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DEFLECTIVE DISCOURSE AND SUSTAINABLE DEVELOPMENT

ED ATKINS

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With its roots in the sustainable forest management practices of seventeenth and eighteenth century Europe, the history of what we understand as sustainable development is long. Yet, its precise definition – what the concept actually means in both theory and practice – does not share such solid foundations. The term has come to represent a process of environmental management, an organising principle of human-nature relationships and a popular slogan that sits in the headers of policy reports and commentaries. As a result of this multitude of uses, sustainable development is often dogged by a confusion in definition and a slipperiness of meaning that may allow for its use to describe and legitimise schemes of questionable environmental credentials. In doing so, a language of sustainability can minimise and deflect criticism linked to the negative consequences of such projects.

This chapter will explore this assertion by turning to the case of the Belo Monte dam in the Brazilian Amazon. National quests for modernity have often resulted in the embracing of dams as a technical tool for economic development— with hydropower often being used to satisfy the energy demands of growing industry and processes of urbanisation. Yet, dams not only harness a river to provide energy or water for irrigation or transportation. They also alter the socio-ecological character of the region

¹ See: Donald Worster, *The Wealth of Nature: Environmental History and the Ecological Imagination.* (Oxford: Oxford University Press, 1994).

² James C, Scott, Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed. (New Haven: Yale University Press, 1998); William M. Adams, Green Development: Environment and Sustainability in a Developing World (London: Routledge, 2008).

in which they are built. As a result, dams become permeated with power relations that are present in other spheres of politics. Within this reading, ecology and political rule overlap and become mutually constitutive – in Erik Swyngedouw's words: "any political project must, of necessity, also be an environmental project (and vice-versa)."⁴ As a result, the debates surrounding dams can be understood to be as rooted in symbolism as in materiality, and as of possessing a political nature in which "individual licensing decisions often become crucibles for the airing of giant social conflicts that really should be settled in other ways." This chapter will argue that the case of Belo Monte represents such a conflict, with the debates surrounding the project providing a window into a wider politics of sustainability. Within this dispute, supporters of the dam have sought to adopt storylines of sustainability and sustainable development to provide a strong counter-narrative to opposition networks' efforts against the project in the past. This chapter will argue that this can be understood as a tool of deflection, designed to grant further legitimacy to the project despite its social and environmental implications.

This case – and the accompanying assertions – will be explored in a number of stages. First, the historic role of discourse within processes of dam construction will be outlined, with the conceptualisation of deflective discourse provided. Following this, the concept of sustainable development and its ambiguity will be profiled before this chapter turns to an analysis of the Belo Monte complex. The role of sustainable development discourse an instrument to deflect criticism of Belo Monte will be discussed and the reasons for the success of this language of introduced. The potential counter-discourse of justice will be profiled before concluding remarks provided.

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³ Bryan Tilt, *Dams and Development in China: The Moral Economy of Water and Power.* (New York: Columbia University Press, 2015); Julia Obertreis, Timothy Moss, Peter Mollinga; and Christine Bichsel, "Water, infrastructure and political rule: Introduction to the special issue." *Water Alternatives*, 9(2) (2016): 168-181.

⁴ Erik Swyngedouw, *Liquid Power: Contested Hydro-Modernities in Twentieth Century Spain.* (Cambridge, MA.: The MIT Press, 2015), 36.

⁵ Kathryn Hochstetler and Margaret E. Keck, *Greening Brazil: Environmental Activism in State and Society.* (Durham, NC: Duke University Press, 2007). p.45-46.

⁶ A number of the sources analysed within this chapter are taken from translated materials. As a result, these materials are not analysed for lexical choice but are, instead, examined to understand how sustainability is used as a framing device in presentation of the Belo Monte project.

Discourse as a tool for deflection

The analysis of the discursive elements of dam construction is not a new venture in scholarship, with a number of scholars exploring the manifestations of particular worldviews in the discursive presentation of – or opposition to – reforms of water resources management and the construction of hydraulic infrastructure. Within these readings, the politics of water and its infrastructure have become presented within narratives of naturalised scarcity, nationalism and state building, and the anthropocentric *conquering* of nature. These representations of dams are often grounded in a wider terrain of ideology and power, articulating certain worldviews and privileged forms of knowledge. The result is often the contestation over the infrastructure between the proponents and opponents of the project's construction - with these debates having a symbolic importance. It is by looking at the storylines advanced within

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⁷ See: Jon Abbink, "Dam controversies: contested governance and developmental discourse on the Ethiopian Omo River dam." *Social Anthropology* 20(2) (2012): 125-144.; Rhodante Ahlers, Jessica Budds, Deepa Joshi, Vincent Merme, and Margreet Zwarteveen, "Framing hydropower as green energy: assessing drivers, risks and tensions in the Eastern Himalayas." *Earth Systems Dynamics.* 6(1) (2015): 195-204.; Michael Cunningham, "Public policy and normative language: Utility, community and nation in the debate over the construction of Tryweryn Reservoir." *Parliamentary Affairs* 60(4) (2007): 625-636.

⁸ Karen Bakker, "Privatizing water, producing scarcity: The Yorkshire drought of 1995." *Economic Geography* 76(1) (2000): 4-27.; Lyla Mehta, "The Manufacture of Popular Perceptions of Scarcity in Gujarat, India. Dams and Water-Related Narratives in Gujarat, India." *World Development* 29(12) (2001): 2025-2041.; Julia Urquijo, Lucia De Stefano, and Abel La Calle, "Drought and exceptional laws in Spain: the official water discourse." *International Environmental Agreements* 15(3) (2015): 273-292.

⁹ Majed Akhter, "Infrastructure nation: State space, hegemony, and hydraulic regionalism in Pakistan." *Antipode* 47(4) (2015), 849-870.; Maimuna Mohamud and Harry Verhoeven, "Re-engineering the state, awakening the nation: Dams, Islamist modernity and nationalist politics in Sudan." *Water Alternatives* 9(2) (2016): 182-202.

¹⁰ François Molle, Peter P. Mollinga, and Philippus Wester, "Hydraulic bureaucracies and the hydraulic mission: Flows of water, flows of power." *Water Alternatives* 2(3) (2009): 328-349.

these contests that research can explore the conflicting worldviews present - and the ideas used to both support and oppose the dam in question.

Yet, these discourses, worldviews and histories are never fixed. Instead, they are always open to reinvention and transformation by the actors that seek to construct them. Previous projects have been presented as a conquering of natural limits, as a techno-fix for socio-political problems, as a route to modernisation and economic progress, or as a nationalist project of unifying a fragmented state.¹² These narratives appeal to certain popular storylines as a hegemonic tool to allow for the isolation of opposition networks, the fragmentation of alliances, and further justification for construction. To provide an example, in the case of Ghana's Volta river project, it is these narratives that have allowed for the characterisation of resultant patterns of displacement as a necessity of the development process, or even as a positive step – disguising the project's role in processes of sociocultural dislocation and livelihood loss. ¹³ As a result, discourse provides an instrument to conceal the negative effects of the process, deflecting opposition criticism of the project whilst maintaining a focus on the respective ideologies that the project is located within, such as aims of development or state-building.

These have previously been labelled as 'discourses of deflection', with these storylines advanced as a means to address and discredit potential criticism of the dams in question. In doing so, these discursive structures act to underpin and increase the legitimacy enjoyed by the policy or scheme. In the case of the South-North Water Transfer Project (SNWTP) in China, such discourses have acted to address previous concerns and deflect attention away from the social and political issues present in the scheme's development, construction and implementation. The focus becomes on the deflection of potential opposition criticism, as a

¹¹ Britt Crow-Miller, "Discourses of deflection: The politics of framing China's South-North Water Transfer project." *Water Alternatives* 8(2) (2015): 173-192.; Amita Baviskar, *In the Belly of the River* (Delhi: Oxford University Press, 1995).

¹² Rhodante Ahlers, Luigia Brandimarte, Ineke Kleemans, and Said Hashmat Sadat, "Ambitious development on fragile foundations: Criticalities of current large dam construction in Afghanistan." *Geoforum*, 54 (2014): 49-58.

¹³ Laura B. Johnson, Jordan P. Howell & Kyle T. Evered, "Where Nothing was Before': (Re)producing Population and Place in Ghana's Volta River Project." *Journal of Cultural Geography* 32(2) (2015): 195-213.

¹⁴ Crow-Miller, "Discourses of Deflection."

¹⁵ Crow-Miller, "Discourses of Deflection"

means to ensure the consolidation of the project's legitimacy and the continuation of construction.

As dams and other forms of large-scale water infrastructure have continued to be built in the late 20th and early 21st century, the adoption of these discourses has continued. However, the growing prominence of a narrative of sustainable development has provided an opportunity for an additional discourse of legitimacy. For example, in the Mekong basin, narratives of sustainability have been fused with traditional discourses of economic development and energy security to articulate hydropower as an important route to solving the region's problems. Drawing on concerns of climate change and storylines of mitigation and adaptation, twenty-first century infrastructure is often painted as a renewable source of energy and as a solution to pressing existential issues of climate change mitigation and adaptation.

The malleability of sustainable development

This adoption of a language of sustainable development demonstrates not only the fluidity of the storylines used to legitimise dams but also an important malleability of the concept of sustainability itself. Providing an accurate definition of sustainable development represents a difficult exercise. The 1987 Brundtland Report sought to negotiate a compromise between the contradictions present in the interactions of the rapidly deteriorating environmental health of the planet and the continued desire for sustained economic growth 18. This definition of sustainable development as a consolidation of concerns for ecology and aims for economic growth has been reproduced in subsequent decades – most notably in the 1992 Rio Declaration adopted at the United Nations Conference on Environment and Development (UNCED) and the 2002 World Summit on Sustainable Development, with the discourse of the relationship between ecological sustainability and economic development reproduced and reinforced. Within this conceptualisation, sustainable

¹⁶ Ming Li Yong and Carl Grundy-Warr, "Tangled Nets of Discourse and Turbines of Development: Lower Mekong Mainstream Dam Debates." *Third World Quarterly*, 33(6) (2012): 1037-1058.

¹⁷ Ahlers et al, "Framing hydropower as green energy" op. cit. 7 + page

¹⁸ Brundtland Commission, *Our Common Future*. (Oxford, Oxford University Press: 1987), 45.

development's definition as the three "mutually reinforcing pillars... [of] economic development, social development and environmental protection" has become entrenched.

In the years since the 1987 Brundtland Commission, there are few objects that have not been prefixed with the term 'sustainable'. Cities, businesses, livelihoods, food supply chains, economies - all have been described using a language of sustainability. Diverse networks have formed and institutions and organisations developed to pursue these sustainable goals. There have been a wide variety of definitions of the topic, government policy initiatives adopting the concept and academic critiques of such application. Such a lack of concrete definition of the terminology has allowed for the production of different understandings and realities of sustainable development, with a significant variance at different levels of governance and temporal and geographic scales.

This wide variance of application has resulted in a gradual emptying of the initial meaning of sustainable development. A number of scholars have argued that this heterogeneity of definition - with the concept becoming a catch-all term with limited agreement on its meaning - has resulted in a problematic ambiguity. As a result, the contemporary centrality of a language of sustainability is derived from its vagueness, its slipperiness, and the ability to apply such a language to a wide variety of projects, schemes and futures, regardless of their environmentalist credentials. It is this adaptability that has resulted in the inclusion of numerous development or environment programmes under a "banner of sustainable development" regardless of their potential consequences. Within this reading, sustainability has become "a Trojan Horse of a word" that can provide a vessel for the pursuit of policy goals that may prove socially and environmentally damaging.

¹⁹ United Nations, 2002. Johannesburg Declaration on Sustainable Development, Principle 5.

²⁰ See: Worster, The Wealth of Nature: Environmental History and the Ecological Imagination; Sharachchandra M. Lélé, "Sustainable Development: A Critical Review." *World Development* 19(6) (1991): 607-621.

²¹ Trent Brown, "Sustainability as Empty Signifier: Its Rise, Fall, and Radical Potential." *Antipode* 48(1) (2016): 115-133.

²² Robert W. Kates, Thomas M. Parris, and Anthony A. Leiserowitz, "What is Sustainable Development?: Goals, Indicators, Values and Practice." *Environment: Science and Policy for Sustainable Development* 47(3) (2005): 10.

²³ Leonard Frank, "The Development Game." *Granta* 22 (1987): 231-243.

7

Deflective Discourse and Sustainable Development

The case of Belo Monte

With the dam in the process of entering operations at the time of writing, the contest over Belo Monte is coming to a close, thirty years since its initial plans in 1975. In these plans, *Eletrobras*, the Brazilian state electric utility, planned six dams to generate over 20,000 megawatts (MW) of energy. Yet, in 1989, this project, then named Kararaô, was suspended after an extensive, well-publicised opposition movement that developed important linkages between international environmental concerns and actors and the opposition of the local communities, particularly the Kayapo indigenous group facing displacement.

Central in the opposition network's criticism of the Kararaô project was the fusing of social concerns of population displacement and the loss of livelihoods with notions of traditional environmentalism. The campaign against Kararaô articulated the project as a scheme that degraded the environment and failed to recognise the rights of the local communities in its planning.²⁴ This allowed for the development of links between local communities campaigning against the dam and international activists. The coalition cast the Kararaô project as simultaneously socially and environmentally destructive. Such a fusing of the social and the environmental was evident at the 1989 Altamira Gathering, a landmark moment in the opposition to the Kararaô project. At this meeting, the indigenous community articulated their grievances in a language that appealed to international concerns surrounding biodiversity and sustainability and successfully enrolled these concepts into their own battle for cultural recognition and territorial rights. The Kararaô project was cancelled soon after

In the decades after this cancellation, the project would remain in a state of relative flux – to be proposed and rejected, until it was resurrected by President Luiz Inácio Lula da Silva (herein Lula), with construction beginning in 2011. The project - now named Belo Monte - formed a central element of the Brazilian government's agenda for national development, which continued to prescribe the important role of large-scale infrastructure as a means for Brazilian modernisation. This government-led construction of infrastructure is most notable in Brazil's

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²⁴ Sabrina McCormick, "Damming the Amazon: Local Movements and Transnational Struggles over Water." Society & Natural Resources 24(1) (2010): 34-48.

energy sector, with, in recent decades, the Amazon region becoming particularly synonymous with hydropower development. This expansion is the result of the increasingly-politicised, strategic importance of enhanced energy generation within national development agendas, particularly in the years after the dramatic energy shortage of 2001/02 that led to energy rationing for close to nine months. This crisis provided an impetus for modernising Brazilian energy policy; and allowed successive governments a window of opportunity to engage in energy development projects, increasingly involving hydropower.

This use of hydroelectricity generation is convenient, with Brazil possessing a total hydroelectric potential²⁶ of up to 251 GW that is yet to be exploited²⁷. The Amazon and Tocantins watersheds, extending across the Brazilian Legal Amazon Region, account for 6% of total global hydropower resources²⁸. The Brazilian government is keen to exploit such potential, with a large number of hydroelectric projects planned for the region. Belo Monte is one of these complexes. Located on the Xingu river in the northern state of Pará, the complex is due to become the fourth largest dam in the world - with a predicted generating capacity of 11,233 MW. The turbines of Belo Monte would be powered by water redirected from the Xingu by two man-made canals, resulting in the diversion of 80% of the river's flow.

The construction of Belo Monte as a sustainable project

The proponents of this new Belo Monte project has adopted a number of framing strategies as a means to both legitimise construction and disrupt opposition to the scheme. Previous work has shown that these include:

²⁵ Georgia O. Carvalho, "Environmental Resistance and the Politics of Energy Development in the Brazilian Amazon." *The Journal of Environment & Development* 15(3) (2006): 245-268.

²⁶ This 'hydraulic potential' can be understood as the potential of hydroelectric energy that can be exploited under existing technical and economic conditions.

²⁷ Empresa de Pesquisa Energética, *Balanço Energético Nacional 2015: Ano Base 2014.* (Rio de Janeiro: Empresa de Pesquisa Energética, 2015).

²⁸ Alexander C. Lees, Carlos A. Peres, Philip Fearnside, Mauricio Schneider, and Jansen A.S. Zuanon, "Hydropower and the Future of Amazonian Biodiversity." *Biodiversity and Conservation* 25(3) (2016): 451-466.

²⁹ Sonia Barbosa Magalhães and Francisco del Moral Hernández. *Painel de Especialistas: Análise Crítica do Estudo de Impacto Ambiental do Aproveitamento Hidrelétrico de Belo Monte*. (Belém, 2009).

assertions of the dam as a techno-fix for problems of energy security, the economic development promised by the scheme, and the demonisation of opposition activists³⁰. Central in the discourse of the proponents of Belo Monte was the traditional notion of sustainable development – namely, the bridging of concerns of economic growth with questions of environmental health.

It is perceptible that the pro-dam coalition has sought to incorporate the language of both clean energy and sustainable development into the storyline surrounding Belo Monte.³¹ At a 2010 rally in Altamira, the town nearest to the Belo Monte construction site, President Lula voiced a personal investment in this positioning of Belo Monte as green: "Let us use clean energy and preserve the environment. This is my commitment." Lula would go on to argue that Belo Monte represented a departure of the dams previously built in the Amazon, arguing that the government did

not want "[an] insanity crime such as Balbina... We don't want to repeat Tucurui, we want something new... we are going to use this cleaner energy that we produce and we're going to preserve the environment."³³ For, Federal Deputy, Fernando Ferro, Belo Monte represented a departure from, its former incarnation, Kararaô "which was so extremely harmful, flooding large areas and affecting the rights of indigenous peoples."³⁴ In

³⁰ Ed Atkins, "Dammed and Diversionary: The Multi-Dimensional Framing of Belo Monte" *The Singapore Journal of Tropical Geography*, 38(3) (2017): 276-292...

³¹ Alexa Bingham, "Discourse of the Dammed: A study of the impacts of sustainable development discourse on indigenous peoples in the Brazilian Amazon in the context of the proposed Belo Monte hydroelectric dam," *POLIS Journal*, 4 (2010): 1-47.

³² Eletrobras, "Lula defende Belo Monte." *Eletrobras*.

http://www.eletrobras.com/elb/main.asp?ViewID=%7BEB7EA1A1-360E-40FA-9 360-742E53C8C220%7D¶ms=itemID=%7B5AF6C8EF-8441-42CD-B289-D E460904CBEF%7D;&UIPartUID=%7B9E178D3B-9E55-414B-A540-EB790C1D F788%7D (retrieved August 10 2017).

³³ International Rivers. "Speech by Pres. Lula at a rally for the Belo Monte Dam" International Rivers.

https://www.internationalrivers.org/resources/speech-by-pres-lula-at-a-rally-for-the-belo-monte-dam-4293 (retrieved August 10 2017).

³⁴ Brazil, *Diário da Câmara dos Deputados, ANO LXV Nº 51 (2010), p.15152.* (Câmara dos Deputados, Brasília, DF., 2010).

http://imagem.camara.gov.br/Imagem/d/pdf/DCD15ABR2010.pdf#page=(retrieved August 10 2017)

doing so, the use of these narratives allow for the provision of a rebuttal to opposition networks' criticism of the dam as following the same path trod by the Balbina and Tucuruí dams. An important fluidity of discourse is found, with the environmental criticism of Kararaô recast as a justification for its successor.

Within this storyline of the sustainability of Belo Monte, the project became cast as a key facet in the development of the Brazilian government's strategy to produce "clean, renewable and sustainable energy to ensure the country's social and economic development." Significant here is the tying of environmental sustainability to questions of economic development – an important illustration of the enrolling of the principles of sustainable development into the wider Belo Monte project. The meeting of these goals of sustainable development provided an important discourse in the dismissal of opposition against the project. For example, in a 2012 address, the Minister of Mines and Energy (2011-2014), Edison Lobão argued that

"We see large media organisations criticising projects like Belo Monte, but often the basis of their arguments are not real... That is misinformation. Plants like Belo Monte have been designed to minimise their impacts, and they will allow Brazil to go forward with a power network that boasts minimal emissions".

In adopting a language of sustainability, the proponents of the project sought to articulate the project as representing a synthesis of the desire for economic growth and the necessity of environmental protection. Government adverts - aired at the time of the Rio +20 conference in 2012 - described Belo Monte as a 'clean energy' initiative that had limited negative consequences. This value of hydropower as a sustainable pursuit can be understood as the narrow definition of sustainable energy as

³⁵ Brasil Portal. "Dilma Inaugura Usina Hidrelétrica de Belo Monte." *Brasil Portal*,

http://www.brasil.gov.br/governo/2016/05/dilma-inaugura-usina-hidreletrica-de-be lo-monte (retrieved August 10, 2017)

³⁶ Eletrobras. "Pela Energia Limpa" *Eletrobras*. http://www.eletrobras.com/elb/main.asp?ViewID=%7BEB7EA1A1-360E-40FA-9 360-742E53C8C220%7D¶ms=itemID=%7B8C69BF4F-2801-44D2-9D58-79 80523D340D%7D;&UIPartUID=%7B9E178D3B-9E55-414B-A540-EB790C1DF 788%7D (retrieved August 10, 2017)

³⁷ Eve Bratman, "Passive Revolution in the Green Economy: Activism and the Belo Monte Dam". *International Environmental Agreements* 15 (2015): 61–77.

the replacement of a fossil-based electricity generation with a source of power with limited GHG emissions.

Furthermore, this asserted the exceptionalism of hydropower, as evident in in the frequent dismissal of alternatives to the Belo Monte scheme. This can be found in the words of Fernando Ferro who proclaimed "Do not come to me to talk of using wind or solar energy to replace Belo Monte... it would be necessary to deforest approximately 100 kilometres of the Amazon rainforest to install, in that location, wind farms." Ferro's words echoed the vitriol of Rogério Cerqueira Leite in a 2010 editorial in *Folha de São Paulo*, in which he questioned "Do these environmentalists not realise that they leave no alternative to the country except the use of fossil fuels, which will inevitably lead, albeit in the long term, to the desertification of the Amazon, among other disasters?" ³⁹

This adoption of a language of sustainable development has been understood elsewhere as an attempt to drive a wedge between opposition groups that have distinct approaches and grievances. In doing so, it seeks to demonstrate the presence of a disconnect between international concerns of biodiversity and environmental protection and the questions of socio-environmental justice present at the local level. International environmental NGOs have previously been accused of neglecting this local level and discussing the Amazon as a "mere ecosystem under the influence of global economic and political forces." Such a focus on environmental factors can be understood as ignoring the situation on the ground and the various social and local environmental issues faced by the populations affected by dam construction. Whilst the 1989 protests

³⁸ Brazil, Diário da Câmara dos Deputados, ANO LXVI Nº 202 (2011), p.62125. (Câmara dos Deputados, Brasília, DF., 2011)

http://imagem.camara.gov.br/Imagem/d/pdf/DCD18NOV2011.pdf#page=

³⁹ Rogério Cezar de Cerqueira Leite, "Belo Monte, a Floresta e a árvore." *Folha de S. Paulo*, May 19th, 2010, (retrived August 10, 2017), http://www1.folha.uol.com.br/fsp/opiniao/fz1905201009.htm

⁴⁰ Bratman, "Passive Revolution in the Green Economy: Activism and the Belo Monte Dam."; Omaira Bolaños, "Redefining Identities, Redefining Landscapes: Indigenous Identity and Land Rights Struggles in the Brazilian Amazon." *Journal of Cultural Geography* 28(1) (2011): 45-72.

⁴¹ Andréa Zhouri, "Global-Local Amazon Politics: Conflicting Paradigms in the Rainforest Campaign." *Theory, Culture & Society* 21(2) (2004): 74.

⁴² Bolaños, "Redefining Identities, Redefining Landscapes" op. cit. 40

against the project sought to develop links between these perspectives, it was this disconnect that proponents of Belo Monte sought to exacerbate.

By tying the Belo Monte project to questions of sustainable development, the proponents of Belo Monte have acted to detach the international questions of sustainability and climate change from more localised understandings of the externalities of the project. As such, Belo Monte can be detached from the issues of deforestation, biodiversity and GHG emissions. This discursive move allows for the deflection of opposition criticism of the complex - primarily focused on the environmental damage that it may cause. 43 In doing so, we can understand that these articulations of sustainability and sustainable development represent an outcome of a political struggle by existing powers to stabilise their dominant position, in the face of issues of sustainability.⁴⁴ Environmentalist critiques – such as the limits to growth– have previously challenged discourses of development, and the assumptions that accompany it. In response, dominant groups have sought to rearticulate sustainability in a manner which nullifies such concerns, by providing narrow conceptions of environmental health and poverty alleviation. whilst reasserting paradigmatic commitments to growth. 45 Within the case of Belo Monte, sustainability has been deployed as a means to reinforce the contemporary political condition, and the continued use of technocratic solutions.

Yet, this framing only demonstrates a narrow understanding of issues of sustainability, resulting in the neglect of a number of the scheme's consequences with the discourse. For example, within this reading, there exists a neglect of the cumulative impacts of the project (including issues of deforestation, GHG emissions and impacts on biodiversity) in the

⁴³ See: Bratman, "Passive Revolution in the Green Economy: Activism and the Belo Monte Dam."; Eve Bratman, "Contradictions of Green Development: Human Rights and Environmental Norms in Light of Belo Monte Dam Activism." *Journal of Latin American Studies* 46(2) (2014): 261-289; Peter Taylor Klein, "Engaging the Brazilian State: The Belo Monte Dam and the Struggle for Political Violence." *The Journal of Peasant Studies* 42(6): 1137-1156.

⁴⁴ Trent Brown, "Sustainability as Empty signifier: Its Rise, Fall, and Radical Potential." *Antipode* 48(1) (2016): 115-133

⁴⁵ Adams, "Green Development: Environment and Sustainability in a Developing World"; Brown, "Sustainability as Empty Signifier: Its Rise, Fall, and Radical Potential."

assertions of the dam as providing clean energy. An number of studies have asserted the role that, in the construction of dams, the flooding of the reservoir will have in the loss of vegetation, which will, in turn, result in significant releases of methane – a gas 25 times more potent than carbon dioxide.

Furthermore, a number of social impacts of the scheme provide an important route – unaddressed in the pro-dam discourse – for criticism of Belo Monte. During the construction period, the population of Altamira increased due to the influx of workers linked to both construction and subsidiary economic activities. Between 2010 and 2012, the population increased from less than 100,000 to over 140,000, burdening local infrastructure and leading to increased prices. This population influx has also resulted in an increase in violence in the region. 49 Although jobs associated with the plant have been welcomed by the local community. 2013 polling showed that only 12 percent of the population held positive views on the security situation in the city, which has been challenged by an upsurge in criminal activity in the years of Belo Monte construction.⁵ Communities have been displaced with limited participation in the decision-making process and, at the time of writing, much of the infrastructure designed to support the social issues faced and support this transformation lie incomplete.

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⁴⁶ See: Philip Fearnside, "Greenhouse Gas Emissions from Hydroelectric Dams in Tropical Forests" in *Alternative Energy and Shale Gas Encyclopedia*, ed. Jay H. Lehr and Jack Keeley (New York, John Wiley & Sons Publishers: 2016).; Célio Berman, "Impasses and Controversies of Hydroelectricity" *Estudos Avançados*, 21(59) (2007): 139-154.

⁴⁷ Magalhães & Hernandez, "Painel de Especialistas"; Denise de Andrade Cunha and Leandro Valle Ferreira, "Impacts of the Belo Monte Hydroelectric Dam Construction on Pioneer Vegetation Formations Along the Xingu River, Pará State, Brazil" *Brazilian Journal of Botany* 35(2) (2012): 159-167.

⁴⁸ See: Philip Fearnside, "Dams in the Amazon: Belo Monte and Brazil's Hydroelectric Development of the Xingu River Basin." *Environment Management* 38(1) (2006): 16-27.; Maíra Irigaray, "Killing a People Little by Little": Belo Monte, Human Rights and the Myth of Clean Energy." *Tipiti: Journal of the Society for the Anthropology of Lowland South America* 12(2) (2014): 128-133.

⁴⁹ Klein, "Engaging the Brazilian State" op. cit. 43

⁵⁰ Marcelo Leite, Dimmi Amora, Morris Kachani, Lalo de Almeida, and Rodrigo Machado, "A Batalha de Belo Monte" *Folha de S. Paulo*, 2013, accessed August 10, 2017, http://arte.folha.uol.com.br/especiais/2013/12/16/belo-monte/

Yet, the presentation of the Belo Monte project as tied to notions of sustainability continues to have an important credibility. This popular resonance of such a storyline can be found in two key contextual points: the globally-assumed environmental credentials of the Brazilian state and the presence of large-scale hydropower in the wider international climate change regime.

Hydropower as sustainable

It is notable that the pro-dam coalition's assertions of the sustainability of hydropower are linked to the concept of 'emissions', rather than the more local concerns of environmental degradation, habitat destruction and loss of livelihoods. The result is the narrow definition of hydropower due to its comparison with the traditional burning of fossil fuels. This particular reading draws on the location of hydropower within a number of international climate change governance mechanisms. Hydroelectric dams are provided with carbon credits under the United Nations Framework Convention on Climate Change Kyoto Protocol's Clean Development Mechanism (CDM). The past decade has witnessed a number of nations turning to hydropower as a low-carbon energy source. Many of these projects are based in China, India, and Brazil – with Certified Emission Reduction (carbon credit) certificates (CERs) often purchased by European nations. As a result, projects - such as Belo Monte - become enrolled into international patterns of climate change mitigation.

As dictated by Article 12 of the Kyoto Protocol, this granting of carbon credits is dependent on the projects contributing to the processes of sustainable development. Yet, this definition of sustainability and the associated judgements of a project's worth are often made by the state involved. Significantly, the Brazilian delegation is responsible for proposing this CDM as a means to fulfil the targets set by the Kyoto Protocol⁵³, representing an important political nature of the mechanism's

⁵¹ Jamie Pittock, "Viewpoint – Better management of Hydropower in an Era of Climate Change." *Water Alternatives* 3(2) (2010): 444-452.

⁵² Philip Fearnside, "Tropical Hydropower in the Clean Development Mechanism: Brazil's Santo Antônio Dam as an Example of the Need for Change." *Climatic Change* 131(4) (2015): 575-589.

⁵³ Franck Lecocq and Philippe Ambrosi, "The Clean Development Mechanism: History, Status, and Prospects." *Review of Environmental Economics and Policy*, 1(1) (2007): 134–151.

beginnings. Within the state-led definition of hydropower's clean development, the language of sustainable development reverts to its ambiguity, with states able to dictate both the meaning of the concept and its application. A vocal critic of dam building in the Amazon, Philip Fearnside has argued that, in the case of Brazil, this method of definition has resulted in a lack of effective screening of hydroelectric projects and a neglect of their wider consequences.⁵⁴

Brazil's environmental credentials

Articulations of sustainable development can be further understood as rooted in the increasingly environmentalist character of Brazil on the international stage. The past decades have witnessed Brazil emerge as a moderate global environmental power⁵⁵, with its international image becoming focused on questions sustainability, ecology and biodiversity protection. The years since the 1992 Earth Summit has witnessed environmental issues become an increasingly significant facet of Brazilian foreign policy, with Brazil's global leadership often projected via its domestic climate change policy, its involvement in climate change negotiations and its use of renewable energy sources within its national energy matrix. 66 Brazil was one of the first signatories of the United Nations Framework Convention on Climate Change (UNFCCC) in 1992 and the nation has earned praise for its deceleration of deforestation and the expansion of its network of its protected areas. This adoption of an environmental foreign policy has allowed for the consolidation of Brazil's prominent role on the global stage. However, it has also resulted in a veiling of the discrepancies between Brazilian global discourses of environmentalism and its domestic environmental policies, which have the potential to undermine such an agenda.⁵⁷

⁵⁴ Fearnside, "Tropical Hydropower in the Clean Development Mechanism."

⁵⁵ Eduardo Viola and Larissa Basso, "Brazilian Energy-Climate Policy and Politics towards Low Carbon Development." *Global Society*, 29(3), (2015): 427-446.

⁵⁶ Marieke Riethof, "Brazil and the International Politics of Climate Change: Leading by Example?" in *Provincialising Nature: Multidisciplinary Approaches to the Politics of the Environment in Latin America*, ed. Michela Coletta and Malayna Raftopoulos (Institute of Latin American Studies, School of Advanced Study, University of London: 2016).

⁵⁷ Riethof, "Brazil and the International Politics of Climate Change"

It is important to assert the disconnect between this international image and the domestic experience. Brazil's discursive position as a global leader of renewable, sustainable energy is taking place within a context in which wind and solar energy comprise only 3.4% of the total energy matrix and solar panels are being floated on the reservoirs of previously-constructed dams as a means to mitigate the infrastructure's historic emissions. 58 When many picture Brazil, their imaginations almost immediately conjure images of rainforest and of birds of paradise, of great rivers and the indigenous communities living along their side. Rarely do we envisage expansive soy plantations, mining operations and swathes of deforested Amazon rainforest. Recent years have witnessed a return of deforestation and the increased encroachment on protected areas in the Brazilian Legal Amazon Region.⁵⁹ Similarly, the killings of environmental defenders has attracted a significant degree of attention, with 49 such activists killed in 2016. Within this context, a disconnect becomes apparent; with Brazil's environmental credentials at the international level contrasting with the everyday experiences of those facing the socio-environmental effects of Brazilian development.

Notions of justice

With the discursive structures found within this analysis often neglecting social and environmental issues, it is these criticisms that provide an important route forward for opposition networks in the contest over hydropower dams built in the Amazon. Belo Monte represents both a material and symbolic dispute over hydrological resources, land ownership

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⁵⁸ Bratman, "Passive Revolution in the Green Economy: Activism and the Belo Monte Dam."; Eugenia Logiurato, "Brazil Uses Dammed Lake Surface for Floating Solar Panels" *Phys.org* https://phys.org/news/2016-03-brazil-lake-surface-solar-panels.html (retrieved August 10, 2017)

⁵⁹ Giovana M. de Espindola, Ana Paula D. de Aguiar, Edzer Pebesma, Gilberto Câmara, and Leila Fonseca, "Agricultural Land Use Dynamics in the Brazilian Amazon Based on Remote Sensing and Census Data." *Applied Geography* 32(2) (2012): 240-252; Enrico Bernard, L.A.O. Penna, and Elis Araújo, "Downgrading, Downsizing, Degazettement, and Reclassification of Protected Areas in Brazil." *Conservation Biology* 28(4) (2014): 939-950.

⁶⁰ Global Witness, *Defenders of the Earth*, (Global Witness, London: 2017)

and notions of development.⁶¹ However, within the contest over Belo Monte, another dispute has occurred: over how sustainable development is conceptualised within Brazil. This case does not necessarily represent the inadequacy of the concept of sustainability. Instead, the co-optation of sustainability discourse represents a malleability that allows for the concept's transformation and redefinition.

This fluidity can also be used by opposition networks, via a process of resignification. It is important to seek to redefine the conceptualisation of Belo Monte as a sustainable project by providing sustainable development with a more progressive character. For example, the construction of hydroelectric dams – such as Belo Monte – in Brazilian Amazonia forces policy-makers, communities, and researchers to consider the relationship between questions of indigenous rights and cultural diversity in the continued promotion of sustainable development. As a result, the sustainability of Belo Monte is not purely an environmental concern, instead, it must also incorporate a language of justice.

In the case of social movements against dam construction in the Brazilian Amazon, we can perceive notions of distributional injustice (indigenous and local communities facing more environmental issues than others), misrecognition (a lack of acknowledgement of indigenous rights to lands), procedural injustice (a lack of participation by local communities in the decision-making) and issues of capabilities (the effect on local livelihoods). The loss of livelihoods caused by development projects, the deaths of environmental defenders and the population displacement caused by a number of schemes all provide an opportunity for the sharp disavowal of contemporary development models.

This route of resistance can be perceived in the 2016 withdrawal of the Barro Blanco plant in Panama from the CDM registry. This project, securing funds from carbon credits, was opposed based upon a resistance

⁶¹ Lorena Cândido Fleury and Jalcione Almeida, "The Construction of the Belo Monte Hydroelectric Power Plant: Environmental Conflict and the Development Dilemma." *Ambiente & Sociedade*, 16(4) (2013): 141-156.

⁶² Susan Baker, "Sustainable Development as Symbolic Commitment: Declaratory Politics and the Seductive Appeal of Ecological Modernisation in the European Union." *Environmental Politics* 16(2) (2007): 297-317.

⁶³ Melissa Volpato Curi, "Moving Forward or Backwards? Indigenous Peoples, Development and Democracy in Brazil." *Tipiti: Journal of the Society for the Anthropology of Lowland South America* 12(2) (2014): 113-117.

discourse of the social and cultural rights of the indigenous communities to be affected by the project⁶⁴. This opposition proved successful, with the Panamanian environmental ministry withdrawing the project from the CDM portfolio in October 2016. Although the project continues, this case provides a significant example of how the inclusion of social and cultural justice within a discourse of sustainable development can challenge the paradigmatic understanding of large-scale hydropower as a sustainable pursuit that underpins the construction of dams in the twenty-first century.

As demonstrated by the 1989 opposition to Kararaô, Brazil has a rich history of this 'socio-environmentalism', representing the fusion of ecology and social issues,. It is by reasserting this relation that resistance movements to dams can articulate these projects within a storyline of injustice (related to both distribution and participation) and cultural recognition. In doing so, these movements will be able to widen the contemporary understandings surrounding the 'sustainability' of hydropower and engage in a process of redefinition. With narratives of sustainable development now becoming characterised by their flexibility, it is important for environmentalist movements to seek to broaden their understandings of the term 'sustainability' and what role it can play in resistance discourse.

Conclusions

This chapter has explored how the proponents of the Belo Monte project have co-opted sustainable development narratives as a means to legitimise its construction. The adoption of this storylines has been understood as the co-optation of a previously-successful opposition discourse of the unsustainability of large dams built in the Brazilian Amazon region. 65 In response to such opposition, dominant groups have sought to rearticulate sustainability in a manner which nullifies such concerns, by providing narrow conceptions of environmental health and poverty alleviation, whilst reasserting paradigmatic commitments to growth. 66 These links

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⁶⁴ Ariadni Chatziantoniou and Kelsey Alford-Jones, "Panama Withdraws Problematic Barro Blanco Dam Project from CDM Registry," Center for International Environmental Law.

http://www.ciel.org/panama-withdraws-problematic-barro-blanco-dam-project-cd m-registry/ (retrieved August 10 2017)

⁶⁵ Bratman, "Passive Revolution in the Green Economy"

⁶⁶ Adams, Green Development; Brown, "Sustainability as Empty Signifier"

between sustainability and hydropower are supported by the increased international funding for such projects (as evident in the Clean Development Mechanism) and the environmentalist image of Brazil on the international stage.

Multiple forms of resistance will continue to greet the building of hydropower complexes in the Brazilian Amazon in the future. 67 However. it will be important for these opposition networks to focus future efforts on a counter-hegemonic struggle over exactly what sustainability is, and how future dams fit within this discourse. As has been illustrated in the surrounding the human right to water. discourse understandings can often be challenged successfully and replaced by narratives that were previously only articulated within opposition networks. 68 Despite the interests articulating this understanding of Belo Monte as sustainable – and the wider support for discourses of sustainable development – the meaning of the term(s) is not fully determined. By enrolling additional elements that broaden popular understandings of sustainability and hydropower projects (such as notions of justice), opposition movements will be able to develop "a more 'authentic' sustainability politics".69.

⁶⁷ Simone Athayde, "Introduction: Indigenous Peoples, Dams and Resistance." *Tipiti: Journal of the Society for the Anthropology of Lowland South America* 12:(2) (2014): 80-92.

⁶⁸Rocio Bustamante, Carlos Crespo, & Anna Maria Walnycki, "Seeing Through the Concept of Water as a Human Right in Bolivia." in *The Right to Water: Politics, Governance and Social Struggles*, ed. Farhana Sultana and Alex Loftus (London, Earthscan: 2012).

⁶⁹ Brown, "Sustainability as Empty Signifier."