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CONTEMPORARY DEBATES

Indigenous Peoples, Dams and Resistance in Brazilian Amazonia

Introduction: Indigenous Peoples, Dams and Resistance in Brazilian Amazonia

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The contributions presented in this first “Contemporary Debate” of the journal *Tipiti* focus on the contentious politics surrounding the building of hydroelectric dams in the Amazon. These articles speak to broader questions regarding indigenous rights, social movements, resistance, and the implementation of public policies for social-environmental governance in Latin America (UN 2009). The debate is offered in a moment when the expansion of large-scale infrastructural projects and their associated social-environmental impacts pose a growing threat to the physical and spiritual survival of indigenous peoples in lowland South America (Killeen 2007; Leroy and Malerba 2010; Oliveira and Cohn 2014). Mining, damming of rivers for electricity generation, oil drilling, and road building have often been placed in, around or across indigenous lands in the Amazon. This compromises the sustainability of both indigenous and non-indigenous societies in vulnerable times of population growth, land conflicts, resource scarcity, and climate change (Laurance et al. 2001; Fearnside 2002; Killeen 2007; Kronik and Dorte 2010; Leroy and Malerba 2010; Van Dijck 2013).

Indigenous lands in the Amazon basin and elsewhere (for the US case, see volume edited by Smith and Frehner 2010) sustain high levels of biodiversity and low deforestation rates, and hold invaluable reserves of water, minerals, and oil (Nepstad et al. 2006; Killeen 2007; Leroy and Malerba 2010; Sevá Filho, 2010). In Brazil, in spite of constitutional advances, indigenous peoples are in permanent condition of vulnerability since the lands inhabited by them are legally owned by the State, who gives them usufruct rights over lands and resources (Ramos 1998). Moreover, many indigenous lands have not been demarcated yet. Finally, the State holds the rights to underground resources in indigenous lands and can give concessions to private enterprises for the exploration of such resources.

According to the worldview of many indigenous peoples, natural resources cannot be owned by humans, since they have their own spirits or masters (Athayde et al. 2002; Descola 1996). Biodiversity does not exist without the spirits that inhabit plants, animals, minerals, and rocks. This worldview contrasts sharply with western science’s distinction between living and non-living beings, and with political regulations regarding access and ownership over land and natural resources (Athayde et al. 2002; Athayde et al. 2006). Informed by both western knowledge and capitalism, modern nation states have commodified the land, the people, science, nature, and biodiversity (Santos 2007). All is subject to property; thus all can be valued, bought, sold, and pursued. All impacts can also be mitigated. There are no limits for economic growth, which depends on continued resource access and extraction for energy and material production, at escalating and often underestimated ecological impacts (Davidson and Andrews 2013). Nevertheless, the limits to growth may be set by nature itself, by the people, or both. People have historically sought to establish their rights or oppose to governmental policies that affect their freedom and wellbeing through incremental and subtle resistance processes, or through more violent protests and armed conflicts (Scott 1985; Knight 2012). The history of humanity, then, has been written by people as objects and subjects in relations of power, domination, oppression and multiple forms of resistance (Scott 1985; 1990; Freire 2006; Santos 2007).

Across the social sciences, resistance has become a ubiquitous concept (Jones et al. 2013). Resistance movements have been studied by scholars pertaining to different disciplinary fields, including but not limited to historians, anthropologists, sociologists, and political scientists

(Scott 1985; Gledhill 2012). According to Theodossopoulos (2014), critical anthropological studies have contributed to the refinement of resistance as an analytical concept, resulting in a nuanced approach to its complexity and local meaning. Resistance can be interpreted both as a movement aimed at changing an oppressive situation, or a movement for fighting such oppression. According to Fletcher (2001:44) “studies of resistance are concerned with the struggle for equality, the fight to end exploitation and achieve a more just and humane society.” In a recent comprehensive review of resistance theory, Gledhill and colleagues provide a good example of the centrality of this concept in questioning power and understanding social change (Gledhill 2012). Using resistance as a diagnostic of power enables anthropologists and other social scientists to move away from abstract theories of power to “ethnographies of power,” or the study of power linked to particular contexts (Abu-Lughod 1990). Gledhill (2012: 16) suggests that we should move into new interdisciplinary directions to ask questions about “where we are mostly likely to find practices of resistance that might unsettle power relations.” Thus, resistance studies need to be embedded within broader analyses of power, hegemony, human rights, and contentious politics.

The set of eight articles presented in this debate include perspectives from anthropologists, sociologists, lawyers, geographers, and participants of the Amazon Dams Network¹ initiative. They contribute to an interdisciplinary and multi-faceted debate about indigenous peoples and their resistance to large infrastructural projects in the Brazilian Amazon, with a focus on hydropower. There are four main themes emerging from the contributed articles: 1) Local “stories” as sites of knowledge and practice related to the far-reaching and long-term impacts of dams; 2) Legal framework and indigenous rights in Brazil; 3) Tradition and innovation in “indigenous resistance” to dams; and 4) Conflicts over framing hydropower as a clean, green and sustainable source of energy.

Indigenous Peoples, Public Policies and Hydropower Development in the Brazilian Amazon

In Brazil, important social-environmental and legal transformations towards Amazonian development and conservation have resulted from social mobilization, concerted resistance, protests, and alliances in which indigenous peoples have played an important role (Albert 2005; Athayde and Schmink 2014). Indigenous rights to the land and natural resources have been secured by the 1988 Constitution, considered a benchmark in Latin America in regards to indigenous rights (Ramos 1998). Today, indigenous lands protect around 21% of the Brazilian Amazon, forming bio-cultural corridors that play a critical role in biodiversity conservation, provision of ecosystems services, human wellbeing, and climate stabilization (Nepstad et al. 2006; Schwartzmann et al. 2013; Soares-Filho et al. 2010). Indigenous constitutional rights have been reinforced by non-abiding (and thus of limited reach) international treaties and instruments of which Brazil is a signatory, such as the 1989 Convention 169 of the International Labor Organization (ILO), the 1992 Convention on Biodiversity, and more recently, the 2007 United Nations Declaration of Indigenous Rights (UN 2009). In addition to these legal instruments, the World Commission on Dams final report presents a framework for planning hydropower projects intended to protect affected peoples and the environment to ensure that the benefits from these projects are more equitably distributed² (WCD 2000). In spite of constitutional and internationally recognized rights and frameworks, indigenous people’s rights in Brazil have been increasingly under dispute by new laws and regulations proposed by governmental officials and political parties (cf Curi’s essay in this collection).

Since 2007, the Brazilian government has been advancing an economic growth policy (PAC, *Plano de Crescimento Acelerado, Growth Acceleration Program*), that includes major infrastructural development across the country and in the Amazon, Brazil’s next frontier for exploiting hydroelectricity, minerals, and timber (Fearnside 2002). The country currently relies on hydropower for generation of up to 85% of its electricity needs. Under the PAC, Brazilian government plans to build over 25 large hydroelectric dams in addition to hundreds of small hydroelectric plants in the Brazilian Amazon in the next 30 years. These new dam projects will affect at least 30% of Amazonian indigenous lands (Brazil/MME 2011; Killeen 2007; ISA 2007, 2009; Moreira and Millikan 2012; see Figure 1).

The discussion on indigenous peoples, dams, and development is not only about whether the country needs electricity for its growth and industrialization, and whether this energy should come from hydroelectric dams. The problem is how these hydroelectric projects have been moved forward against existing laws and regulations, framed as clean energy with underestimation of social and environmental impacts, with limited or non-existent consultation and participation of affected communities, and at the expense of indigenous and non-indigenous peoples whose livelihoods are tied to Amazonian rivers (Zhourri and Oliveira 2007; Moreira and Millikan 2012). In addition to the frequent underestimation of the social and environmental impacts in environmental impact assessments, studies have shown that big hydroelectric dams might not be economically viable over the long-term, especially considering future climate change scenarios (Souza Júnior and Reid 2010; Stickler et al 2013; Ansar et al. 2014).

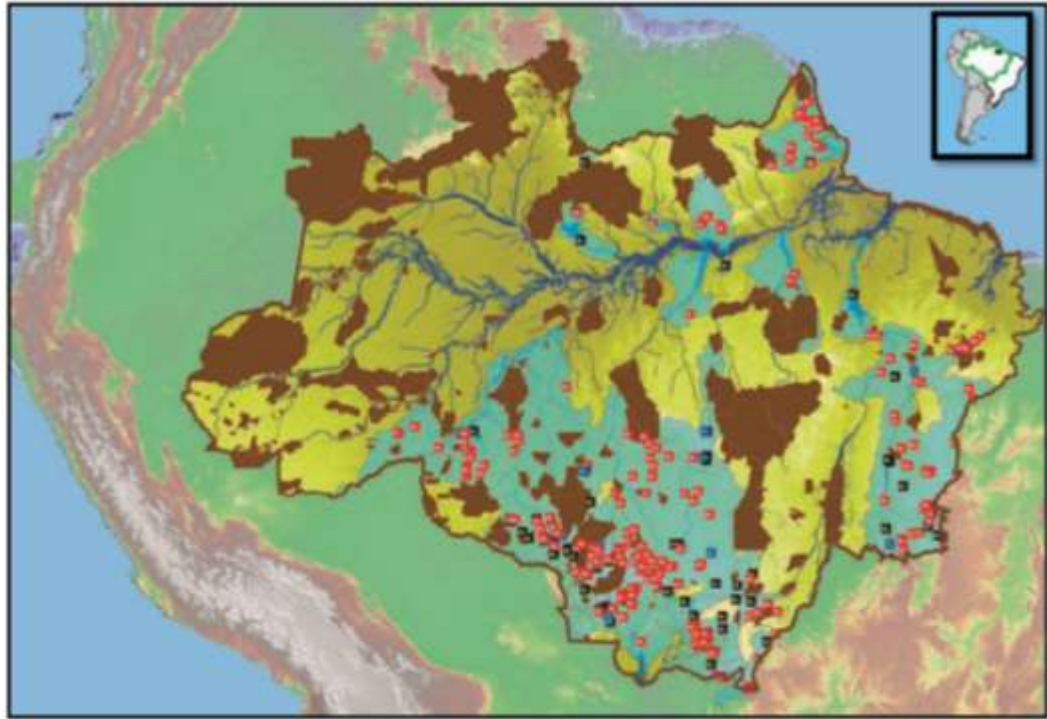


Figure 1. Map of hydroelectric projects for the Brazilian Amazon, showing indigenous lands (in brown), affected watersheds (in blue) and hydroelectric dams: in operation (black squares); under construction (blue squares) and planned (red squares). Source: ISA (2009).

Democracy in Brazil has been implemented through people's power to elect their governors and representatives, but less so through people's right to participate in strategic decisions that might affect their future (Bethell 1994). The Belo Monte dam case, mentioned in several contributions in this debate, is an iconic example of the human rights violations taking place in the Brazilian Amazon. Some of the protests against the construction of the Belo Monte dam have mobilized thousands of Brazilian citizens through marches taking place in Brazilian urban centers, such as São Paulo, Brasília, and Rio de Janeiro. Key protest events were organized to coincide with the Rio +20 United Nations Conference on Sustainable Development held in Rio de Janeiro in 2012 (Figure 2).

In 2013, the Brazilian government responded quickly to popular protests against higher public transportation tariffs by giving concessions. Remarkably, less attention has been given to indigenous peoples' demands for land demarcation and compliance with existing regulations regarding infrastructural development in the Amazon. The result is a crisis in regard to securing indigenous rights over their lands, self-determination, and the right to free, prior and informed consent for infrastructure projects that might affect their cultural and physical reproduction³ (ILO Convention 169). Nevertheless, resistance movements led by Amazonian indigenous peoples such as the Kayapo and, more recently, the Mundurucu (who will be af-

ected by a complex of dams proposed for the Tapajos River), have contributed to the formation of indigenous leaders and inspired the social mobilization of non-indigenous peoples in Brazil (Fischer 1994; Athayde and Schmink 2014).

Given the fact that cultural and biodiversity conservation go hand in hand, and that indigenous lands often form biocultural corridors, there is a perceived risk of accelerated “ecocide” of the Amazon along with the risk of cultural genocide brought by development and accelerated growth (Schwartzman et al. 2013; Loh and Harmon 2014). In this context, multi-scale and multi-actor resistance to large-scale development projects in the Amazon have played a critical role in unsettling power relations and fostering human and environmental justice in Latin America’s biggest democracy (Gledhill 2012).



Figure 2. Raoni Kayapo, Sheyla Juruna and other indigenous and non-indigenous leaders at a manifestation against the placing of hydroelectric dams in the Amazon, held during the Rio+20 “Cúpula dos Povos” meeting in Rio de Janeiro. Credit: Simone Athayde.

Main Themes Emerging from the Articles in this “Debate”

The articles included in this debate invite us to rethink resistance as ways through which different actors and social groups might react to oppression and injustice. Resistance to hydroelectric dam construction in the Amazon has been exercised by indigenous and other actors and social groups such as human rights advocates, policy-makers, scientists, practitioners, government officials, and general public at national and international scales. These actors have enacted resistance through formal and informal decision-making processes, national and international legislation and policies, online, televised and printed media, and also through scientific research and publications. The articles also contain evidence that contemporary resistance to dams in the Amazon has been enacted in multiple forms and in different communication spaces. These perspectives reflect four main themes that contextualize indigenous resistance against hydropower development in the Brazilian Amazon, presented below.

Local “Stories” as Sites of Knowledge and Practice Related to the Far-Reaching and Long-Term Impacts of Dams

This theme explores the importance of going beyond the limitations of cost and benefit measures of impact in order to understand and manage the far-reaching impacts of hydroelectric dams. The contributions to this theme highlight the importance of considering the point of view of indigenous peoples (Almeida) and the long-term cultural and environmental impacts on upriver and downriver indigenous peoples (Colombi). Almeida’s commentary on the Enawene-Nawe reminds us of the “Avatar” story, but without the non-indigenous heroes and the happy ending. Among distinct voracities (or greediness) for electricity production and fish supply, how might the Enawene-Nawe satisfy the river spirits, if the rivers are empty of fish after the construction of dams in the Juruena River? Rituals are cultural pillars of indigenous societies; they are among the many intangible social processes that cannot be mitigated. Still, the Enawene are thriving and resisting the impacts of the dam by buying fish to maintain their traditional rituals. The case of the Cocopah indigenous people in the Colorado River presented by Colombi is a striking story of the death of a river, and with it, cultural change across US-Mexico borders.

Future prospects for Amazonian indigenous peoples affected by infrastructure development might follow the tracks of distant North American indigenous communities who have fought against dams, mining, and land usurpation since the beginning of 20th century. Contradictions and trade-offs are inherent in resistance processes involving indigenous peoples and exploitative industries in the Southwestern US and elsewhere (Smith and Frehner 2010; Colombi 2010). The Cocopah and some Navajo groups in the Southwestern Colorado region have developed different forms of control over exploitative hydropower and mining industries within or around their territories, including the sharing of profits through royalties and other financial mechanisms. Nevertheless, while these mechanisms enabled a sharing of the benefits generated by these projects, they also resulted in social conflicts within the communities. An important message to take home is that options for mitigating impacts should be carefully discussed with and examined by indigenous peoples. Learning from other indigenous groups’ experiences, who have already faced similar problems, might help clarify the possible consequences of choosing different options in regards to planning, compensating, and mitigating the impacts of dams on Amazonian indigenous peoples.

Legal Framework and Indigenous Rights in Brazil

A second theme explored in this collection focuses on the issue of social-environmental justice regarding national and international laws and other public policies determining hydroelectric dam construction in the Amazon. This theme is presented in the articles by Curi and Crones. Curi states that the concept of territory and the legal instruments securing territorial rights lie at the core of social conflicts involving indigenous peoples, the State, and other actors and interests over Amazonian natural resources such as water, minerals, and timber. She argues that, in addition to the current threats linked to exploitation of natural resources in and around indigenous lands in the Amazon, “indigenous communities have been increasingly exposed to legal threats, signaling a setback in the pursuit of cultural and territorial rights guaranteed by the 1988 Constitution.” Curi also lists some of the main bills and decrees under negotiation by the national congress, including provisions to authorize mining on indigenous lands, as well as to legalize infrastructural projects in and around indigenous lands. According to her, violations of human rights hinder the trajectory of democracy in Brazil and Latin America, making us step back to a past of social-environmental injustice, violence, and abuse of power by public institutions. She defends that a qualified and participatory dialogue among involved social actors is needed to minimize conflicts, and that efforts must be directed towards effective implementation and reinforcement of existing public policies in the country.

In keeping with Curi's article, Cronos' contribution highlights issues of social-environmental justice and the cultural impacts by examining the legal frameworks used for decision-making regarding hydroelectric dam building. Specifically, Cronos discusses the quality and validity of Environmental Impact Assessments (EIAs). He describes the careless implementation of existing policies towards documenting, communicating, mitigating, and monitoring the social-environmental impacts of dams on indigenous peoples and their territories. For his analysis, he examines the cases of the Tucuruí and Belo Monte dams. He shares his experience working as an archaeologist with Elwha and Maka indigenous peoples in the US, affected by dams built in the Elwha River, highlighting the role of anthropologists in supporting indigenous knowledge documentation and preventing cultural loss before man-made or natural disasters happen. He states that "we must learn from the ethnography and archaeology to avoid such scenarios of culture-loss before they happen in Amazonia, where an already damaged cultural continuity is only recently being understood." In regards to future directions, aligned with Curi, Cronos defends the development of better methods for implementing and reinforcing current policies that include, rather than exclude, indigenous participation in decision-making, towards recognition and respect of indigenous people's values, knowledge systems, and worldviews.

Tradition and Innovation in "Indigenous Resistance" to Dams

The articles by Oliver-Smith and Leite exemplify how indigenous peoples and their allies combine traditional lifestyles and new technologies to resist hydroelectric dams in the Amazon. A recent article published in the *National Geographic* magazine depicts a Kayapo child on the cover page with the headline "Defenders of the Amazon. Taking on the modern world, and winning" (Brown, January 2014). In this article, Brown reports on the Kayapo cultural pride and their concerted social-political resistance against the Belo Monte dam, which has also mobilized other indigenous peoples and allies. This statement echoes Oliver-Smith's comment on the Kayapo's ability to fight non-indigenous development policies while reinforcing their cultural pride and bringing questions of social-environmental justice to the attention of national and international audiences (Figure 3, see also Fisher 1994). In his article, Oliver-Smith explains how the Kayapo have had to define their "very survival in terms of successful resistance to the destruction of their natural environment by the non-indigenous Brazilians." Their sense of culture and identity continues to be based on traditional institutions such as the extended family household, the men's house, the age system and initiation rites of passage. Nevertheless, in spite of the continuity of indigenous institutions and traditions, another layer of identity comes into play among the Kayapo, through the way they define themselves before the State, other non-indigenous institutions, and national and international society at large. In effect, Kayapo's resistance and leadership have inspired the formation of other indigenous leaders and social movements in the Amazon, contributing to affect the 1988 Constitution regarding the protection of indigenous cultural and territorial rights in Brazil, inspiring other Latin American social movements (Ramos 1998; Albert 2005; Athayde and Schmink 2014).

Leite's article examines the use of online technologies in the resistance against the building of hydroelectric dams in the Amazon. The world is more interconnected than ever, and indigenous communities, especially the youth, are embracing digital media in their daily lives. The paradox of continuity and innovation is well illustrated by the contemporary reality of being indigenous while also engaging modern technology, internet, film-making, and traveling internationally for resistance and to reinforce their rights and cultural pride. Leite also discusses the presence of dam supporters in cyberspace, and how social media channels have functioned as spaces for conflict over development and conservation of the Amazon. Leite concludes that online technologies are likely to continue to play an important role in resistance against dam building in the Amazon, accompanying governmental planning for increased hydroelectricity production.



Figure 3. Outdoor mural painting depicting a Kayapo child “on the high target” (Alta Mira) in São Paulo. Alta Mira is a play on words related to Altamira, the name of the town that will be most affected by the Belo Monte dam, where its headquarters are located. Credit: Maria Rosa Darrigo.

Conflicts over Framing Hydropower as a Clean, Green and Sustainable Source of Energy

This theme addresses a contentious debate on whether hydropower dams are a renewable source of clean energy, given their lower carbon dioxide emissions in comparison to thermo-electric generation from coal, oil, and gas (Soito and Freitas 2011; Fearnside 2004; 2013 a; Fearnside 2013 b). It also represents another form of resistance against policies that portray hydropower as a sustainable solution for electricity generation despite the poor scientific understanding and documentation of the direct, indirect, synergistic, and cumulative effects of dams on deforestation, biodiversity, GHG emissions, human well-being, and a vast array of social processes (Bermann 2007; Tundisi 2007; Soito and Freitas 2011; Barreto et al. 2011; Stickler et al. 2013).

Irigaray and Millikan, activists and researchers at Amazon Watch and International Rivers respectively, discuss the politics of framing hydroelectricity as a clean source of energy based solely on carbon dioxide emissions, given the current “not-so-clean” social-environmental impacts and politics of negotiating, licensing, and building dams in Brazil and elsewhere. From their contributions, we can identify four main issues on whether hydropower should be considered a clean and sustainable source of energy: a) assessing actual GHG emissions from hydropower and their contribution to climate change; b) environmental negative impacts such as threats to wildlife and biodiversity loss; c) the problem of negative social impacts, violation of human rights, and lack of public participation in decision-making; and d) existence of legal inconsistencies associated with the practice of implementing hydropower in the Amazon. This last issue is also discussed by other authors in this collection (e.g. Almeida, Curi and Crones). Millikan concludes that “...there can be no sustainable development when development disrespects human rights, disrupts healthy ecosystems, fosters political and financial corruption and undermines democratic institutions.” He also notes that the same model of dam construction has been reproduced in other Latin American and African countries. Hydroelectric dam building is predicted to expand over the next few years as a less risky, cheaper, and more

popular source of energy (Pillai 2014). Accompanying this expansion, resistance and inquiry on framing hydropower as clean, green, and sustainable energy shall continue to thrive across scientific, political, and public spheres at national and international scales.

Conclusion

The debate surrounding indigenous peoples, resistance, and hydropower development in the Amazon might be viewed through different lenses, enacted by different actors using multiple means of communication, and played out across the social, the environmental, and the economic dimensions of sustainability. The collection of articles presented here speak to the argument that multiple forms of resistance have been critical for unsettling power relations, fostering social change, and negotiating development in Brazil's multicultural society (Gledhill 2012). I suggest that scientific research and knowledge production might also be viewed as a way to resist poorly-informed and inconsistent policies that affect the planet's linked social-environmental future.

Moving beyond the debate, the use of different facets of resistance is important for improved planning, decision-making, and compliance with existing social-environmental rights in current and future hydroelectric projects. First, mechanisms and policies for assessing impacts and implementing decision-making processes that include impacted social groups need to be scrutinized. Legislation informing environmental impact assessments needs to be revised and updated to properly include the social component of the projects, guiding the collection of adequate baseline data to properly inform mitigation and monitoring strategies and programs. Social-environmental assessments need to be carried out by independent researchers to avoid conflicts of interest with the consortia hired to build the dam. Also, existing national and international policies that guarantee indigenous participation in decision-making need to be properly applied to infrastructure projects that directly or indirectly affect indigenous territories. Important questions to consider are: who should negotiate with indigenous peoples with respect to projects and policies that affect them? How might they be informed about these projects, so that they can fully participate in the decision-making process?

Anthropologists and other academic researchers have had little power to change established mechanisms for environmental assessment and licensing (Zhouri and Oliveira 2007; Oliveira and Cohn 2014). Nevertheless, there are important roles that might be played by these academic actors towards supporting indigenous people's rights and wellbeing. One of them relates to providing and translating qualified information to indigenous communities, decision-makers, the media, and the public. Another critical role is to carry out relevant and rigorous scientific research on the complex impacts of dams on indigenous peoples' social organization, livelihoods strategies, territorial rights, and natural resource management practices. The Enawene-Nawe and Cocopah stories, portraying contexts of continuity and embedded existence between indigenous peoples and natural resources, are largely unknown outside anthropological circles. These stories need to be told. In addition, coordinated efforts should be made towards communicating to broader audiences the local resistance and the far-reaching and intangible impacts derived from damming rivers in and around indigenous lands.

As Millikan and Oliver-Smith state in their contributions to this debate, similar schemes and strategies that disregard or violate human rights have been used by private companies and dam-building consortiums to negotiate with local communities around the globe, whether it involves indigenous persons from Congo, United States, China, Mexico, or Brazil. This raises the question of whether there is something incredibly wrong with the hydropower industry that we should be resisting and fighting to change. Indigenous peoples in Brazil have resisted and fought for their rights in striking ways, be them on the ground, online, nationally, or globally. Along with the advance of the hydropower frontier, multiple forms of resistance will continue to write the history of the Amazon and its peoples.

Notes

- ¹ Amazon Dams Network or Rede de Pesquisa sobre Barragens Amazônicas: www.amazondamsnetwork.org or <http://www.tcd.ufl.edu/research/amazon-dams-program>.
- ² United Nations Environment Programme, Dams and Development Project. World Commission on Dams (WCD) final report: http://www.unep.org/dams/WCD/report/WCD_DAMS%20report.pdf
- ³ Convention 169 of the International Labour Organization: “The Convention requires that indigenous and tribal peoples are consulted on issues that affect them. It also requires that these peoples are able to engage in free, prior and informed participation in policy and development processes that affect them...the peoples involved should have the opportunity to participate freely at all levels in the formulation, implementation and evaluation of measures and programmes that affect them directly.” Source: website of the International Labour Organization. <http://www.ilo.org/indigenous/Conventions/no169/lang-en/index.htm>

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