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Good Governance and Human Security in Malaysia: Sarawak's Hydroelectric Conundrum

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Good governance is an essentially contested concept. In Asian countries, economic efficiency and macro-economic projects have predominantly been pursued with the aim of promoting national, aggregate measurements of development. Hydroelectric power generation projects have played a central role in the national planning of several regional states as part of an attempt to achieve these goals. Even by their own terms of reference, however, hydroelectric power projects have at most a mixed record of success, and are increasingly criticized with regard to their negative impact on the environment, and upon vulnerable groups. The government of Malaysia has embraced the "developmental state" model, and this is best illustrated by governance initiatives and resource exploitation in the East Malaysian states of Sarawak and Sabah and their respective "development corridors". Sarawak's Corridor of Renewable Energy (SCORE) is the most visible sign of

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Malaysia's macro-economic hydroelectric development focus, as Sabah's corridor focuses on trade, investment, and tourism. This article takes a critical perspective towards good governance, emphasizing that it should function in the interests of all society, but in particular the most vulnerable. It therefore addresses the impact of Malaysian hydroelectric development policies on one of the most vulnerable sections of Malaysian society, the indigenous peoples of Sarawak. The findings cast doubt on the validity of continued prioritization of hydroelectric dam construction as a cornerstone of government energy and development policy.

Keywords: Governance, human security, hydroelectric dams, Sarawak SCORE, Malaysia.

Malaysia is an upper-middle income developing economy endowed with abundant natural resources. Among these are conditions supportive of hydroelectric power initiatives. This article considers the extent to which the Malaysian government is practising good governance in its national energy policymaking, with a particular emphasis on hydroelectric dam construction in the East Malaysian state of Sarawak. This article is based on qualitative research, applying a process tracing methodology on the existing academic literature concerning Malaysia's hydroelectric dams, as well as news reports from both national and international news sources. The timeframe of the analysis spans from the construction of the Bakun dam in 1996 to contemporary discourse on the Murum, Baram and Baleh projects. This allows for both a retrospective look on past studies as well as a critique of contemporary governance and policymaking which has failed to respond adequately to criticisms of mega-dams projects.

By examining one of the most visible signs of a macro-economic development focus, the building of hydroelectric dams, and the impact of policies related to such a focus upon one of the most vulnerable sections of Malaysian society, the indigenous peoples of Sarawak, we examine the competing justifications for their construction (or lack thereof) from both traditional and non-traditional/human governance perspectives. The findings cast doubt on the validity of continued prioritization of hydroelectric dam construction as a cornerstone of government energy and development policy. This article first examines the macroeconomic and national development model case for the pursuit of hydroelectric power, i.e. the extent to which the building of hydroelectric dams in Sarawak is justifiable by its own governance terms of reference. It then turns

to consider whether the policy is defensible from a human-centric perspective when vulnerable populations experience significant negative impacts.

Concepts and Case Selection

At the very least, good governance implies that those who govern do so in the interests of the governed. From an international institutional perspective derived from major international donor frameworks, good governance refers to efficiency in the provision of services and economic competitiveness, comparing ineffective economies or political bodies with viable economies and political bodies.[1] The terms "governance" and "good governance" are used increasingly in development literature, with bad governance regarded as an underlying structural factor contributing to many challenges within our societies. Major donors and international financial institutions base their aid and loans on the condition that reforms aimed at enhancing "good governance" are undertaken.[2] Thus for the United Nations Development Programme (UNDP), good governance is participatory, transparent and accountable, as well as effective and equitable, while also promoting the rule of law.[3]

In practice, national governments implement pro-growth economic policies, and, if they wish to receive international support, have to open up their public administrative practices. This essentially neoliberal economic perspective resonates in the Asia-Pacific region where, in many cases, countries have prioritized economic over social or political development. Indeed, the region has been described as suffused with a remarkable "econophoria", wherein all governance problems, whether domestic or international, are seen as surmountable through development and growth — an outlook which has emerged alongside the dynamic economic success stories of most regional states.[4]

The champions of an economic development focus in governance policy prioritization certainly use macroeconomic aggregate data measurements to support their position. The Asia Pacific is an extremely successful region for development in terms of both economic growth, and stable and secure governance. The Asian Development Bank (ADB) notes that if the region continues on its current trajectory, by 2050 its per capita income could rise six-fold in purchasing power parity (PPP) terms to reach contemporary European levels: "By nearly doubling its share of global gross domestic

product (GDP) to 52 per cent by 2050, Asia would regain the dominant economic position it held some 300 years ago, before the industrial revolution."[5] While this prioritization has contributed to remarkable patterns of economic growth, it has also seen the rise in importance of challenges to human security in both absolute and relative terms.[6]

The December 2011 Busan Partnership for Effective Development Cooperation identified the promotion of human rights, democracy and good governance as an integral part of development efforts.[7] Likewise, the Office of the UN High Commissioner for Human Rights notes that good governance and human rights are mutually reinforcing, with human rights principles providing a set of performance standards as well as informing the content of good governance efforts in terms of legislative frameworks, policies, programmes, budgetary allocations and other measures.[8] Thus an alternative perspective of "good governance", as opposed to merely efficient governance, is that set of policy prescriptions and practices which prioritizes the interests of the most vulnerable sections of society; and that the most foundational interests of these individuals can be found in entitlement rights covered by the newly emerging paradigms of human security and human development.[9]

Human security is an emerging multi-disciplinary paradigm for understanding global vulnerabilities at the level of individual human beings, incorporating methodologies and analysis from a number of research fields including strategic and security studies, development studies, human rights, international relations and the study of international organizations. It exists at the point where these disciplines converge on the concept of protection of the individual. Human development emphasizes that the referent object in all development policymaking must be the individual human being and not the state. Good governance in this context equates to those responsible for governing doing so in a way that not only resolves conflicts of interest and generates collective good, but are also equitable, accountable and broadly in the interests of the most vulnerable sections of society.[10]

Malaysia represents an exemplary case study of the conflict between these two good governance and development perspectives. Malaysia has experienced rapid industrialization since Malaya became independent in 1957 and the subsequent formation of Malaysia in 1963. The national federal government has strongly promoted a series of policies related to the top-down macroeconomic growth patterns of a centralized planned economy. The development policies

of Malaysia have been geared towards moving the country from an agricultural based country to an industrialized one. As such, Malaysia's governance experience and policy equates with what has become known as a "developmental state", wherein there is a high degree of state intervention in the economy.[11] Dr Mahathir Mohamad, Malaysia's fourth prime minister from 1981 to 2003, had detailed economic plans meant to emulate the success of Northeast Asian developmental states such as Japan and South Korea, with the aim of becoming a developed nation by 2020.[12]

By many measurements, these plans have brought significant success. Malaysia is now considered an upper-middle income country by the World Bank, with a GDP per capita of US$25,100 as of the 2014 estimate and a robust economy of rubber and oil palm processing and manufacturing, petroleum and natural gas, light manufacturing, pharmaceuticals, medical technology, electronics and semi-conductor production.[13] Yet, by human-centred measurements, Malaysia's record is much less impressive, and the drive for national development success has even negatively impacted the human security of the most vulnerable. Malaysia ranks 62nd on the 2014 UNDP Human Development Index (HDI),[14] but even this measurement fails to take into account sufficiently the degree to which economic growth has contributed to income disparities in the country.[15]

Development at What Cost and at Whose Expense?

Despite significant economic growth, Malaysia's socio-political governance still leaves much to be desired. The benefits of development have yet to be felt by some of the most vulnerable sections of society, and worse, large development projects in the country can sometimes cause irreparable harm to minorities as well as to the environment. The trajectory taken by Malaysian economic development has brought about success and wealth for a small number of elites and added to the growing economic gap among its people. The Corruption Perception Index of 2014 by Transparency International ranks Malaysia 50th out of 175 countries.[16] There is growing political unrest with demonstrations from the public calling for change, such as the *Bersih* rallies in 2007, 2011 and 2012, in which protesters called for clean elections.[17]

Malaysia's native population, other than the dominant Malay ethnic group, comprises a myriad of indigenous tribes of varying sizes and economic engagement with the wider Malaysian polity. The non-Malay indigenous peoples make up some 12 per cent

of Malaysia's 28.6 million citizens, and they remain among the poorest despite national economic development. The majority of Malaysia's indigenous peoples reside in the eastern states of Sabah and Sarawak, regions rich in wood, water and biodiverse resources. Thus this research project focuses on the impact of Malaysia's national development policies aimed at exploiting these natural resources upon vulnerable indigenous groups in East Malaysia. In particular, this article examines how the building of hydroelectric dams in Sarawak (the most visible and controversial element of national development strategies) with the avowed intention of providing for the country's energy needs through exploiting a "clean", sustainable, and dependable energy source, has done little for the development needs of local people, but rather has, in fact, negatively impacted on the human security of the most vulnerable.

Significant indigenous communities in the state of Sarawak include the Iban, Bidayuh, Kenyah, Kayan, Kedayan, Murut, Punan, Bisayah, Kelabit, Berawan and Penan. Sometimes collectively known as the *Orang Ulu*, they make up slightly less than half of Sarawak's population.[18] Sarawak is a resource rich state, blessed with petroleum, gas, coal, vast amount of rainforest and arable land producing rubber, cocoa and oil palm among others. In 2014 its GDP per-capita was recorded at RM34,682 (US$7,931 at current exchange rate of 4.3) which is the third highest after the Federal territories of Kuala Lumpur and Labuan.[19] Its poverty rate is, however, the third highest behind the states of Sabah and Kelantan.[20] It seems counter-intuitive that those living in extreme poverty are, to a great extent, found in those very areas with the most abundant resources. Perhaps what we see here is an issue of "the resource curse" where "resource-rich areas tend to be poor and often politically oppressed".[21] Countries with rich endowments of natural resources might have overall good development measurements, but as pointed out by Michael Ross, the "terms-of-trade effect may be statistically robust at the global level, but it is still elusive at the case-study level".[22] In other words, the benefits are reaped by the elites who have control of the resources, while the trickledown effect from the expected development is not felt at the grassroots level. This scenario, ultimately, could bring a plateau to the overall development progress of the country.

The study of hydroelectric power generation in Sarawak throws into stark relief the contrast between the different interpretations of good governance (economic efficiency versus governing in the interests of all, but in particular the most vulnerable) and the impact

of policy prioritization focused on national development needs rather than human development costs. For any developing country, access to sources of clean and dependable energy is of utmost importance to national development initiatives. It can even be considered as wasteful and poor governance not to maximize available resources. Thus, from one perspective, it could be argued that the Malaysian government is maximizing its "sustainable economic growth" which therefore would fall under the definition of good governance outlined by the IMF.[23] On the other hand, the same policy could be seen as an example of bad governance, if the costs to the vulnerable indigenous communities outweighed the macroeconomic benefits. Of course, even if the macroeconomic benefits are seen as providing a utilitarian justification for the policies (the greatest good for the greatest number), this would still be very controversial from a humanitarian perspective in which human beings are viewed as rights bearers, and ends in themselves, rather than means to an end which can be exploited for the "common good".

Dams and Development

Lauded as a clean and renewable energy source, hydroelectric dams are increasingly forming part of many countries' large-scale macro-development plans. Much of their appeal derives from their ability to generate energy on a predictable basis and a high capacity for energy storage.[24] In addition, hydroelectric dams are viewed as useful beyond the production of energy in their ability to generate jobs, function as flood mitigation mechanisms, and even in terms of environmental benefits such as "creating favourable conditions for natural life at the edges of floodplains".[25] Developing countries have invested billions of dollars in hydroelectric dams, and the appetite for these macro-development projects has shown little sign of easing.[26] There remains a vast untapped potential for hydroelectric dams in developing countries which governments are keen to invest in and exploit.[27] Many governments are banking on the benefits brought about by hydroelectricity in terms of renewable energy, and also the creation of water reservoirs through these dams. From as early as the Third Malaysian Plan (3MP), launched in 1976 under the auspices of Malaysia's third Prime Minister, Tun Hussein Onn, the Malaysian government has been an enthusiastic endorser and proponent of these benefits. The 3MP emphasized hydroelectric power as an alternative to fuel oil for power generation, and successive administrations have reiterated this commitment.[28]

Like those of many other developing countries, the government of Malaysia prioritizes economic development, and feels that the achievement of its development goals is closely linked to reliable power production. Malaysia has experienced a steady increase in demand for energy alongside its economic growth. This demand is likely to increase, and the government is determined to make sure that infrastructure and facilities keep pace with industrialization. The government, therefore, has kept a close eye on energy demand predictions, and has used them to justify its hydroelectric policy. Hence in 2010, despite possessing an installed capacity of 20,493 megawatts (MW), amounting to an energy reserve margin in Peninsular Malaysia of 47 per cent, officials were concerned that with an average of 4 per cent annual growth, demand would be 23,099 MW in 2020, or nearly double the existing demand.[29] Rather than relying exclusively on oil and gas, the Malaysian government identified other sources of energy, including hydroelectric, as one of its Entry Point Projects (EPP) under its twelve National Key Economic Areas.[30]

A country with rich rainforests that also serve as water catchment areas, Malaysia's first dam, the Chenderoh Dam was built in 1939.[31] In 2013 hydropower made up 13 per cent of Malaysia's generation capacity for electricity.[32] Major hydroelectric dams in Peninsular Malaysia include Temengor (1974), Bersia (1980), Kenering (1980), Kenyir (1980), Sg. Piah (1993) and Pergau (1991).[33] In the eastern states of Sabah and Sarawak, Tenom Pangi was built in 1984 in Sabah, and Batang Ai in 1985 in Sarawak. Malaysia's potential for hydropower electricity is vast. Yet critics, both international and domestic, are beginning to question whether the benefits of these dams outweigh the massive costs. Related costs are not just financial, but are also, as will be detailed below, socio-economic and environmental. Even if we were to put to one side the human-centred costs, and consider merely the financial implications, the findings of a recent research carried out at Oxford University suggest that hydroelectric dams are not as sound a development investment as is generally presumed. To summarize, the report states that:

> the construction costs of large dams are on average +90% higher than their budgets at the time of approval, in real terms. This result is before accounting for negative impacts on human society and environment, and without including the effects of inflation and debt servicing; including these items, costs and cost overruns are much higher.[34]

The research also found that the contribution of hydroelectric dams to the development of a country, and the idea that over time they pay for themselves, was also not necessarily true. Indeed, the researchers found that development myths were being perpetuated as regards the building of hydroelectric dams, despite the prevalence of evidence to the contrary. For instance, cost overruns do not decline over time: "[d]am budgets today are as wrong as at any time during the 70 years for which data exist. Dam planners seem to not learn from thepast".[35] In particular, the researchers highlight Brazil's Itaipu dam, which suffered a 240 per cent cost overrun that impaired the nation's public finances for three decades, and is unlikely ever to recoup the costs incurred to build it.[36]

In Malaysia, spiralling costs and doubts about economic viability have also bedevilled the hydroelectric power generation industry. The continued problems with the construction of the Bakun dam are manifested in the financial cost the project has accrued, up from what was initially estimated at RM3–4 billion (US$940 million–US$1.25 billion) before it was shelved in 1997 to RM7.3 billion (US$2.28 billion) after construction began again in 2000 and its subsequent completion in 2011. Total funding was mainly sourced through borrowing from the national Employees Provident Fund (EPF) and the Pensions Fund. Moreover, a RM10 billion (US$3.13 billion) submarine cable project from Sarawak to the state of Johor in Peninsula Malaysia was cancelled, and all the power generated by Bakun is now to be sold to the state-owned energy company Sarawak Energy Berhad (SEB).[37]

Keen to reduce dependence on gas, the Malaysian government launched a four-fuel strategy in 1981 which aimed for a mixed energy supply of oil, gas, hydropower and coal.[38] Identification of hydroelectric and micro hydro dam sites (small dams that produce between 5–100 kW) was part of this national strategy. The commercial viability of such hydroelectric projects remains questionable. For example, Mohammad Afzaniza, the Head of Horizon Scanning at the Malaysian Foresight Institute, notes that problems include high capital cost and a difficulty in obtaining financing at competitive rates. He points out that many developers of renewable energy projects also do not survive and their projects become abandoned due to project variation.[39]

Even if, overall, the potential for hydroelectric power generation is seen as a net gain for the national economy, there are further concerns that it will not result in net gains for local people, and can even pose socio-economic threats to the most vulnerable indigenous communities. The dam projects in Sarawak form the main focus of the current controversies over hydroelectric power in Malaysia. The following sections will look first at current dam projects forming part of the Sarawak Corridor of Renewable Energy (SCORE), then at the legacy left behind from the Bakun Dam development in terms of its impact on the indigenous community living in its vicinity, and finally, the existing protest movements as well as governmental responses in dealing with negative impacts on the most vulnerable communities in Sarawak.

Sarawak and Its Hydroelectric Conundrum

The state of Sarawak is one of the three Malaysian territories in Borneo, the other two being the state of Sabah and the Federal Territory of Labuan. Sarawak is also the largest state in Malaysia. Despite its size, Sarawak is sparsely populated, with numerous vulnerable groups living in isolated communities. The state currently has a little over 2.4 million people made up of twenty-seven different ethnic groups.[40] Approximately 1.76 million (70 per cent of the population)[41] qualify as "Bumiputra", literally translated as "sons of the soil", which includes Malays, and the indigenous communities.[42] The indigenous/non-indigenous dichotomy has come to dominate politics, governance and development strategies in Malaysia.[43] Yet the population of Sarawak constitutes a Bumiputra community that conspicuously misses out on many of the socio-economic advantages supposedly guaranteed by government compensatory policies aimed at redressing imbalances and disadvantages experienced by the country's indigenous peoples. This could well be explained by the fact that the bulk of the Bumiputra population in Sarawak comprises non-Malay Dayaks.

Sarawakian politics revolve around maintaining a degree of autonomy from the national government while aspiring to match development levels on the Peninsular. Corruption and power monopoly is conspicuous in Sarawak's body politic. The current Governor (Sarawak's Head of State), Tun Pehin Sri Haji Abdul Taib Mahmud, also served as the Chief Minister of Sarawak from 1981

to 2014. The current Chief Minister of Sarawak is Abdul Taib's former brother-in-law, Tan Sri Datuk Amar Haji Adenan Satem. Taib Mahmud has been under investigation by Malaysia's Anti-Corruption Commission (MACC) since 2011[44] and even as investigations continue, sixty-five arrests were made in 2015 by MACC.[45] The water and electricity supply of Sarawak are controlled and maintained almost exclusively by state-sanctioned companies. SEB is the principal actor involved in the power and electricity sector, with its wholly-owned subsidiary, Syarikat SESCO Berhad granted the right to generate, transmit, distribute and supply electricity throughout the state. Kuching Water Board (KWB) and Sibu Water Board (SWB) are the two statutory authorities responsible for the management and provision of water supply services to Kuching and Sibu respectively, while state-owned LAKU Management Sdn. Bhd. manages the water supplies to Miri, Bintulu and Limbang, and the Sarawak Public Works Department (JKR Sarawak) Water Supply Branch is responsible for the planning, development, operation and maintenance of water supply services provided to all other areas in Sarawak.[46]

Hydroelectric power is seen by advocates not only as a means for answering increased national demands for energy, but also for generating economic gains for Sarawak. According to the Sarawak Integrated Water Resource Management Master Plan, hydroelectric power generation has a particularly high potential in Sarawak due to the abundance of water resources, the availability of suitable hydroelectric power (HEP) dam sites, and the long-term sustainability of energy supplies for answering national and state needs.[47] Moreover, SCORE is part of the government's regional development plans that were formally adopted in 2009. The programme focuses on ten "high impact priority industries"[48] in Sarawak alongside the development of an energy programme, with hydroelectricity as its backbone, to supply the needs of these ten industries.[49] Thus the development of new hydroelectric dams, together with the incorporation of the existing HEP dam sites (Batang Ai and Bakun, as well as the Murum dam which is currently under construction), are seen as key to the success of this plan to develop Sarawak, while also contributing to Malaysia's future energy needs.[50]

Bakun, the first giant hydroelectric project in Sarawak, is a cornerstone of Malaysia's energy policy, but can also be seen as a litmus test for the efficacy and legitimacy of national and state governance.[51] The project was first proposed in the 1980s, conceived

as what then would have been the world's second-largest dam, and projected to cost $5.2 billion. It was intended to generate 2,400 MW of electricity from its huge reservoir, the bulk of which was intended to be supplied to East Malaysia via undersea cables.[52] The Bakun plan took decades to get underway. Construction finally began in 1993, but was later shelved due to the onset of the 1997–98 Asian Financial Crisis.[53]

Ekran Bhd., the original developer of the Bakun dam, with a 32 per cent stake in Bakun Hydroelectric Corp,[54] experienced severe financing difficulties, resulting in a government bailout to the tune of RM950 million.[55] After being halted in 1997, the Bakun HEP dam project was taken over by the government in 2000 and was overseen by the national energy company, Tenaga Nasional Berhad (TNB), and Sarawak Hidro. This time the plans for cables for electricity distribution to Peninsula Malaysia were shelved in favour of the electricity generated by Bakun being used solely for industrial purposes in Sarawak itself. The Bakun project would be integrated into SCORE, one of the five economic corridors promoted by the government from 2006 to 2010.[56] The First Turbine Generator unit began commercial operation in August 2011, and full operation of all eight units was expected to follow in 2014.[57] As of the latest available reports, however, despite all eight units now being fully commissioned, Bakun is currently running at only slightly more than 50 per cent of its optimum capacity as demand from SEB, now the only customer, stands at around 900 MW.[58] From an economic efficiency perspective, Bakun represents a mixed result of policy initiatives. The project was severely delayed, and the initial plans for the electricity to go towards sustaining national energy needs had to be shelved in favour of local distribution on a reduced scale. The government had to step in to take direct control when the private sector failed. On the other hand, the scaled back project's price tag at its completion in August 2011 was around RM7.46 billion (US$2.28 billion),[59] a sizeable reduction from the original US$5.2 billion (RM15.6 billion) initially projected.[60] However, the experience of Bakun does not seem to have put the government off hydroelectric power generation. Alongside Batang Ai, Bakun is only the second dam in the development of SCORE, with the Murum dam due to be completed in 2015; and up to fifty potential locations being discussed for dam development, with some twelve dams already in the planning stage.[61]

Box 1
Status of Different Hydropower Projects in Malaysia

Batang Ai: 108 MW39, completed in the 1980s, assessment for 60 MW capacity increase completed by Entura (Australia)

Bakun: 2,400 MW, completed in 2011

Murum: 944 MW, completed in 2015

Baram 1: 1,200 MW, feasibility study completed by Fichtner GmbH & Co. KG (Germany) (temporarily shelved in 2015)

Baleh: 1,300 MW, feasibility study completed by GHD (Australia)

Pelagus: 410 MW, (feasibility) studies completed by Entura (Australia) and Norconsult (Norway)

Limbang 1 and 2: 245 MW, feasibility study completed/underway by SMEC (Australia)

Lawas: 87 MW, feasibility study by SMEC (Australia) underway

Baram 3: 300 MW

Belepeh: 114 MW

Linau: 297 MW

Source: Bruno Manser Fond, *Sold Down The River* (Basel: Bruno Manser Fond, 2012), p. 12, updated by the authors.

Crucially however, it is at the level of human development and security that the biggest challenges to the validity of the government of Malaysia's plans for hydroelectric power in Sarawak are to be found. The following section examines the impact of existing operations on the vulnerable indigenous individuals, groups and communities in Sarawak.

The Human Cost

Development-forced displacement and resettlement of indigenous communities, leaving the majority worse off than they were before the dam projects displaced them, is the biggest issue facing HED projects.[62] The building of the Bakun dam resulted in the displacement of some 10,000 indigenous people who were forcibly moved from

the 70,000 hectare reservoir and catchment area to a 4,000 hectare sponsored resettlement site at Sungai Asap.[63] In building the dam, about 700 square kilometres of farmlands and forest were flooded. The people living in this area had previously subsisted on the land around them providing for agriculture, hunting, and gathering of forest products.[64]

The government policy not to uphold Native Land Tenure or Native Customary Rights Land unless the communities "start cultivating crops, felling trees, and conducting rotational agriculture to claim ownership", held serious implications for the indigenous communities of Sarawak, as this is not how they relate to their land.[65] Rather, the communities have a symbiotic relationship with, and deep attachment to the forest, preserving it, just as it provides for their sustenance. Thus they have no wish to cut it down in order to claim ownership over the land on which it stands. Indeed, this would not only undermine their existing levels of sustenance, but would also be abhorrent to the communities concerned.

Yee Keong Choy has detailed four levels of land conceptualization among these communities: first, *temuda*, the land area around the longhouses, often taking the form of farmland; second, *menoa*, forested land used for game hunting and gathering which provides the people with all their daily subsistence needs such as wild boar meat, forest produce and raw materials such as rattan for their traditional weaving activities; third, *dampor*, cultivated land which is located a distance away from their longhouse settlements; and fourth, *pulau*, or protected forest area, which provides the indigenous communities with traditional resources such as water catchments.[66] Likewise Fadzilah Cooke has noted how the Penan community, an indigenous hunter-gatherer tribe of Sarawak, view their relationship to the land as one not of ownership, but rather of monitoring information on the availability of resources over vast tracts of land, and of enhancing their long-term availability, thereby ensuring the rights of both current and future generations are respected.[67] Under Malaysia's national land-ownership regulations, however, land that is not cultivated is considered state land and thus the indigenous peoples' claims to these lands are not recognized.

The communities resettled to Sungai Asap were promised ten acres of farmland and free housing. They instead found themselves going into debt when they were required to pay for the housing provided, were allocated merely three acres per family, and found much of this land to be rocky, sloped and sandy, and thus unsuitable for farming.[68] The settlement is surrounded by palm oil plantations, which

precludes hunting and gathering. High housing prices, combined with a drop in incomes, and lack of job opportunities, have significantly disadvantaged relocated communities.[69] Due to the insufficiency of compensation, and tough living conditions in Sungai Asap, some 3,000 people have moved out.[70] In terms of public life, the biggest problem lies in the transition to a cash-based society from previous dependence on the forest for both livelihood and socio-cultural identity. The government therefore needs to ensure that the Sungai Asap settlement is provided with community facilities and infrastructure through which to reconstruct community sustainability.[71] Indeed, damage to and hardship in all the communities relocated as a result of the Bakun HEP project has been extensively documented.[72] These negative impacts include the creation of boom and bust towns, as well as inflation, caused by dramatic population fluctuations due to the influx of construction workers during the development period;[73] impediments to navigation (waterborne transport and communication); severe decreases in community livelihoods due to the loss of forest and water resources; as well as the unfair compensation documented above.

Hydroelectric dams also have negative impacts on the wider environment, which in turn adversely affect local communities. The Bakun dam destroyed 69,640 ha of forest ecosystem, including 49 species of amphibians, 109 species of moths, 34 species of butterflies, 205 species of other families of insects, and 15 families, 42 genera and 104 species of fish.[74] The overall environmental cost of dam building also manifested itself in the form of greenhouse gas emissions due to the microbial decomposition of submerged forest, vegetation, wildlife and soil.[75] Furthermore, dammed water is prone to the proliferation of algae which, if left unattended, leaches oxygen from the water, possibly bringing about a state of hypoxia (oxygen depletion). The Bakun dam is particularly prone to this phenomenon as the reservoir bed holds massive quantities of vegetation.[76]

Transformation of neighbouring waterways with changes in both upstream and downstream water pressure, levels, and directional flow, has had a tremendous impact on local subsistence-level fishing activities. Furthermore, Sarawak's rivers are the main method of transportation for most of the more isolated communities in the hinterland — the very regions targeted by dam construction projects. The loss of the water level in the rivers, due to the time the dam takes to impound, changes the hydrology of the rivers, including current-flows and pressure on the river banks, making navigation

treacherous, and thus posing danger to those who rely on the waterways to commute.[77]

Perhaps not surprisingly, therefore, the Malaysian government's hydroelectric polices in Sarawak have drawn local, national and even international criticism. At a macroeconomic level, it is feared that the new giant dams, beginning with Bakun, will only serve to bring about an energy glut in Sarawak, without any long-term governance planning as to what to do with the surplus, or concern over the consequences for the native communities. Power generated through the dams cannot be stored and will need to be used as produced or else wasted. Since the submarine cables to supply Peninsula Malaysia is no longer part of the overall dam project, the power has to be consumed locally. The projection for energy demand under SCORE was an underwhelming 500 MW for 2012, only reaching 2,600 MW by 2015 when Bakun reached full capacity.[78] Given that Bakun alone can provide more than 10,000 GWh per annum, when combined with the completion of Murum and Baram HED project, there will be a large excess capacity by 2030, even if annual growth of energy demand continues at 7 per cent.[79]

The construction of the smaller Batang Ai Dam in the 1980s involved the relocation of the indigenous Iban (members of one of the largest indigenous groups of Sarawak, formerly animist, now majority Christian) from the Lubok Antu District. Here too the problems of insufficient compensation, lack of opportunities, and the difficulties of transition to a cash economy, including loan repayments, undermined the human security of the relocated groups.[80] If Bakun truly serves as a harbinger of things to come with the other planned Sarawakian dams — or a continuation of trends established with Batang Ai — then other indigenous communities must brace themselves for the sort of damage and loss endured by those already relocated. The following reports detail how indigenous groups are already protesting the inevitable relocations.

On 26 September 2013, for instance, 200 villagers representing 1,500 indigenous people from the Penan and Kenyah communities destined to lose their homes as a result of the construction of the Murum Dam, halted construction by blockading access roads.[81] Following Murum, the next HEP project currently scheduled for construction is the Baram Dam, which will submerge 159 square miles (412 square kilometres) of rainforest, displacing some 20,000 indigenous people.[82] Hundreds of indigenous protestors have also set up blockades at every road to this dam site to prevent construction vehicles from entering.[83] In May 2015, the Chief Minister of Sarawak,

Tan Sri Adenan Satem, held a closed-door meeting with representatives of the Baram Orang Ulu indigenous groups and thereafter declared that community leaders would support the state government in this Baram Dam project.[84] Local activists questioned, however, why there was a need for a closed-door meeting, why there was no broader consultation, and which were the leaders consulted and for whose interests did they speak.[85] Ultimately, continued protests and blockades over a period of two years seemed to have had some impact, because on 4 August 2015, the Chief Minister announced a moratorium to "allow the state government to study feedback from local communities in Baram and the evaluation of expert opinions on the construction of mega dam".[86] Importantly, the local news outlet *The Star* recently reported that the Baram Dam has since been shelved but work is expected to continue with the Baleh Dam project.[87]

This may still not be enough for some local activists who push for an end to all such projects as they are not seen to bring any benefit to the people who have to make way for them.[88] This goes directly against claims made by local governmental sources. In addition to the national economic efficiency and development justifications, the state government of Sarawak has been making human security claims for the benefits of dam building and resettlement in the state. For instance, *National Geographic News* reported that an unnamed government spokesperson told them via email that

> The people affected [by the dams] will be those who are living in small settlements scattered over remote areas. They are still living in poverty ... To build a dam, not just to generate reasonably priced energy, is also to involve the affected people in meaningful development ... otherwise, they will be left out.[89]

So far, however, while the Malaysian government has made the Murum resettlement plans available to the public, those for Baram, Baleh and other dams in the pipeline have yet to be released.[90]

The state government has also yet to release any environmental or social impact assessments despite the fact that the dams are promoted as part of the International Hydropower Association's Hydropower Sustainability Assessment Protocol (HSAP). The International Association of Communication Activists (IACACT) criticized the fact that construction on Murum Dam began before the project's environmental and social impact assessments (ESIA) had even started, and that the ESIA remains inaccessible to the public.[91] It seems, therefore, that good governance at the level of impact on the most vulnerable remains something of an afterthought in Malaysian hydroelectric policy planning and implementation.

Conclusion

Although numerous reports have criticized the energy efficiency, human rights and environmental impacts of hydroelectric dams, the Malaysian federal government, driven by macroeconomic development considerations, has continued to support the construction of mega-dam projects. In keeping with the view of good governance as economic efficiency prevalent in the region, the government of Malaysia prioritizes the national interest of securing reliable energy supplies even if it comes at the expense of, already marginalized, indigenous communities. The Economic Planning Unit of Malaysia states that "Malaysia's development efforts are premised on a pro-business growth strategy. The private sector is the engine of growth, while the public sector facilitates development and ensures the achievement of the socio-economic objectives of the nation."[92] Thus HEP projects are directly positioned for the promotion of industrial growth in Sarawak. The dominance of this macroeconomic development and growth model of good governance among planners results in more dams being built despite their manifold negative implications.

Yet contemporary developmental perspectives of good governance emphasize that government policymaking and its impact must be participatory, transparent and accountable as well as effective and equitable. While promoting the rule of law, it should also focus on the interest of the most vulnerable. This article has highlighted the plight of the most vulnerable and those left behind or even sacrificed in the interests of large scale "national development" projects. It also questions the participatory nature of the dam development as the natives in Sarawak continue to protest the government's development plans. Thus, according to this alternative conceptualization of good governance, policy prioritization needs to be changed. This is not to say that the Malaysian government has completely ignored the interests of the indigenous communities, but rather that more needs to be done in terms of a reordering of priorities.

The ongoing ramifications of the Bakun resettlement disaster remain an issue, but the Malaysian government has shown a degree of willingness to learn from previous mistakes as it addresses concerns over the development of the Murun Dam. SEB is carrying out initiatives such as the Basic Community programmes in order to empower the Murum resettled communities with "self-dependence skills"[93] as well as a community-based fishery project.[94] The government has also talked of a willingness to "involve the affected people in

meaningful development" but it remains to be seen as to whether this is actually carried out.[95] This article highlights the need for local and national policies to be adapted to reflect the interests of the indigenous communities, and their basic human needs: first, governance must be aimed at helping communities transition into cash-based societies with the creation of sustainable economic viability; second, it must mitigate against the loss of socio-cultural identity which is inextricably entwined with the forest.

Transitioning into a cash-based society is not an overnight project and this might even call for a scale-back in the SCORE development plan. New industries and large factories will not benefit people who have neither the education nor the skills to take up projected job opportunities championed by the Malaysian government. Hence the Renewable and Appropriate Energy Laboratory (RAEL) has suggested that the least costly options for energy services would come from a mixture of locally-managed small-scale hydroelectricity, biogas generators and accompanying batteries rather than large-scale regional electrification — such an agenda would be far cheaper than the cost of diesel energy scenarios, but without the social, economic and environmental disruptions of large-scale HEP projects.[96] Furthermore, RAEL suggests that resource-rich Sarawak could also benefit greatly from solar and biomass waste technologies.[97]

To date, governance by local and national authorities in the existing hydroelectric dam projects in Sarawak has done little to reassure indigenous civil societies, or NGOs representing them, regarding either transparency or accountability. There is neither sufficient regard for the poorest, nor means for empowering them to provide for themselves, due to the loss of their lands and livelihood. It might even be in the enlightened self-interest of the authorities in Kuala Lumpur and Kuching to address these shortcomings and thereby remove one of the stimuli for anti-government protests. This is particularly relevant given the volatility of contemporary Malaysian politics, and the dependence of the ruling Barisan Nasional coalition upon support in East Malaysia in the wake of dismal election results in 2013. In essence, good governance, when it comes to hydroelectric power in Sarawak, rests upon the willingness, sincerity, and commitment of government efforts, at both the state and national levels, in providing for a renewed means of life for the indigenous communities adversely affected by the dam projects. There may now be sufficient momentum behind calls to take such a human-centred approach.

NOTES

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1 Sam Agere, *Promoting Good Governance: Principles, Practices and Perspectives* (London: Commonwealth Secretariat, 2000), p. 1.

2 United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), "What is Good Governance?", available at <http://www.unescap.org/sites/default/files/good-governance.pdf>.

3 UNDP, "Governance for Sustainable Human Development: A UNDP Policy Document", 1997, p. 1, available at <http://www.pogar.org/publications/other/undp/governance/undppolicydoc97-e.pdf>.

4 Barry Buzan and Gerald Segal, "Rethinking East Asian Security", in *World Security: Challenges for a New Century*, edited by M.T. Klare and Y. Chandrani (New York: St. Martin's Press, 1998), p. 107.

5 Asian Development Bank (ADB), *Asia 2050: Realizing the Asian Century*, 2011, available at <http://www.adb.org/sites/default/files/publication/28608/asia2050-executive-summary.pdf>.

6 Buzan and Segal, "Rethinking East Asian Security", op. cit., p. 107.

7 OECD, "Busan Partnership for Effective Development Co-operation" (Busan: OECD, 2011), available at <http://www.oecd.org/dac/effectiveness/49650173.pdf>.

8 Office of the UN High Commissioner for Human Rights, *Good Governance Practices for the Protection of Human Rights* (New York and Geneva: United Nations, 2007), available at <http://www.ohchr.org/Documents/Publications/GoodGovernance.pdf>.

9 Brendan Howe, *The Protection and Promotion of Human Security in East Asia* (Basingstoke, UK: Palgrave Macmillan, 2013), p. 23.

10 Ibid., p. 39.

11 Edmund Terence Gomez, "The Rise and Fall of Capital: Corporate Malaysia in Historical Perspective", *Journal of Contemporary Asia* 39, no. 3 (2009): 346.

12 Mahathir Mohamad, "The Way Forward", Working Paper presented at Malaysian Business Council, 28 February 1991, available at <https://www.pmo.gov.my/home.php?menu=page&page=1904>.

13 Central Intelligence Agency (CIA), *The World Factbook, 2015: Malaysia*, available at <https://www.cia.gov/library/publications/the-world-factbook/geos/my.html>.

14 UNDP, *Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience: Human Development Report 2014*, p. 159, available at <http://www.undp.org/content/dam/undp/library/corporate/HDR/2014HDR/HDR-2014-English.pdf>.

15 Ishak Shari, "Economic Growth and Income Inequality in Malaysia, 1971–95", *Journal Of The Asia Pacific Economy* 5, no. 1–2 (2000): 123.

16 Transparency.org, "Country Profile: Malaysia", available at <http://www.transparency.org/country/#MYS>.

17 Liz Gooch, "Thousands of Malaysians Rally for Changes to Elections", *New York Times*, 9 July 2011, available at <http://www.nytimes.com/2011/07/10/world/asia/10malaysia.html?_r=0>.

18 International Work Group for Indigenous Affair (IWGIA), "Indigenous Peoples in Malaysia", no date, available at <http://www.iwgia.org/regions/asia/malaysia>.

19 Sarawak State Planning Unit, "Sarawak Fact and Figures 2014", 2014, pp. 11–12, available at <http://www.spu.sarawak.gov.my/downloads/Facts%20&%20Figures/Sarawak%20Facts%20&%20Figures%202014.pdf>.

20 Economic Planning Unit, "Incidence of Poverty by Ethnicity, Strata and State, Malaysia, 1970–2012", available at <http://www.epu.gov.my/documents/10124/669145a4-1b34-4f04-9043-31b24d1c3442>.

21 R.T. Deacon and A. Rode, "Rent Seeking and the Resource Curse", 26 September 2012, available at <http://www.econ.ucsb.edu/~deacon/RentSeekingResourceCurse%20Sept%2026.pdf>.

22 Michael Ross, "The Political Economy of the Resource Curse", *World Politics* 51, no. 2 (January 1999): 304.

23 International Monetary Fund (IMF), *Good Governance: The IMF's Role* (Washington, D.C.: IMF, 1997).

24 Janusz Stellar, "Hydropower and Its Development", *Acta Energetica* 3, no. 16 (September 2013): 7.

25 Ibid., p. 8.

26 John Briscoe, "The Financing of Hydropower, Irrigation and Water Supply Infrastructure in Developing Countries", *International Journal of Water Resources Development* 15, no. 4 (December 1999): 460.

27 Ibid., p. 462.

28 Economic Planning Unit, "Chapter XXI: Utilitties", *Rancangan Malaysia Ketiga, 1976–1980* [Third Malaysia Plan, 1972–1980] (Kuala Lumpur: Prime Minister's Department, 1976), pp. 370–83.

29 Tick Hui Oh, Shen Yee Pang and Shing Chyi Chua, "Energy Policy and Alternative Energy in Malaysia: Issues and Challenges for Sustainable Growth", *Renewable and Sustainable Energy Reviews* 14 (December 2010): 1241.

30 Performance Management & Delivery Unit (PEMANDU), "EPP 12: Tapping Malaysia's Hydroelectricity Potential", *Economic Transformation Programme,* available at <http://etp.pemandu.gov.my/Oil,_Gas_and_Energy-@-Oil,_Gas_and_Energy_-_EPP_12-;_Tapping_Malaysia%E2%80%99s_Hydroelectricity_Potential.aspx>.

31 Zainal Abidin Othman, "The Future of Hydropower in Malaysia", *Jurutera,* The Institution of Engineers Malaysia (IEM) Monthly Bulletin, May (2005): 32.

32 Energy Commission of Malaysia, "Performance and Statistical Information on Electricity Supply Industry in Malaysia", 2013, p. 114, available at <http://www.st.gov.my/index.php/industry/statistics-reports.html?download=518:electricity-supply-industry-in-malaysia-performance-and-statistical-information-2013>.

[33] Zainal Abidin Othman, "The Future of Hydropower in Malaysia", op. cit., pp. 32–33.

[34] Said Business School, "Large Hydro-electric Dams Unviable and Seriously Damaging to Emerging Economies", 2014, available at <http://www.sbs.ox.ac.uk/school/news/press-office/press-releases/large-hydro-electric-dams-unviable-and-seriously-damaging-emerging-economies>.

[35] Ibid.

[36] Ibid.

[37] Tick Hui Oh, Shing Chyi Chua and Wei Wei Goh, "Bakun — Where Should All the Power Go?", *Renewable and Sustainable Energy Reviews* 15 (December 2011): 1037.

[38] Thahirah Syed Jalal and Pat Bodger, "National Energy Policies and the Electricity Sector in Malaysia", Proceedings of ICEE 2009, 3rd International Conference on Energy and Environment, Malacca, Malaysia, 7–8 December 2009, p. 442.

[39] Mohd Afzanizam Mohd Badrin, "Malaysia Report on Small Hydro Power (SHP)", *myForesight: Malaysia's National Foresight Magazine*, 1 October 2012, p. 39, available at <http://www.myforesight.my/download/myforesight6.pdf>.

[40] Sarawak Government, "The Demographics of Sarawak", *The Official Portal of the Sarawak Government*, available at <http://www.sarawak.gov.my/web/home/article_view/158/175/>.

[41] Department of Statistics Malaysia, *Population Distribution and Basic Demographic Characteristics*, 2010, p 76.

[42] K.S. Jomo and Wee Chong Hui, "The Political Economy of Malaysian Federalism: Economic Development, Public Policy and Conflict Containment", *Journal of International Development* 15 (January 2003): 443.

[43] Sharon Siddique and Leo Suryadinata, "Bumiputra and Pribumi: Economic Nationalism (Indiginism) in Malaysia and Indonesia", *Pacific Affairs* 54, no. 4 (Spring 1981): 662.

[44] Nicola Gage, "Adelaide Linked to Billionaire Taib Mahmud Under Investigation for Corruption in Malaysia", *ABC News*, 9 September 2015, available at <http://www.abc.net.au/news/2015-09-09/adelaide-linked-to-billionaire-taib-mahmud-under-investigation/6763138>.

[45] Yu Ji, "Sarawak MACC: Sixty-five Arrested on Corruption Charges This Year", *The Star*, 24 November 2015, available at <http://www.thestar.com.my/news/nation/2015/11/24/sarawak-macc-corruption-charges/>.

[46] Sarawak Government, "Transport and Infrastructure", *The Official Portal of the Sarawak Government*, available at <http://www.sarawak.gov.my/web/home/article_view/160/177/>.

[47] Sarawak Integrated Water Resources Management (SIWRM), available at <http://www.siwrs.com.my/modules/iwrm/>, last updated 17 August 2010 (accessed 20 November 2015).

[48] RECODA (Regional Corridor Development Authority), "What is SCORE", available at <http://www.recoda.com.my/invest-in-score/what-is-score/>.

[49] Benjamin K. Sovacool and L.C. Bulan, "Meeting Targets, Missing People: The Energy Security Implications of the Sarawak Corridor of Renewable Energy (SCORE)", *Contemporary Southeast Asia* 33, no. 1 (April 2011): 70.

50 Ibid., p. 67.

51 Previous projects were on a much smaller scale.

52 Tony Allison, "Malaysia's Bakun Project: Build and Be Damned", *Asia Times*, 28 October 2000, available at <http://www.atimes.com/reports/BJ28Ai01.html>.

53 SHSB (Sarawak Hidro Sendirian Berhad), "Milestone", available at <http://www.sarawak-hidro.com/Pages/milestones.aspx>.

54 Assif Shameen, "A Sinking Feeling: Financing Bakun is Looking Almost as Tricky as Building the Dam", *Asiaweek*, 4 July 1997, available at <http://edition.cnn.com/ASIANOW/asiaweek/97/0704/biz4.html>.

55 M. Shanmugam, "Claims for Bakun Piles Up", *The Edge*, 7 May 2012, available at <http://www.theedgemarkets.com/my/article/claims-bakun-pile>.

56 RECODA, "What is SCORE", op. cit.

57 SHSB (Sarawak Hidro Sendirian Berhad), "Milestone", op. cit.

58 Jack Wong, "Bakun at 50% Capacity Producing 900MW", *The Star Online*, 22 July 2014, available at <http://www.thestar.com.my/business/business-news/2014/07/22/bakun-at-50-capacity-sarawak-dam-producing-an-average-of-900mw-by-jack-wong-starbizthestarcommy/>.

59 Oh, Chua and Goh, "Bakun — Where Should All the Power Go?", op. cit., p. 1037.

60 Allison, "Malaysia's Bakun Project: Build and Be Damned", op. cit.

61 Jack Wong, "Rain Speeds Up Murum Dam Impoundment, Water Level Months Ahead of Schedule", *The Star Online*, 4 April 2014, available at <http://www.thestar.com.my/Business/Business-News/2014/04/04/Rain-speeds-up-Murum-dam-impoundment-Water-level-is-months-ahead-of-schedule/?style=biz>.

62 S.R. Aiken and C.H. Leigh, "Dams and Indigenous Peoples in Malaysia: Development, Displacement and Resettlement", *Geografiska Annaler: Series B, Human Geography* 97, no. 1 (March 2015): 69.

63 Benjamin K. Sovacool and L.C. Bulan, "Behind an Ambitious Megaproject in Asia: The History and Implications of the Bakun Hydroelectric Dam in Borneo", *Energy Policy* 39 (September 2011): 4852.

64 Yee Keong Choy, "Energy Demand, Economic Growth, and Energy Efficiency — The Bakun Dam-induced Sustainable Energy Policy Revisited", *Energy Policy* 33 (September 2005): 685.

65 Sovacool and Bulan, "Behind an Ambitious Megaproject in Asia", op. cit., p. 4851.

66 Yee Keong Choy, "Sustainable Development and the Social and Cultural Impact of a Dam-Induced Development Strategy — The Bakun Experience", *Pacific Affairs* 77, no. 1 (Spring 2004): 54.

67 Fadzilah Majid Cooke, "The Politics of 'Sustainability' in Sarawak", *Journal of Contemporary Asia* 27, no. 2 (1997): 225.

68 International Rivers, "Bakun Dam", available at <http://www.internationalrivers.org/campaigns/bakun-dam>.

69 WWF (World Wildlife Fund), "Dam Right! WWF's Dams Initiative: An Investor's Guide to Dams" (Switzerland: WWF International, 2003), p. 30, available at <http://assets.panda.org/downloads/investorsguidedams.pdf>.

[70] Benjamin K. Sovacool and L.C. Bulan, "Energy Security and Hydropower Development in Malaysia: The Drivers and Challenges Facing the Sarawak Corridor of Renewable Energy (SCORE)", *Renewable Energy* 40 (2012): 126.

[71] Edward Andre, "Beyond Hydrology in the Sustainability Assessment of Dams: A Planners Perspective — The Sarawak Experience", *Journal of Hydrology* 412–413 (January 2012): 247.

[72] Including *inter alia*: Sovacool and Bulan, "Meeting Targets, Missing People", op. cit.; Sovacool and Bulan, "Behind an Ambitious Megaproject in Asia", op. cit.; Sovacool and Bulan, "Energy Security and Hydropower Development in Malaysia", op. cit., pp. 113–29.

[73] Sovacool and Bulan, "Behind an Ambitious Megaproject in Asia", op. cit., pp. 4848–54.

[74] Choy, "Energy Demand, Economic Growth, and Energy Efficiency", op. cit., p. 683.

[75] Ibid.

[76] Benjamin K. Sovacool and Scott V. Valentine, "Bending Bamboo: Restructuring Rural Electrification in Sarawak, Malaysia", *Energy for Sustainable Development* 15, issue 3 (September 2011): 246.

[77] Oh, Chua and Goh, "Bakun — Where Should All the Power Go?", op. cit., p. 1040.

[78] Ibid., p. 1039.

[79] For a detailed growth and demand prediction on energy production and alternative systems, see Rebekah Shirley and Daniel Kammen, "Energy Planning and Development in Malaysian Borneo: Assessing the Benefits of Distributed Technologies versus Large Scale Energy Mega-projects", *Energy Strategy Reviews* 8 (July 2015): 15–29.

[80] Sabihah Osman, "Globalization and Democratization: The Response of the Indigenous Peoples of Sarawak", *Third World Quarterly* 21, no. 6 (2000): 980.

[81] IWGIA (International Work Group for Indigenous Affair), "Malaysia", *The Indigenous World*, 2013, p. 262.

[82] Pei Ling Gan, "Megadam Project Galvanizes Native Opposition in Malaysia", *National Geographic News*, 27 February 2013, available at <http://news.nationalgeographic.com/news/energy/2013/02/130227-malaysia-score-megadam-project/>.

[83] Stephen Then, "Baram Dam Protests Escalate, Assemblyman asks for Cooling Off Period", *The Star Online*, 29 October 2013, available at <http://www.thestar.com.my/News/Nation/2013/10/29/baram-dam-natives-protest/>.

[84] Stephen Then, "Sarawak to Proceed with RM4bil Baram Dam Construction", *The Star Online*, 16 May 2015, available at <http://www.thestar.com.my/News/Nation/2015/05/16/Sarawak-Baram-Dam/>.

[85] Malaysiakini.com, "Group: Who did Adenan Consult about Baram Dam?", 17 May 2015, available at <https://www.malaysiakini.com/news/298626#ixzz3s0HuieQV>.

[86] Sulok Tawie, "SEB Waiting for State's Nod to Start Baleh Dam Construction", *Malay Mail Online*, 26 October 2015, available at <http://www.themalaymailonline.com/malaysia/article/seb-waiting-for-states-nod-to-start-baleh-dam-construction>.

87 "Adenan: Sarawak's Baram Dan Project Temporarily Shelved", *The Star*, 18 November 2015, available at <http://www.thestar.com.my/News/Nation/2015/11/18/Baram-dam-temporary-shelved/>.

88 William Mangor, "Baram Folk Want Dam Project Aborted, Not Shelved", *Free Malaysia Today*, 19 November 2015, available at <http://www.freemalaysiatoday.com/category/nation/2015/11/19/baram-folk-want-dam-project-aborted-not-shelved/>.

89 Gan, "Megadam Project Galvanizes Native Opposition in Malaysia", op. cit.

90 Sarawak State Government, "Proposed Resettlement Action Plan for the Murum HEP Project — Public Disclosure Document", 22 May 2013, available at <https://www.internationalrivers.org/files/attached-files/murum_dam_resettlement_plan_may_2013.pdf>.

91 Zachary Hurwitz and Kirk Herbertson, "Indigenous People Confront Industry on Sarawak Dams", International Association of Communication Activists, 21 June 2013, available at <http://www.iacact.com/?q=node/316>.

92 Economic Planning Unit (EPU), *Development Planning in Malaysia* (Putrajaya: Prime Minister's Department, 2004), p. 2, available at <http://www.epu.gov.my/c/document_library/get_file?uuid=87293fd8-ba57-4fe0-a65a-52f8f925c397&groupId=283545>.

93 "Sarawak Energy's Programme Aims at Empowering Murum Folk", *The Star*, 20 January 2014, available at <http://www.thestar.com.my/News/Community/2014/01/20/Sarawak-Energys programme-aims-at-empowering-Murum-folk/>.

94 "Community-based Fishery Project in the Offing", *The Star*, 6 April 2014, available at <http://www.thestar.com.my/News/Community/2014/04/06/Communitybased-fishery-project-in-the-offing/>.

95 Gan, "Megadam Project Galvanizes Native Opposition in Malaysia", op. cit.

96 Daniel Kammen and Rebekah Shirley, "Kampung Capacity: Local Solutions for Sustainable Rural Energy in the Baram River Basin, Sarawak, Malaysia", *RAEL Report #2013.1*, 30 October, 2013, p. 5, available at <http://rael.berkeley.edu>.

97 Shirley and Kammen, "Energy Planning and Development in Malaysian Borneo", op. cit., p. 27.