including any goals in relation to environmental sustainability.

The problem with the definition of the social pillar is that the term "social" is imbued with ambiguity: its meaning is both analytical and normative (Griessler & Littig, 2005). Rather than assign it a specific meaning, we could characterize it using a set of features. This set will differ from one context to another, even if certain features occur systematically (Murphy, 2012). Lehtonen (2004) espouses social capital and capabilities; Griessler and Littig (2005) focus on basic needs, quality of life, social justice and social cohesion; Cuthill (2010) also uses social capital as a theoretical basis for social sustainability; Dempsey et al. (2011) consider that equity and social capital (they refer to the "sustainability of the community") are the key determinants of the social pillar, and Eizenberg and Jabareen (2017) specify in turn that equity is an essential element (to this they add safety) because other elements relate more to urban issues. It appears from the literature that three of these criteria are fundamental. This does not mean that other criteria cannot be used, but we are of the opinion that the three fundamental criteria, as set out below, constitute the core of the social pillar.

The first criterion is the *level of social cohesion*. Social cohesion is key to social sustainability (Cuthill, 2010; Dempsey et al., 2011). It has been the object of many debates and arguments within human and social sciences, but in its simplest form may be interpreted as coherence in attitudes and behaviours adopted by individuals who are members of groups (Friedkin, 2004). In the context of a society, social cohesion is therefore coherence in the attitudes and behaviours of the members of this society. It is also an indicator of the quality of this society (Berger-Schmitt, 2000) and has been cited as one of the OECD's eight headline social indicators (2009)—social cohesion is even used as a stand-in for social pillar in OECD reports (Murphy, 2012). However, some studies prefer social capital to social cohesion (Cuthill, 2010; Dempsey et al., 2011; Lehtonen, 2004; Weingaertner & Moberg, 2014 among others), despite the ambiguity surrounding this term. Social capital may represent either the social norms which influence behaviour (Putnam, 1994) or the social networks in which individuals find themselves and from which they may benefit (Bourdieu, 1980). This dual interpretation gives the concept of social capital a two-dimensional aspect: one individual-oriented, the

other group-oriented (Siisiäinen, 2003). It is indeed difficult to consider social capital as being synonymous with social cohesion when the negative consequences of social capital, for instance, inner city gangs, play a part in undermining social cohesion (Portes & Landolt, 1996).

The second criterion is the *level of equity in society*. Equity is the issue with the greatest number of mentions in the literature on the social pillar of sustainable development (Jabareen, 2008). Moreover, research on environmental justice has largely established that the social and environmental pillars are intertwined (Schlosberg, 2007). To a partial extent, social inequity helps us understand environmental inequity (Pellow, 2000), and therefore we cannot ignore inequity by looking solely at poverty and basic needs, or by reflecting on whether growth can reduce poverty via the trickledown effect. Inequity can also have a negative impact on social cohesion and engender social fragmentation, which then impinges on urbanization (Bayón & Saravi, 2013; Lowery, 1999), social violence (Allen, Bethell, & Allen-Carroll, 2017; Burns, 2009), and health (Coburn, 2000; Khawaja, Abdulrahim, Soweid, & Karam, 2006), and all these impacts are interconnected (Cruse, 2010). Moreover, equity necessitates participation. Environmental justice movements seek more than distributive justice; they seek participative decision-making (Schlosberg, 2007), and hence, procedural justice. There are those who see participation as being the political mainstay of sustainable development (Pawłowski, 2008). Undoubtedly, the direct participation of populations in political decision making increases social cohesion and social sustainability (Cuthill, 2010; Dempsey et al., 2011). The level of equity in a society should therefore be understood in relation to two dimensions of justice: distributive justice and procedural justice.

The third criterion is the *level of safety experienced by a community*. Safety is understood as protection from economic shocks, and economic shocks are a key developmental issue (Fiszbein, Kanbur, & Yemtsov, 2014). According to Eizenberg and Jabareen (2017), safety is a crucial dimension in social sustainability. They go as far as stating that all individuals should have a right to safety. Crabtree and Gasper (2020) underline that development is meaningless if people's safety cannot be guaranteed. Safety is the opposite of vulnerability, where vulnerability is the extent to which society (or an individual) is likely to suffer from shocks without being able to withstand these shocks. Safety resembles resilience, except that resilience is the capacity to bounce back from a shock or to absorb its impact once the shock has occurred (*ex ante*) (Adger, 2000), and safety is about reducing vulnerability before the shock occurs (*ex post*). A striking example of an unsafe policy was the development of an irrigation system in the Aral Sea basin which caused the water to dry up (Micklin, 1988, 2007). This hydrological change benefitted one population to the detriment of another. Certain communities were sacrificed (Crighton, Barwin, Small, & Upshur, 2011). Fishing, which was the main source of income for lakeside villages, came to an end during the change; this in turn caused a high level of migration (Small & Bunce, 2003). Farmers, on the other hand, could see an improvement in their living conditions due to improved irrigation. Indeed, the level of safety experienced by a particular community may affect the social cohesion of a society. Research on a number of neighbourhoods has largely highlighted the relationship between safety, social cohesion and well-being for individuals (see examples of recent studies by Henderson, Child, Moore, Moore, & Kaczynski, 2016 and Choi & Matz-Costa, 2018).

The three criteria we propose are bound together. We would consider that they are the core of the social pillar, and that they require the implementation of policies which are not usually associated with environmental issues. This provides a whole new perspective on sustainability.

3 | FROM THE SOCIAL PILLAR TO SOCIAL SUSTAINABILITY

In the previous section we dissected the social pillar of sustainability. In this section we will go one step further by considering what social sustainability means. According to the accepted definition of sustainable development, social sustainability is simply a matter of maintaining intra and intergenerational equity. It is clear that social cohesion, equity and safety constitute the boundaries of intragenerational equity. However, in sustainable development, the transmission of natural capital is a prerequisite for the living conditions of future generations. Does this mean then that social sustainability should be analysed as the transmission of the social pillar to future generations? After taking the standard definition of sustainable development from the Brundtland Report and expanding it to incorporate the capability approach, Ballet et al. (2004, p. 5) define socially sustainable development as "a development that guarantees for both present and future generations an improvement in the capabilities of well-being (social, economic and environmental) for all, through the aspiration of equity on the one hand—as intragenerational distribution of these capabilities—and their transmission across generations on the other hand". Griessler and Littig (2005, p. 11) define social sustainability as "…a quality of societies. It signifies the nature-society relationships, mediated by work, as well as relationships within society. Social sustainability is given, if work within a society and the related institutional arrangements (a) satisfy an extended set of human needs and (b) are shaped in a way that nature and its reproductive capabilities are preserved over long periods of time and the normative claims of social justice, human dignity and participation are fulfilled."

Each of these definitions seems to indicate that social sustainability is a combination of "social" (a certain quality of life for current generations) and "sustainability" (the maintenance of this quality of life for future generations). In addition, both "social" and "sustainability" have to be compatible with the preservation of the environment. Vallance et al. (2011, p.342) have analyzed the literature and refined these requirements. Firstly, social sustainability must be perceived in terms of "(a) 'development sustainability' addressing basic needs, the creation of social capital, justice, equity and so on"; it then must lead to "(b) 'bridge sustainability' concerning changes in behaviour so as to achieve bio-physical environmental goals"; finally, it must ensure "(c) 'maintenance sustainability' referring to the preservation—or what can

be sustained—of socio-cultural characteristics in the face of change, and the ways in which people actively embrace or resist those changes." These three dimensions of social sustainability acknowledge that a sufficient quality of life should be attained, that this quality of life enables relevant changes in relation to environmental sustainability, and that sociocultural characteristics are preserved in such a way that the environment is also preserved. This interpretation of social sustainability does not assume that the social pillar should be maintained per se, but rather, that people's desire to maintain socio-cultural characteristics over time has to be taken into account in the management of sustainable change. We are of the firm belief that the three criteria we use to define the social pillar—social cohesion, equity and safety—are compatible with the requirements set out by Vallance et al. (2011).

We advocate a particular policy approach for each of the three criteria (see Figure 1). The inner triangle illustrates our three criteria for the social pillar, whereas the outer triangle frames the three policy approaches that support the three criteria. The two triangles evidently encapsulate the social pillar, but it is important to match this pillar to the other two pillars, especially the environmental pillar. We will mention the intersections with the environmental pillar in our discussion of the different policy approaches.

The first policy issue revolves around social cohesion. Various policies support social cohesion, especially policies that reflect social capital within a society (Colletta, Teck, & Kelles-Viitanen, 2001; Portes & Vickstrom, 2011; Stein, 1976). Social capital also supports the preservation of the environment by bringing behaviour in line with the common norms of sustainable management of natural resources (Pretty, 2003). The relationship between social capital and the sustainable management of natural resources is nonetheless subject to numerous controversies, for instance, social capital can be a source of environmental degradation (Ballet, Sirven, & Requiers-Desjardins, 2007). Be that as it may, managing the environment is a source of conflict, as different groups seek to control resources (Yasmi, Schanz, & Salim, 2006). At a global level, the climate crisis, environmental degradation and armed conflict are all interconnected (Raleigh & Urdal, 2007; Urdal, 2005). From a public policy perspective, and this bearing in mind the ambiguity inherent in the role of social capital, the aim is not so much to develop a social cohesion policy, but a precautionary social policy, that is, a policy which prevents the deterioration of social cohesion (Ballet, Bazin, Dubois, & Mahieu, 2013; Ballet, Dubois, & Mahieu, 2005). Integrating social precaution into public policy means considering the potential effects of economic and environmental policy on social cohesion. It means accepting that economic growth does not necessarily make things better and may even have profound repercussions on social cohesion (Frey, 1994). Just as the precautionary principle has gradually imposed itself on policy making to prevent the irreversible destruction of nature (O'Riordan, 2013; Sunstein, 2005), the aim of social precaution should be to develop a precautionary principle for the social pillar (Ballet et al., 2005, 2013). Such an approach, in the absence of a procedure for improving the preservation of the environment, ensures that the harmful effects of social degradation do not rebound on the natural environment.

The second policy issue concerns equity. The link between poverty and environmental degradation has been hotly debated (Dasgupta, Deichmann, Meisner, & Wheeler, 2003; Jehan & Umana, 2003). According to the Kuznets curve, economic growth generates a trickledown effect that ultimately reduces poverty. Climbing out of poverty will in turn have a positive impact on the environment over time, despite the correlation between the initial rise in the standard of living and a concomitant rise in pollution. However, the trickledown effect is far from effective in an economy where inequity is pronounced and the interrelationships in the poverty-inequity-growth nexus are complex (Adams Jr, 2004; Bourguignon, 2004). To put it simply, inequity has a negative impact on the trickledown effect. This then justifies the use of redistributive policies to support the transition towards sustainable development (Bardhan, 1995; Lipton & Ravallion, 1995). These policies contribute directly to social sustainability by reducing social inequity, and contribute indirectly by ensuring a minimum level of social cohesion. In addition, social inequity is tightly bound to environmental inequity, so reducing social inequity has a positive impact on the quality of the environment, and hence

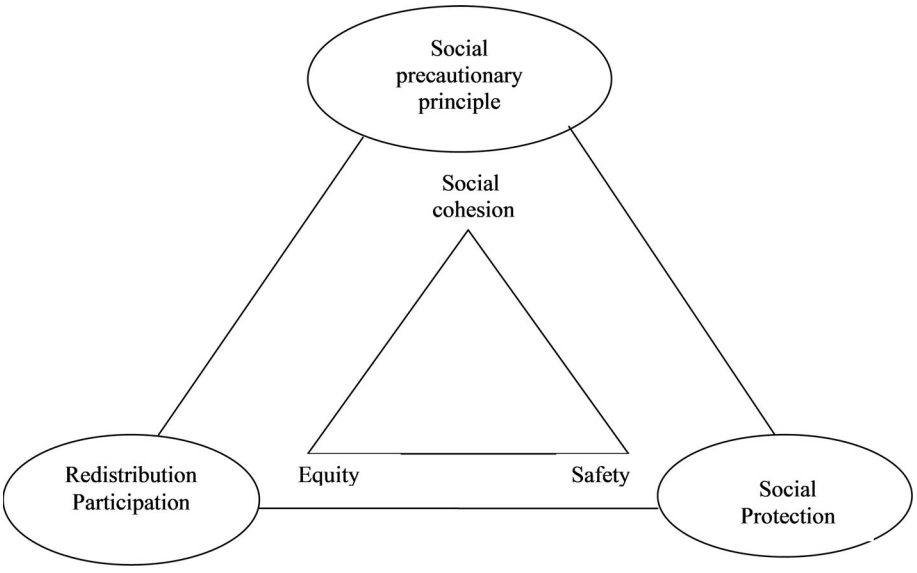

FIGURE 1 The triangle of socially sustainable development. Source: The authors

environmental sustainability. However, for such a virtuous circle to become effective, policies will need to be redistributive and populations will need to be able to participate in the decision-making process.

The third policy issue concerns the safety of a population, that is, protecting a population against economic shocks. Social protection can have a significant effect on the living conditions of a population and help members of this population avoid falling into the poverty trap (Barrett, Carter, Ikegami, & Janzen, 2016). Poverty is often conceived as a contributing factor to the destruction of the environment (Dasgupta et al., 2003; Jehan & Umana, 2003), and therefore fighting poverty through social protection policies is a contributing factor to the preservation of the environment. Studies carried out in Zambia and Honduras, as well as programmes operating in southern Asia (Bee, Biermann, & Tschakert, 2013; Chaudhury, Ajayi, Hellin, & Neufeldt, 2011; Davies et al., 2013), have highlighted the effectiveness of new types of adaptive social protection programmes, such as cash transfers, that link social protection to climatic and environmental events. Tschakert and Shaffer (2014) indicate that cash transfer policies in certain African countries have prevented people from falling into the poverty trap, which has had a positive knock-on effect on environmental sustainability. Therefore, rather than using economic growth to fight poverty, it would seem more advisable to develop adaptive social protection programmes that prevent individuals being forced into poverty as a consequence of some crisis or other.

4 | CONCLUSION

As Murphy (2012) notes, ignoring the social pillar creates a bias in the implementation of sustainable development policies. To ensure that this bias is eliminated, we have examined the criteria that characterize the social pillar and retained the three which we consider to be fundamental: social cohesion, equity and safety. We have also added a set of associated policy approaches to this characterization so that socially sustainable development can be achieved at a policy level. It is our view that these policy approaches, based on the social precautionary principle, redistribution/participation and social protection, should underpin social sustainable policy making. Furthermore, these policy approaches are not usually applied to environmental sustainable development policies, whereas our framework shows the importance of the approaches to environmental sustainability. Indeed, these approaches are consistent with the Sustainable Development Goals. Our framework also provides a fresh perspective on how sustainable development policies should be determined. This perspective will hopefully continue the process of merging sustainability, as defined in the Brundtland Report, with the Sustainable Development Goals.

ACKNOWLEDGMENTS

We would like to thank Dubois Jean-Luc, Figuière Catherine, Requier-Desjardins Denis, Pauline Peters and the anonymous reviewers for all their suggestions.

ORCID

Damien Bazin https://orcid.org/0000-0002-0020-5044

REFERENCES

Adams, R. H., Jr. (2004). Economic growth, inequality and poverty: Estimating the growth elasticity of poverty. *World Development*, *32*(12), 1989–2014. https://doi.org/10.1016/j.worlddev.2004.08.006

Adger, W. N. (2000). Social and ecological resilience: Are they related? *Progress in Human Geography*, *24*(3), 347–364. https://doi.org/10.1191/030913200701540465

Allen, D., Bethell, K., & Allen-Carroll, M. (2017). Anger and social fragmentation: The evil violence tunnel. *Journal of Psychotherapy Integration*, *27*(1), 79–92. https://doi.org/10.1037/int0000022

Ballet, J., Bazin, D., Dubois, J.-L., & Mahieu, F.-R. (2013). *Freedom, Responsibility and Economics of the Person*. Frontiers of Political Economy. London, England, XVIII+132 pages: Routledge. https://doi.org/10.3917/rpec.162.0187

Ballet, J., Dubois, J. L., & Mahieu, F. R. (2004). A la recherche du développement socialement durable: concepts fondamentaux et principes de base. *Développement durable et territoires*, *3*, 1–14. https://doi.org/10.4000/developpementdurable.1165

Ballet, J., Dubois, J.-L., & Mahieu, F.-R. (2005). *L'autre développement. Le développement socialement soutenable*. Ethique économique. Paris, France: L'Harmattan 112 pages.

Ballet, J., Sirven, N., & Requiers-Desjardins, M. (2007). Social capital and natural resource management: A critical perspective. *The Journal of Environment and Development*, *16*(4), 355–374. https://doi.org/10.1177/1070496507310740

Bardhan, P. K. (1995). Research on poverty and development twenty years after redistribution with growth. In M. Bruno & B. Pleskovic (Eds.), *Annual World Bank Conference on Development Economics* (pp. 59–72). Washington DC: World Bank Retrieved from http://documents.worldbank.org/curated/en/887251468764143753/pdf/multi0page.pdf

Barrett, Ch. B., Carter, M., Ikegami, M. and Janzen S. A. 2016. Poverty Traps and the Social Protection Paradox. (NBER Working Paper Series, 22714). 1–32, October. https://doi.org/10.3386/w22714

Barrios, S., Bertinelli, L., & Strobl, E. (2006). Climatic change and rural-urban migration: The case of sub-Saharan Africa. *Journal of Urban Economics*, *60*(3), 357–371. https://doi.org/10.1016/j.jue.2006.04.005

Bayón, M. C., & Saravi, G. A. (2013). The cultural dimensions of urban fragmentation: Segregation, sociability and inequality in Mexico City. *Latin American Perspectives*, *40*(2), 35–52. https://doi.org/10.1177/0094582X12468865

Beck, U. 1992. Risk Society: Towards a New Modernity. London, sage, 260 pages. [Translation from German Risikogesellschaft].

Beck, U. 2005. Power in the Global Age: A New Global Political Economy. Cambridge, Polity Press, XVIII+365pages. [Translation from German Macht und Gegenmachtimglobalen Zeitalter].

Bee, B., Biermann, M., & Tschakert, P. (2013). Gender, development, and rights-based approaches: Lessons for climate change adaptation and adaptive social protection. In *Research, action and policy: addressing the gendered impacts of climate change* (pp. 95–108). Dordrecht, the Netherlands: Springer XXI+281 pages.

Berger-Schmitt, R. 2000. Social Cohesion as an Aspect of the Quality of Societies: Concept and Measurement. (EU Reporting Working Paper, 14). Centre for Survey Research and Methodology (ZUMA), Social Indicators Department. Retrieved from https://www.gesis.org/fileadmin/upload/dienstleistung/daten/soz_indikatoren/eusi/paper14.pdf

Bourdieu, P. (1980). Le capital social: notes provisoires. *Actes de la Recherche en Sciences Sociales*, *31*(1), 2–3 Retrieved from www.persee.fr/doc/arss_0335-5322_1980_num_31_1_2069

Bourguignon, F. 2004. The Poverty-Growth-Inequality Triangle Working paper. Washington DC. World Bank: 1–25, February. Retrieved from http://siteresources.worldbank.org/INTPGI/Resources/342674-1206111890151/15185_ICRIER_paper-final.pdf

Burns, J. (2009). Dispelling a myth: Developing world poverty, inequality, violence and social fragmentation are not good for outcome in schizophrenia. *African Journal of Psychiatry*, *12*(3), 200–205. https://doi.org/10.4314/ajpsy.v12i3.48494

Chaudhury, M., Ajayi, O. C., Hellin, J., and Neufeldt, H. 2011. Climate Change Adaptation and Social Protection in Agroforestry Systems: Enhancing Adaptive Capacity and Minimizing Risk of Drought in Zambia and Honduras. (World Agroforestry Centre (ICRAF) Working Paper No. 137). Nairobi, Kenya: World Agroforestry Centre (ICRAF). 22 pages. DOI: https://doi.org/10.5716/WP11269.PDF

Choi, Y. J., & Matz-Costa, C. (2018). Perceived neighborhood safety, social cohesion, and psychological health of older adults. *The Gerontologist*, *58*(1), 196–206. https://doi.org/10.1093/geront/gnw187

Clark, M. (2005). The Compact City: European ideal, global fix or myth? *Global Built Environment Review*, *4*(3), 1–11.

Coburn, D. (2000). Income inequality, social cohesion and the health status of populations: The role of neo-liberalism. *Social Science & Medicine*, *51*(1), 135–146. https://doi.org/10.1016/S0277-9536(99)00445-1

Cohen, I. S., Spring, Ú. O., Padilla, G. D., Paredes, J. C., Inzunza, I., Marco, A., … Díaz, J. V. (2013). Forced migration, climate change, mitigation and adaptive policies in Mexico: Some functional relationships. *International Migration*, *51*(4), 53–72. https://doi.org/10.1111/j.1468-2435.2012.00743.x

Colletta, N., Teck, G., & Kelles-Viitanen, A. (Eds.). (2001). *Social cohesion and conflict prevention in Asia: Managing diversity through development*. Washington, DC: World Bank Publications X+493 p. Retrieved from http://documents.worldbank.org/curated/en/783101468756979591/Social-cohesion-and-conflict-prevention-in-Asia-managing-diversity-through-development.

Commoner, B., Corr, M., & Stamler, P. J. (1971). The causes of pollution. *Environment: Science and Policy for Sustainable Development*, *13*(3), 2–19. https://doi.org/10.1080/00139157.1971.9930577

Crabtree, A., & Gasper, D. (2020). Conclusion: The sustainable development goals and capability and human security analysis. In A. Crabtree (Ed.), *Sustainability, capabilities and human security*. Cham, Switzerland: Palgrave Macmillan. https://doi.org/10.1007/978-3-030-38905-5_7

Crighton, E. J., Barwin, L., Small, I., & Upshur, R. (2011). What have we learned? A review of the literature on children's health and the environment in the aral sea area. *International Journal of Public Health*, *56*(2), 125–138. https://doi.org/10.1007/s00038-010-0201-0

Cruse, R. (2010). Politiques de la fragmentation urbaine et violence, l'exemple de Kingston, Jamaïque. *Cybergeo*. https://doi.org/10.4000/cybergeo.23369

Cuthill, M. (2010). Strengthening the 'social' in sustainable development: Developing a conceptual framework for social sustainability in a rapid urban growth region in Australia. *Sustainable Development*, *18*(6), 362–373. https://doi.org/10.1002/sd.397

Cutter, S. L., Boruff, B. J., & Shirley, W. L. (2003). Social vulnerability to environmental hazards. *Social Science Quarterly*, *84*(2), 242–261. https://doi.org/10.1111/1540-6237.8402002

Cutter, S. L., Emrich, C. T., Webb, J. J., & Morath, D. (2009). Social vulnerability to climate variability hazards: A review of the literature. *Final Report to Oxfam America*, *5*, 1–44 Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.458.7614&rep=rep1&type=pdf.

Daly, H. E. (1996). *Beyond growth: The economics of sustainable development*. Boston, MA: Beacon Press VII+253 pages.

Dasgupta, S., Deichmann, U., Meisner, C., Wheeler, D. 2003. The poverty/environment nexus in Cambodia and Lao People's Democratic Republic, policy research working paper n°2960, World Bank, January. DOI: https://doi.org/10.1596/1813-9450-2960

Davies, M., Béné, C., Arnall, A., Tanner, T., Newsham, A., & Coirolo, C. (2013). Promoting resilient livelihoods through adaptive social protection: Lessons from 124 programmes in South Asia. *Development Policy Review*, *31*(1), 27–58. https://doi.org/10.1111/j.1467-7679.2013.00600.x

Dempsey, N., Bramley, G., Power, S., & Caroline Brown, C. (2011). The social dimension of sustainable development: Defining urban social sustainability. *Sustainable Development*, *19*(5), 289–300. https://doi.org/10.1002/sd.417

Ehrlich, P., & Holdren, J. (1974). Impact of population growth. *Science*, *171* (3977), 1212–1217 Retrieved from https://www.jstor.org/stable/1731166

Eizenberg, E., & Jabareen, Y. (2017). Social sustainability: A new conceptual framework. *Sustainability*, *9*(1), 1–16. https://doi.org/10.3390/su9010068

Eskeland, G. S., & Feyzioglu, T. (1997). Rationing can backfire: The "day without a car" in Mexico City. *The World Bank Economic Review*: Retrieved from https://www.jstor.org/stable/3990252, *11*, 383–408.

Fiszbein, A., Kanbur, R., & Yemtsov, R. (2014). Social protection and poverty reduction: Global patterns and some targets. *World Development*, *61*, 167–177. https://doi.org/10.1016/j.worlddev.2014.04.010

Frey, B. (1994). How intrinsic motivation is crowded out and in. *Rationality and Society*, *6*(3), 334–352. https://doi.org/10.1177/1043463194006003004

Friedkin, N. E. (2004). Social cohesion. *Annual Review of Sociology*, *30*, 409–425. https://doi.org/10.1146/annurev.soc.30.012703.110625

Griessler, E., & Littig, B. (2005). Social sustainability: A catchword between political pragmatism and social theory. *International Journal for Sustainable Development*, *8*(1/2), 65–79. https://doi.org/10.1504/IJSD.2005.007375

Henderson, H., Child, S., Moore, S., Moore, J. B., & Kaczynski, A. T. (2016). The influence of neighborhood aesthetics, safety, and social cohesion on perceived stress in disadvantaged communities. *American Journal of Community Psychology*, *58*(1/2), 80–88. https://doi.org/10.1002/ajcp.12081

Jabareen, Y. (2008). A new conceptual framework for sustainable development. *Environment, Development and Sustainability*, *10*(2), 179–192. https://doi.org/10.1007/s10668-006-9058-z

Jehan, S., & Umana, A. (2003). The environment-poverty nexus. *Development Policy Journal*, *3*(20), 53–70 Retrieved from https://greenresistance.files.wordpress.com/2008/10/undp_report_5.pdf

Jonas, H.1984. The Imperative of Responsibility. In Search of an Ethics for the Technological Age, translated by Hans Jonas with the collaboration of David Herr, Chicago and London, The University of Chicago Press, XII+246 pages.

Khawaja, M., Abdulrahim, S., Soweid, R., & Karam, D. (2006). Distrust, social fragmentation and adolescents' health in the outer city: Beirut and beyond. *Social Science & Medicine*, *63*(5), 1304–1315. https://doi.org/10.1016/j.socscimed.2006.03.047

Kunz, J. (2006). *Social sustainability and community involvement in urban planning: Lessons from the ECOCITY project* (p. 118). Tampere, Finland: University of Tampere.

Lehtonen, M. (2004). The environmental-social interface of sustainable development: Capabilities, social capital institutions. *Ecological Economics*, *49*(2), 199–214. https://doi.org/10.1016/j.ecolecon.2004.03.019

Lipton, M., & Ravallion, M. (1995). Poverty and policy. In J. Behrman & T. N. Srinivasan (Eds.), *Handbook of Development Economics* (Vol. 3, pp. 2551–2657). Amsterdam, North-Holland: https://doi.org/10.1016/S1573-4471(95)30018-X

Locke, H., & Dearden, P. (2005). Rethinking protected area categories and the new paradigm. *Environmental Conservation*, *32*(1), 1–10. https://doi.org/10.1017/S0376892905001852

Lowery, D. (1999). Sorting in the fragmented metropolis: Updating the social stratification-government inequality debate. *Public Management*

an International Journal of Research and Theory, *1*(1), 7–26. https://doi.org/10.1080/14719037800000002

Micklin, P. (1988). Desiccation of the Aral Sea: A water management disaster in the Soviet Union. *Science*, *241*(4870), 1170–1176. https://doi.org/10.1126/science.241.4870.1170

Micklin, P. (2007). The Aral Sea disaster. *Annual Review of Earth and Planetary Sciences*, *35*, 47–72. https://doi.org/10.1146/annurev.earth.35.031306.140120

Murphy, K. (2012). The social pillar of sustainable development: A literature review and framework for policy analysis. *Sustainability: Science, Practice and Policy*, *8*(1), 15–29. https://doi.org/10.1080/15487733.2012.11908081

O'Riordan, T. (2013). *Interpreting the precautionary principle*. London, Enngland: Routledge, 316 pages. https://doi.org/10.4324/9781315070490

Partridge, E. 2005. Social Sustainability: A Useful Theoretical Framework? Paper presented at: The Australasian Political Science Association Annual Conference, Dunedin, New Zealand, 28th and 30th, September. Refereed conference proceedings published at: http://auspsa.anu.edu.au/index.html

Pawłowski, A. (2008). How many dimensions does sustainable development have? *Sustainable Development*, *16*(2), 81–90. https://doi.org/10.1002/sd.339

Pellow, D. N. (2000). Environmental inequality formation: Toward a theory of environmental injustice. *American Behavioral Scientist*, *43*(4), 581–601. https://doi.org/10.1177/0002764200043004004

Portes, A. and Landolt, P. 1996. The Downside of Social Capital. The American Prospect, 26, 94: 18–21, May/June.

Portes, A., & Vickstrom, E. (2011). Diversity, social capital, and cohesion. *Annual Review of Sociology*, *37*, 461–479. https://doi.org/10.1146/annurev-soc-081309-150022

Pretty, J. (2003). Social capital and the collective management of resources. *Science*, *302*(5652), 1912–1914. https://doi.org/10.1126/science.1090847

Putnam, R. D. (1994). Social capital and public affairs. *Bulletin of the American Academy of Arts and Sciences*, *47*(8), 5–19. https://doi.org/10.2307/3824796

Raleigh, C., & Urdal, H. (2007). Climate change, environmental degradation and armed conflict. *Political Geography*, *26*(6), 674–694. https://doi.org/10.1016/j.polgeo.2007.06.005

Redford, K. H., & Sanderson, S. E. (2000). Extracting humans from nature. *Conservation Biology*, *14*(5), 1362–1364. https://doi.org/10.1046/j.1523-1739.2000.00135.x

Reuveny, R. (2007). Climate change-induced migration and violent conflict. *Political Geography*, *26*(6), 656–673. https://doi.org/10.1016/j.polgeo.2007.05.001

Sachs, I. (1999). Social sustainability and whole development: Exploring the dimensions of sustainable development. In E. Becker & T. Jahn (Eds.), *Sustainability and the social sciences: A cross-disciplinary approach to integrating environmental considerations into theoretical reorientation* (pp. 25–36). London, England: Zed Books XVI+336 pages.

Schlosberg, D. (2007). *Defining environmental justice: Theories, movements, and nature*. Oxford, England: Oxford University Press, XIII+238 pages. https://doi.org/10.1093/acprof:oso/9780199286294.001.0001

Siisiäinen, M. (2003). One concept, two approaches: Bourdieu and Putnam on social capital. *International Journal of Contemporary Sociology*, *40*(2), 183–204.

Small, I., & Bunce, N. (2003). The Aral Sea disaster and the disaster of international assistance. *Journal of International Affairs*, *56*(2), 58–73 Retrieved from https://www.jstor.org/stable/i24357107

Stein, A. A. (1976). Conflict and cohesion: A review of the literature. *Journal of Conflict Resolution*, *20*(1), 143–172. https://doi.org/10.1177/002200277602000106

Sunstein, C. R. (2005). *Laws of fear: Beyond the precautionary principle*. Cambridge, MA: Cambridge University Press The Seeley Lectures, XII +234 pages.

Tschakert, P., & Shaffer, L. J. (2014). Ingredients for social-ecological resilience, poverty traps, and adaptive social protection in semi-arid Africa. In S. Sakai & C. Umetsu (Eds.), *Social-ecological systems in transition* (pp. 139–156). Tokyo, Japan: Springer. Global Environmental Studies. https://doi.org/10.1007/978-4-431-54910-9

Urdal, H. (2005). People vs. Malthus: Population pressure, environmental degradation, and armed conflict revisited. *Journal of Peace Research*, *42*(4), 417–434. https://doi.org/10.1177/0022343305054089

Vallance, S., Perkins, H. C., & Dixon, J. E. (2011). What is social sustainability? A clarification of concepts. *Geoforum*, *42*(3), 342–348. https://doi.org/10.1016/j.geoforum.2011.01.002

Vatn, A. (2009). An institutional analysis of methods for environmental appraisal. *Ecological Economics*, *68*(8–9), 2207–2215. https://doi.org/10.1016/j.ecolecon.2009.04.005

Vifell, Å. C., & Soneryd, L. (2012). Organizing matters: How 'the social dimension' gets lost in sustainability projects. *Sustainable Development*, *20*(1), 18–27. https://doi.org/10.1002/sd.461

Weingaertner, C., & Moberg, Å. (2014). Exploring social sustainability: Learning from perspectives on urban development and companies and products. *Sustainable Development*, *22*(2), 122–133. https://doi.org/10.1002/sd.536

Yasmi, Y., Schanz, H., & Salim, A. (2006). Manifestation of conflict escalation in natural resource management. *Environmental Science & Policy*, *9*(6), 538–546. https://doi.org/10.1016/j.envsci.2006.04.003

Zahran, S., Brody, S. D., Peacock, W. G., Vedlitz, A., & Grover, H. (2008). Social vulnerability and the natural and built environment: A model of flood casualties in Texas. *Disasters*, *32*(4), 537–560. https://doi.org/10.1111/j.1467-7717.2008.01054.x

How to cite this article: Ballet J, Bazin D, Mahieu F-R. A policy framework for social sustainability: Social cohesion, equity and safety. *Sustainable Development*. 2020;28:1388–1394. https://doi.org/10.1002/sd.2092