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# Energy Security through Privatisation: Policy Insights from Hydroelectric Power Projects (HEPs) in India's Northeast<sup>1</sup>

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## Abstract

*The question of India's energy security, and by extension growth and national development, has been addressed in recent years through extensive power sector reforms organised around the modalities of privatisation and deregulation. Such policies have incentivised the entry of independent power producers as important stakeholders in the energy sector and helped establish a specific convergence between two arenas: that is, the linking of energy security imperatives with the commercialisation of natural resources and development projects. Based on empirical research in India's northeastern Himalayan region, this paper reviews the country's hydroelectric power policies, their recent implementation methods and the range of socio-economic and ecological concerns that have surfaced through anti-dam movements in response to hydroelectric power projects (HEPs). This paper suggests that the instances of socio-economic dislocations and ecological hazards ensuing from development projects like the HEPs, specifically given the existence of state-mandated counter-mechanisms to prevent such problems, are not cases of "implementation gaps", but rather are manifestations of a deeper crisis in the policy framework that has prioritised the commercialisation of resources and privatisation of mega-projects to achieve energy security.*

## Key Words

Energy security, development, India, HEP.

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## Introduction

Many contemporary discussions on India's future prospects as an engine of growth within the cluster of emerging economies, particularly in the context of the BRICS (Brazil, Russia, India, China and South Africa) countries, focus on the subject of energy. Whether in terms of energy deficits or an increasing carbon footprint due to rapid development and energy use, both India and China, and increasingly Brazil and Russia, get placed at the centre of international debates on energy needs and consumption.<sup>2</sup> In 2002, the Indian Planning Commission estimated that the country's demand for energy is expected to increase by at least 350% over the next two decades.<sup>3</sup> Indian policy-makers and their international counterparts in development fields have been fairly consistent in emphasising the role of hydroelectricity as the ideal energy source to meet this demand in view of the dual context of market expansion and the need to harness renewable *green* energy.<sup>4</sup> Government policy-implementation measures in India have increasingly reflected this perspective. A series of

new state guidelines and commitments have subsequently sanctioned the construction of an unprecedented number of hydroelectric power projects (HEPs) and dams across the country. Moreover, the decades following the post-1991 economic liberalisation (broadly, the New Economic Policy) have also witnessed an episodic but extensive privatisation of the energy sector. These reforms have created for many private companies a new opportunity to expand their repertoire of operations and enter the hydropower and thermal sectors as power producers.<sup>5</sup> A range of incentives and promotional packages- including key policy changes favouring companies' ability to sell power based on market principles- reversed previous entry barriers and state controls, and welcomed private developers into the hydropower sector as important stakeholders. Given that the arrival of private HEPs represented the very lucrative prospect of revenue generation, individual state governments have persuaded the newly emerging power companies to invest in their regions.

India's high economic growth rates, combined with increased power production since the mid-1990s, have also translated into extensive demand for new infrastructure and raw materials. An unprecedented rate of natural resource exploitation has ensued as a result. Both public sector units and private companies have intensified the extraction

of resources from forests, mines, waterbodies and coastal areas, contributing to serious ecological problems and conflicts with communities over ownership rights, displacement and compensation. In an effort to address social inequality in general and avoid mega-project induced displacements and environmental problems in particular, the Indian state has implemented a larger number of protective measures. The consensus from past and present research, however, is that such policies have not successfully served the majority of those affected by development projects.<sup>6</sup>

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The method of dealing with India's energy needs via the modality of privatisation has not only incentivised the entry of independent power producers as key stakeholders, but also established a specific link between two arenas: the imperative of energy security has become aligned with the push towards the commercialisation of development projects and natural resources. Based on

empirical research in India's northeastern Himalayan region, this article takes a closer look at India's hydroelectric power policies, their implementation methods and the socio-economic and ecological concerns that have surfaced in response to the HEPs over the last decade.<sup>7</sup> The urgency of these concerns, specifically given the presence of state-mandated counter-measures to prevent such problems, reveals a deeper crisis in the development logic that upholds that the privatisation of investments in mega-projects that are vital mechanisms for achieving energy security.

## The Policy Framework: Hydroelectric Power (HEP) Projects and Dams in India

Indian policy-makers and leaders in the post-1947 independence era had placed immense hope, often following Western development experts' advice, on the capacity of hydroelectric power plants and large dams to generate electricity and harness water for irrigation and industry. Investments in such capital-intensive mega-projects under state leadership were thus viewed as the pathway to development. The number of large dams increased from 300 in 1947 to over 4,000 in 2000 (the majority being irrigation dams). Although hydroelectricity represented about 50% of India's power supply in the 1960s, its contribution began to fall over time. By

the early 1970s, the share of hydropower declined to 44% and decreased further to 25% over the successive decades (partly as other power sources got developed). More recent data from the Ministry of Power (2010) indicate the following distribution for the different sources of electricity in India: hydropower represents 25% (37,086 MW), thermal power contributes 65% (106,433 MW), nuclear power provides 2.9 % (4,560 MW), and renewable energy sources cover 7.7% (16,429 MW), while the share of small scale hydropower stood at 2,820 MW.<sup>8</sup>

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Development needs during the post-1991 liberalisation era, along with widespread concerns about the damaging effects of potential energy deficits in a rapidly growing economy, prompted the Indian government to review the country's energy policies.

The state has subsequently proceeded to implement various reforms in the power sector, wherein the promotion of hydroelectric projects acquired a renewed emphasis. More importantly, a pro-market orientation became vital to the restructuring of the power sector. The Policy for Hydro Power Development of 1998 placed hydropower as “the most economic and preferred source of electricity” for the country’s development.<sup>9</sup> Specific “Policy Instruments” underscored in this instalment of measures prioritised the role of private investments in hydro-projects. The reform objectives identified for “accelerating the pace” of hydro power development included the following: ongoing emphasis on hydropower in future Plan Periods; increasing the role of private investment in hydropower generation; and, building a tripartite partnership involving the central administration, the state governments and the corporate sector.<sup>10</sup> Overall, the policy measures introduced during the 1990s and early 2000s have facilitated the gradual privatisation and deregulation of certain core functions- in areas such as power generation, transmission and distribution- that were previously under the authority and management of the State Electricity Boards, or SEBs. The Electricity Act (2003) expedited these processes by permitting “direct commercial relationships between generating companies and consumers/

traders”, which then enabled the entry of corporate stakeholders as independent power producers.<sup>11</sup>

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A review of policy documents and forums on India’s energy concerns reveals the unmistakable articulation of a link between the northeast region’s hydropower potential and the country’s energy security.

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The Indian Prime Minister’s “50,000 MW Hydroelectric Initiative”, launched in May 2003, imparted fresh momentum to the country’s prospects in hydropower generation. With a sanction from the Ministry of Power, India’s Central Electricity Authority (CEA) formulated the initiative and launched the project by commissioning a series of what are called the Preliminary Feasibility Report (PFR) of Hydroelectric Schemes. Seven state-affiliated public sector consultants prepared PFRs, which identified a target 162 HEPs in 16 states nation-wide, with an aggregate installed capacity of 50,560 MW, to be executed over the 11<sup>th</sup> and 12<sup>th</sup> Five-Year Plans between 2007 and 2017. This project would require an estimated US \$60 billion during the proposed 10-year timeline. To further expedite India’s hydropower potential, the government charted an updated policy framework

under the New Hydropower Policy of 2008, which advanced the state's commitments towards the HEPs and invited private sector participation.<sup>12</sup> The policy statement clarified this vision as follows:

Even though public sector organisations would continue to play an important role in the development of new schemes, this alone would not be adequate to develop the vast remaining hydro potential. Greater private investment through IPPs [independent power producers] and joint ventures would be encouraged in the coming years and atmosphere conducive for attracting private sector funds would be provided.<sup>13</sup>

## The Controversy of HEPs in India's Northeast

India's northeast- a region which has historically been under-represented in the mainstream of national political priorities- has attracted prime attention in discussions on energy security over the last decade.<sup>14</sup> Recent estimates suggest that the northeast region, endowed with about 37% of India's river-waters, has the potential of contributing approximately 41.5% of the country's hydropower. The World Bank, a regular contributor of knowledge on India's development and energy issues, projected that the region will be placed at the forefront of India's hydropower generation over the course of the country's 13<sup>th</sup> and 14<sup>th</sup> Five-Year Plans between 2020-2030.<sup>15</sup> Other

studies total the northeast's hydroelectric generation capacity at 59,000 MW of India's total hydropower potential of 84,044 MW (a total which is based on a 60% load factor and would thus roughly equal 148,000 MW of total installed capacity).<sup>16</sup> Currently, the region hosts about 168 HEPs, either in operation or in various phases of construction. These enumerations have earned the northeast a new designation: India's "future powerhouse".<sup>17</sup> Of the 162 HEP schemes identified in the feasibility reports for the 50,000 MW Hydroelectric Initiative, a large share of the 72 projects have been proposed for the northeast, particularly in the states of Sikkim and Arunachal Pradesh, representing a substantial area in the eastern Himalayan mountain ranges and forests.<sup>18</sup> Furthermore, a review of policy documents and forums on India's energy concerns reveals the unmistakable articulation of a link between the northeast region's hydropower potential and the country's energy security. The Pasighat Proclamation on Power adopted during the North East Council's Sectoral Summit on the Power Sector in 2007 is a notable example in this regard.<sup>19</sup> The definition of what counts as a mega-project- and therefore qualifies for policy measures and special provisions under this status- has been recalibrated for this region's projects in favourable terms. For the eight northeastern states (and Jammu and Kashmir in the north), HEPs with a capacity of 350 MW or more meet

the criteria for mega-project status (compared to a capacity of at least 500 MW to be classified as such elsewhere).

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The importance of social equity and inclusive growth, particularly for people whose livelihoods are inextricably linked with land-based resources, has figured prominently in the government's policies at the national level.

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Within this larger context, the northeastern state of Sikkim, its small size and population of 607,688 notwithstanding, has become a frontrunner in HEP development efforts in the country and is likely to become one of the most dam-dense regions of the world. The PFRs of the Prime Minister's 50,000 MW Hydroelectric Initiative have proposed 10 out of the total 162 HEPs for Sikkim. The 10 projects identified are Dikchu, Rongni Storage, Panan, Lingza, Rukel, Rangyong, Ringpi, Lachen, Teesta-1 and Talem.<sup>20</sup> Prior to these initiatives, Sikkim hosted about a dozen of what the Indian government calls Hydrel Schemes during the period between 1966-2000.<sup>21</sup> In view of substantial revenues from the HEPs, the Sikkim state government has encouraged investments in this sector and awarded project contracts to public sector entities,

such as the National Hydroelectric Power Corporation (NHPC), and to many private companies, such as Teesta Urja Limited (TUL) and Gati Infrastructure Limited (known primarily as a courier services company) among others.<sup>22</sup> The state of Sikkim retains the status of a joint-venture partner in these projects. From the late 1990s, the number of hydropower dams increased following the proposals for roughly 29 new HEPs on the Himalayan river Teesta and its tributaries across the state.

The Indian state and its private sector partners have maintained that HEPs are indispensable for development, given their ability to generate electricity for industry and consumers in rural and urban India, thereby increasing revenues and creating employment. Despite these claims, a large number of the hydel projects have met with opposition from civil society nationwide on the grounds that these projects cause environmental degradation, increase the severity of natural disasters and violate socio-economic rights. The Sikkim government's HEP initiatives have also encountered similar resistance since 2007.<sup>23</sup> Organisations such as the Affected Citizens of Teesta (ACT) and the Sikkim Bhutia Lepcha Apex Committee (SIBLAC) have been at the forefront of the anti-dam movement. Research on this protest movement reveals an on-going contestation involving activists from Sikkim's various ethnic groups and

religious leaders against state officials and the hydropower corporations over a list of socio-economic and environmental concerns. Activists have documented that construction activities- blasting, digging, tunnelling, extensive use of concrete and heavy machinery, sound pollution and the felling of trees and deforestation to make space for roads, power houses and other infrastructure- have resulted in acute ecological problems in the mountains and surrounding forests. The dams have restricted river and tributary flows, while the dumping of excavated waste materials and construction debris has polluted riverbeds and forests. The HEPs have also severely impacted residents' physical safety and living environment, as many homes got damaged with wide cracks on the ground and walls. Biophysical transformations associated with shifts in the river system have contributed to people's dislocation. Activists have drawn attention to the questionable methods by which power developers, backed by the state and the development mandate in the HEP sector, have exploited the provisions of specific land acquisition laws to secure land for the dams. The companies have been also accused of renegeing on their promises of providing adequate compensation and/or employment to those affected by the HEPs: jobs, when offered, were short-lived or mismatched with the skills of the local residents. The Sikkimese activists' critique of development via mega-

projects and privatisation is paralleled in the findings of a report by International Rivers,<sup>24</sup> which has indicated that one of the key reasons behind the thrust in "hydropower is [that] private companies [are] looking for profits". Over the last few years, about 11 HEPs in Sikkim have been scrapped in the wake of long-standing protests, investigations under Right to Information (RTI) petitions, as well as recent cases of Public Interest Litigation (PILs) filed by the citizen groups. In response, the Sikkim High Court passed orders with injunctions until the release of writ petitions. It is not uncommon, however, for local governments to revive projects previously scrapped in response to protests or sanction new ones elsewhere on the same river.<sup>25</sup>

## Are Energy Policies Compatible with Socio-economic Equity and Environmental Protection Policies?

All the charges of violations- environmental and socio-economic- associated with the HEPs have occurred in a political atmosphere in India where the state itself has legislated protections to specifically deter the kinds of transgressions that activists/members of civil society have challenged. Let us consider a small sample of measures

in place that aim to positively and responsibly deal with social inequity, environmental concerns and the lack of transparency in matters of state administration. The government's Environment Protection Act (1986), the National Environment Policy (2006), the National Water Policy (2012), the National Forest Policy (1988) and the Environment Impact Assessment (2006) laws, among others, seek to promote conservation measures and establish regulation for the use of natural resources. These policy measures not only provide a detailed survey of India's environmental situation, but also reveal quite unequivocally the respective state ministries' awareness of the country's present environmental crisis and outline strategies to redress these problems. Moreover, some of the mandatory requirements for mega-project development include the preparation and approval of environmental impact assessment studies, which are often overseen by state agencies. To bolster such measures, the Ministry of Environment and Forests has been entrusted with "the planning, promotion, co-ordination and overseeing [sic] the implementation of India's environmental and forestry policies and programmes" in a manner

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**The hydropower policies do not neglect to explicitly identify social and environmental measures necessary to prevent or minimise human dislocations and ecological hazards.**

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that, one must remember to add, underscores "sustainable development and enhancement of human well-being".<sup>26</sup>

In Sikkim, the state government has, out of its own initiative, implemented the *Green Mission*, a set of multi-dimensional strategies that encourage sustainable development, organic agriculture, biodiversity conservation and responsible eco-tourism. The importance of social equity and inclusive growth, particularly for people whose livelihoods are inextricably linked with land-based

resources, has figured prominently in the government's policies at the national level. The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act of 2006 (or the Forest Rights Act of 2006), for instance, seeks to protect the rights of communities that need access to forests for livelihood.<sup>27</sup> The National Rehabilitation and Resettlement Policy (2007) provides another example in this context. The recent Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Bill of 2013 has established mechanisms to ensure adequate compensation and prevent cases of land-rights violations and displacement witnessed in the past

decades. The Right to Information Act of 2005 seeks to promote transparency and mandates timely responses to citizens' requests for government information. Other examples of large-scale social equity and inclusive growth oriented policies include: the Right to Education Act (2009), the Integrated Child Development Services Scheme (1975), the National Rural Employment Guarantee Act (2005), measures for food security and the Mid Day Meal Scheme for under-privileged children in schools, to name just a few.

The corpus of these measures, most of which are now part of the country's legal framework, undeniably indicate the existence of an acknowledgment of intersecting environmental and socio-economic issues and the state's proactive role in addressing these concerns via legislation across the different levels of the bureaucracy. The 11<sup>th</sup> Five-Year Plan (2007-2012), structured on the vision of "Inclusive Growth", reflected this very imperative. And yet, the HEP development ventures- where the state itself is often a partner and stands for the "public" in public-private partnerships (PPP)- are replete with acute violations of state-mandated environmental laws and socio-economic safeguards.

## What Do these Gaps Signify?

At the very basic level, one might attribute these violations to inefficient

gaps in implementation practices or the inevitable challenge that India's size, population, and socio-political heterogeneity pose to bureaucratic coordination among the various government departments. The partial validity of these points notwithstanding, this paper proposes that the contradictions, observed between social and environmental safeguards on one hand and development initiatives on the other, expose a much broader systemic crisis. The state's prioritisation of a specific growth model- manifested by state-backed commercialisation of resources and privatisation in the name of energy security- has reached such an intensity that even the state has to bend some of its own environmental regulations and social safeguards or even take recourse to violence against its own people. The following section provides a brief outline of how the emphasis on creating an investment atmosphere amenable to private enterprise in development projects has come at serious social, economic, and environmental costs that are faintly attributable to benign-sounding manifestations of "implementation gaps".

Post-independence India's economy recorded the most impressive growth rates in its history during 2003-2008, averaging 8-9% per year. Since 1991, industrial production has increased three times and the production of electricity has more than doubled.<sup>28</sup> Demands

of high-growth and urbanisation-construction of highways, ports, airports, new urban development and real estate, bolstered with economic zones and commercial services hubs- has intensified the use of land and natural resources. In 2006, the mining of major minerals in India generated about 1.84 billion tonnes of waste. Between the periods of 1993-1994 and 2008-2009, the rate of mineral extraction increased by 75%. Underground water sources and aquifers have been depleted rapidly as a result of water mining at twice the rate of natural replacement. India currently experiences one of the highest levels of underground water overuse in the world and this often occurs at locations where multinational corporations run manufacturing sites.<sup>29</sup> Extensive use of forests for mining and infrastructure development has resulted in the rapid decline in forest cover, land degradation and the displacement of communities reliant on forests for livelihood. Even a cursory survey of news and academic materials published over the last decade would reveal numerous examples of both legal and quasi-legal means by which resources have been accessed from mines, water bodies, forests, coasts and agricultural and pastoral lands.<sup>30</sup> Massive tracts of land from *adivasi* or tribal areas and forests nation-wide have been leased out for industries, steel plants, mining ventures and dam construction.<sup>31</sup> The *adivasis*, one of the most marginalised groups in India, have not received much of the share of development and

there are growing concerns about the effectiveness of the Forest Rights Act.<sup>32</sup> A conservative estimate of development project affected and physically displaced people stands at 60 million since 1947. The Planning Commission's recent assessments of about 21 million of such displaced persons suggests that over 40 % are tribals, when demographically this group constitute only 8% of India's population.<sup>33</sup> In Sikkim, some of the proposed HEPs fall near or within the protected land of local ethnic groups, such as the Dzonghu region of the minority Lepcha community. Other HEPs have encroached within the protected zones surrounding national reserved forests. When these violations provoked protests, the state's response ranged from relatively benign actions (negotiations with activists) to more repressive ones (arrests, direct orders to quit hunger strikes), along with other long-term tactics to delegitimise or ostracise leaders (e.g., unwritten policies to blacklist activists and their family members).

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The state's current *Green Mission* might provide, if allowed to manifest some of the core tenets of the state's civilisational resources in meaningful terms, an ideal platform to expand sustainable development projects.

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There is also growing evidence that the government itself may waive preliminary assessment requirements to incentivise the early monetisation of natural resource discoveries. The Ministry of Petroleum and Natural Gas, for example, has permitted companies like Reliance Industries and Cairn India to begin operations for oil and gas production before the approval of field investment reports.<sup>34</sup> In Sikkim's HEP sector, certain projects were granted clearances before environment and social impact assessments were approved, while in other cases the HEP developers' construction activities were in blatant violation of Supreme Court orders, environmental clearance requirements, and forest and wildlife protection policies.<sup>35</sup> The Ministry of Environment and Forests recently admitted that environmental clearances are eventually granted to almost all development projects.<sup>36</sup> These moves gravely undermine the legitimacy of mandating environmental assessment approvals as a precondition for HEP development. Further, there are no meaningful provisions to ensure continued monitoring of companies' environmental compliance once projects are granted clearances.<sup>37</sup>

## The Foundations for Alternatives

The hydropower policies do not neglect to explicitly identify social and

environmental measures necessary to prevent or minimise human dislocations and ecological hazards. And yet, a review of the HEP development trajectory in the northeastern states, as in other parts of India, suggests that social and environmental mandates have largely been marginal to the mega-projects' implementation methods. State initiatives that facilitate rapid commercialisation, as seen in the example of granting preliminary assessment waivers to boost early monetisation of energy resources, create the circumstances that exacerbate ecological problems and displacement, while transferring environmental risks to the public. The fundamental rationale, pace and depth of mainstream growth imperatives mobilised on the rationale of large-scale commercialisation have severely undercut and contradicted the social-environmental protective measures. As a corollary, one might even propose that the very existence of social and environmental safeguards allows the state to orient and attune its commitments in favour of privatisation. The safeguards provide a convenient justification to adopt development measures that ultimately compromise social equity. The energy question has thus become one that is deeply entrenched in processes involving massive transfers of the public commons from communities onto to private/corporate ownership. Indeed, the growing consensus is that these practices- particularly those established

in the name of energy and national security- have contributed greatly to displacement, loss of livelihoods and escalating poverty, often especially for those who are already marginalised. This makes the question of power generation- particularly the production of the so-called “renewable green and clean” hydropower- inseparable from the other dynamics of Indian national security: namely, social and environmental justice.

To offer alternative approaches, Sikkimese activists have not limited themselves to analyses of the political economy of privatisation or the scientific indicators of ecological degradation. They have drawn equally skilfully from the state’s civilisational resources. The epistemologies of Sikkim’s popular legends, which emphasise the importance of rivers *Teesta* and *Rathong Chu* along with the state’s plural spiritual traditions, which are characterised by notions of

a sacred presence in the landscapes, forests and rivers, have become integral to the activists’ formulation of why the question of energy generation for countries like India cannot supersede concerns around land acquisition/land-grabs, livelihoods and the environment. The characterisation of Sikkim’s mountains and rivers as the people’s treasury of invaluable cultural and civilisational legacy that continue to be relevant in terms of everyday spiritual practices, provides immense possibilities for imagining economic activities that are not reliant on corporatised mega-projects that treat forests and water as mere raw materials.<sup>38</sup> The state’s current *Green Mission* might provide, if allowed to manifest some of the core tenets of the state’s civilisational resources in meaningful terms, an ideal platform to expand sustainable development projects.

## Endnotes

- 1 I thank the BRICS Policy Center (BPC) in Rio de Janeiro, Brazil, for a research fellowship that made this work possible. I extend my gratitude to the faculty, staff, students, and research assistants at the BPC for their immense support for this project.
- 2 Global Footprint Network and the Confederation of Indian Industries, “India’s Ecological Footprint: A Business Perspective 2008”, at [http://www.footprintnetwork.org/en/index.php/newsletter/bv/indias\\_demand\\_on\\_nature\\_approaching\\_critical\\_limits](http://www.footprintnetwork.org/en/index.php/newsletter/bv/indias_demand_on_nature_approaching_critical_limits) [last visited 20 July 2013]; John Vidal, “China and India ‘Water Grab’ Dams Put Ecology of Himalayas in Danger”, *Guardian/Observer*, 10 August 2013, at <http://www.theguardian.com/global-development/2013/aug/10/china-india-water-grab-dams-himalayas-danger/print> [last visited 5 November 2013]; Jonathan Watts, “Amazon Tribe Threatens to Declare War Amid Row over Brazilian Dam Project”, *Guardian*, 3 April 2013.
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- of Resistance: A Resource Book*, Intercultural Resources, New Delhi, India, 2010. For more information, see, [www.icrindia.org](http://www.icrindia.org).
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