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# Sold Down the River

**How Sarawak Dam Plans  
Compromise the Future of  
Malaysia's Indigenous Peoples**

**Bruno Manser Fonds  
November 2012**

**[www.stop-corruption-dams.com](http://www.stop-corruption-dams.com)**

This report has been prepared by the Bruno Manser Fund, a charitable association registered in Basel, Switzerland.

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**Picture - View of the 2400 MW Bakun dam, Asia's largest dam outside China**

Pictures: Bruno Manser Fonds, SAVE Rivers Network and SCANE (Miri, Sarawak)2

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## Executive Summary

The Malaysian state of Sarawak is embarking on a large **industrialization project**, called the Sarawak Corridor of Renewable Energy (SCORE). The backbone of this energy-intensive programme is a series of dams. The project reflects an out-dated understanding of development based on prestigious mega-projects of symbolic value rather than real improvements of living conditions.

- **50 hydroelectric dams** with a capacity of **20,000 Megawatt (MW)** should be realized in the long run. Sarawak Energy Berhad, a Malaysian supplier, is working on the implementation of a first series. Around 20 potential sites for hydropower projects are being considered. Murum Dam, the first one out of the series, is almost completed.
- These dams would **flood hundreds of square kilometres of forest** and farmland and **displace tens of thousands of people**. Baram Dam alone would submerge 400km<sup>2</sup> and 20,000 natives would need to be resettled. Resettlement would result in the loss of traditional livelihoods, culture and identity.
- Sarawak is likely to face **excess of power**. SCORE, the most ambitious energy project of Southeast Asia, is clearly supply- rather than demand-driven. The current peak demand in Sarawak lies at around 1000 MW, but Sarawak Energy wants to add another 6,200 MW until 2020. It is highly unclear whether Sarawak will find enough power purchasers as global mining giant Rio Tinto withdrew from a planned aluminium smelter in 2012.
- With **US\$105 billion** of costs until 2030, SCORE is Southeast Asia's most capital-intensive project. This figure, however, does not reflect the true costs as social and environmental factors have been completely ignored in the design of the project. The new jobs potentially created by SCORE will hardly benefit the local population as forecasts show that the project is only feasible with a massive import of workers from outside Sarawak.
- Foreign investors should be warned about the risks of their involvement. Experience shows that Sarawak's government and Sarawak Energy **violate the international standards** they claim to follow, such as the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) or the Equator Principles. In reality, there is a lack of transparency, lack of free, prior and informed consent of the affected indigenous peoples, lack of timely and appropriate social and environmental impact assessments and failure to respect the indigenous communities' right to self-determined development.
- Due to rampant corruption in Sarawak, **SCORE is a corruption high-risk endeavour**: companies associated with Sarawak's Chief Minister Taib Mahmud, particularly construction conglomerate Cahya Mata Sarawak Berhad (CMS), are likely to be the main beneficiaries of public contracts in the framework of SCORE. In 2005, Transparency International called Sarawak's Bakun dam, which was completed in 2011, a "Monument of Corruption".
- **Foreign experts are playing a key role** in Sarawak Energy's efforts to implement the dam projects planned under SCORE. A **Norwegian businessman, Torstein Dale Sjøtveit**, has been CEO of Sarawak Energy since 2009. The Australian consultancy company **Hydro Tasmania** has seconded several key staff to Sarawak Energy, including the Project Director for Murum dam and the Senior Project Manager for the proposed Baram and Baleh dams. Western consultants from Australia (Hydro Tasmania, SMEC, GHD), the United States (MWH Global), Germany (Fichtner GmbH) and Norway (Norconsult) have conducted

feasibility studies for the dams. The Chinese companies Sinohydro and the China Three Gorges Corporation are in charge of the construction works.

- A strong local opposition to the dams has emerged. Civil society organisations and affected communities founded the “Save Sarawak’s Rivers Network”, shortly “SAVE Rivers”, in late 2011. Since then, their campaign has gained momentum: they have appeared on the national news, and have recently also appeared in the international media, with their protest letters and petitions, conferences and protests. Most recently, the people in Murum have even set up a blockade on the access road to the Murum Dam.

## **Demands by the Bruno Manser Fund**

The Sarawak government is asked to:

- **put a moratorium on all dam constructions in Sarawak, including Murum**
- **commission an independent external review of the existing dams (Bakun, Bengoh, Batang Ai) that examines their profitability, safety and legal compliance**
- **provide full transparency on all projects under SCORE, and to disclose all financial information, social and environmental impact assessments in particular**
- **respect the indigenous peoples’ right to free, prior and informed consent and strengthen the protection of native customary land rights**
- **develop projects together with the indigenous peoples that acknowledge their right to pursue their own chosen path of development**
- **address resettlement issues at Sungai Asap, the Bakun resettlement site**

Sarawak Energy is asked to:

- **sack Abdul Hamed Sepawi, the Chief Minister’s cousin, as its Chairman**
- **publish information on all contracts granted to companies linked to Sarawak Chief Minister Taib Mahmud and his family members during the last ten years**
- **provide full transparency on its finances, contracts and funders**
- **follow the IFC performance standards and the UN Declaration on the Rights of Indigenous Peoples and regularly update on the proceedings**

The Malaysian federal government is asked to:

- **stop turning a blind eye to Chief Minister Taib Mahmud’s rampant corruption in Sarawak and ensure that Taib is held responsible for his criminal conduct**
- **admonish Malaysian banks not to fund dam projects that involve corruption and the violation of indigenous peoples’ rights**

The international business partners and foreign investors are asked to:

- **shun SCORE and the Taib government’s hydropower program that is inextricably linked to corruption, environmental damage and the violation of indigenous peoples’ rights**

# 1. Introduction

The Malaysian state of Sarawak, situated on the island of Borneo, is known for the biodiversity of its forests and its rich indigenous culture. To further its claim to fame, Sarawak's government now envisions becoming known for its fast and miraculous pace of development, which should catapult Sarawak into the league of "developed" nations by 2020. Their chosen development model is based on large-scale projects and on a one-dimensional focus on radical resource exploitation.

## *Sarawak's resource policies*

Sarawak enjoys great freedom concerning the management and exploitation of its resources and land<sup>1</sup>. Therefore, Sarawak's government, for the last 30 years under its Chief Minister Taib Mahmud, has had full control over Sarawak's resource policies. These policies caused massive deforestation in Sarawak, leaving only an estimated 5 per cent of primary forests spared from logging. Sarawak's large remaining secondary rainforests are currently being destroyed at a rate three times faster than in Asia overall, mainly for the planting of oil palms.<sup>2</sup> 1,021,587 hectares out of Sarawak's 12.4 million hectares (around one twelfth) were already covered with oil palm plantations in late 2011.<sup>3</sup>

The aggressive exploitation of natural resources in Sarawak has repeatedly led to conflicts between the indigenous communities and the state or the companies involved. The government of Sarawak has been accused of violations of human as well as indigenous rights, especially the Native Customary Rights (NCR) to land. The source of the conflict lies in a diverging understanding of the legal entitlements for diverse forms of land use. While indigenous communities want their traditional forests, which they have used for hunting and gathering for centuries, to be legally acknowledged, the government is only willing to grant land if it has been cleared for agriculture – the rest of the land is considered as state land and therefore up for logging and palm oil concessions.

## *Out-dated mega-dam plans*

At present, Sarawak is embarking on a US\$105 billion industrialization programme, called the Sarawak Corridor of Renewable Energy (SCORE). SCORE, if fully realized, will be "the most capital intensive and ambitious energy project ever undertaken in Southeast Asia", according to a recent academic analysis<sup>4</sup>. The plan is based on the belief that a massively increased energy supply will entail economic growth and development. Up to 50 new dams ought to provide the electricity for new energy-intensive industries. Around 12 dams are currently in the intense planning phase. They alone would flood hundreds of square kilometres and displace tens of thousands of indigenous people living in the remaining forest areas. The real scale of the project is unknown due to a lack of transparency on the side of Sarawak's government.

In recent times, international energy policies have been moving away from large dams, such as those which are planned in Sarawak, to small-scale projects. Throughout the 20<sup>th</sup> century, large dams were used as symbols of power, the taming of nature by human intellect, and such large-scale projects were the main symbols of development. However, at the turn of the century, American environmentalist Patrick McCully, in his famous book "*Silenced Rivers: The Ecology and Politics of Large Dams*", diagnosed a crisis of large dams.<sup>5</sup>

The World Bank, as the former largest single funder of dams, along with other multilateral development banks, are withdrawing from the dam business. In 2000, the World Commission on Dams<sup>6</sup>, which was established by the World Bank to review large dam projects all over the world,

concluded that dam projects face on average cost-overruns of 56%, that promoters systematically exaggerate benefits and that 55% of the analysed dams generated less power than projected. “There is little doubt that the heyday of dam building has passed”, McCully concludes. The 21<sup>st</sup> century will be the age of renewable, small-scale, decentralized power systems<sup>7</sup>. In other words, governments should not build large dams any longer, instead, they should search for alternatives and promote small-scale and decentralized projects.

In consideration of these new developments, the Sarawak government’s dam plans appear outdated. The question arises as to why any government would advance such a gargantuan programme. Chief Minister Abdul Taib Mahmud, Sarawak’s strongman politician since 1981, seems to be the driving force behind the dams. The companies controlled by his family members have already massively benefited from the logging, palm oil and construction business and they are now again involved in the projects associated with the construction of the dams such as transmission lines, roads and smelters. Indeed, the deep association between political and economic power in Sarawak lays ground for corruption and the criminal enrichment of the Taib family whose net worth has been estimated at over 20 billion US dollars.<sup>8</sup> This asks for a thorough review of the dam undertaking with a special focus on corruption, which is one of the aims of this report.

### ***The aim of this report***

This report is addressed to the affected communities and the Malaysian public as well as to interested journalists, NGOs and international investors in SCORE. It aims at filling the gap that the Sarawak government is leaving with its non-transparent communication strategy on the dams. We also seek to investigate the risks connected to the dam projects and SCORE from a financial, legal as well as human rights and environmental perspective and review the dam undertaking with a special focus on corruption.

In this report, we will first present the facts about the dam activities of Sarawak’s government under SCORE with its associated risks (chapter 2). Then, we will also present the requirements on dam construction, as defined by international standards and laws and discuss the social and environmental impacts of dams worldwide (chapter 3). Furthermore, we will reveal how companies connected to the Taib family are profiting from contracts under SCORE and uncover the role foreign actors play in Sarawak’s dam undertaking. Finally, we will conclude and present the Bruno Manser Funds’ demands (chapter 5).

### ***Sarawak and its indigenous peoples***

Sarawak, a former British colony, joined the Federation of Malaysia in 1963.<sup>9</sup> With a surface of 124,449.51 km<sup>2</sup> (12.4 million hectares), Sarawak is Malaysia's largest state.<sup>10</sup> With a population of 2.47 million (Malaysia's population is 28.3 million in total), Sarawak is also the least densely populated state.<sup>11</sup> Around 54 per cent of the population lives in urban areas today. The rural lifestyle is more dominant in Sarawak than in any other of Malaysia's states.<sup>12</sup>

Sarawak comprises over 40 ethnic groups.<sup>13</sup> Malays and Melanau form around one quarter of the population; another quarter of the population are of Chinese origin.<sup>14</sup> The other half of the population is mainly Dayak, the local term for all indigenous communities of the interior. The Dayak are dominant in the rural setting. The biggest indigenous group, the Iban, have a share in Sarawak's population of around 30 per cent and the Bidayuh, the second largest group, 8 per cent.<sup>15</sup> With the exception of the Iban, Bidayuh and Dusun, Dayak groups also call themselves "Orang Ulu" (people of the interior).<sup>16</sup>

The peoples already affected or to be affected by Sarawak's dams are mainly Dayak such as the Kenyah, Kayan and Penan among others. The land, forest and rivers are the base of their livelihoods and lives. All of them depend on the forest for sustaining themselves through hunting and food gathering. Some groups such as the nomadic Penan depend on the forest as their sole source of food. Most other groups share a tradition of shifting cultivation. Not only does the Dayak's immediate survival depend on their traditional lands and forests, but their relationship to the land also forms the core of their belief systems, traditions and culture. The presently threatened rivers also play a central role in the Dayaks' lives: their traditional longhouses are built alongside rivers, which they use for fishing, bathing, collecting drinking water, transport and even as a means of communication.<sup>17</sup>

## 2. Sarawak's dam plans under SCORE

### 2.1 Sarawak's excessive hydropower plans

In 2008, a leaked document (figure 1 and 2 show parts of this document) uncovered the Sarawak government's plan to build a series of dams in Sarawak's interior. These dams would directly affect many hundreds of square kilometres of rainforest and tens of thousands of people. These dams ought to provide enough electricity for a large-scale industrialization project, the so-called Sarawak Corridor of Renewable Energy (SCORE).

#### *Chief Minister Taib Mahmud, Sarawak's autocratic ruler*

Sarawak's Chief Minister, Abdul Taib Mahmud ("Taib"), has been in power for over three decades. Even before his appointment as Chief Minister in 1981, he held various federal and state minister positions from 1963 onward. Besides being Chief Minister, Taib holds the portfolios of Minister of Resource Planning and Environment as well as Minister of Finance.<sup>18</sup> In 2009, his three ministries controlled almost 50% of the state's operating expenditure and 80% of the state's development expenditure, with the other ten ministers sharing the rest.<sup>19</sup>



During the last 50 years – of which the last 30 have been under Taib – logging and the establishment of oil palm plantations reduced the primary forests of Sarawak to 5 per cent of their original size. Currently, Sarawak's significant area of secondary forests is being destroyed more than three times faster than in Asia overall.<sup>20</sup> By 2011, palm oil plantations already covered an area of over one million hectares<sup>21</sup> and Sarawak's government plans to double the area under oil palm by 2020.<sup>22</sup> In this perspective, Sarawak's dam endeavour appears to be only the latest policy to exploit Sarawak's natural resources.

During Taib's term in office, he and his immediate family have amassed stakes in over 400 companies in 25 countries and offshore jurisdictions. In Sarawak, the Taib family controls a well-diversified business empire with interests in timber and logging, plantations, electricity supplies, property development and media. Taib's personal wealth has been estimated at US\$15 billion and the combined net worth of twenty Taib family members close to US\$21 billion.<sup>23</sup> He has been accused of systematic breach of the law and the use of illegal methods, as this is the only way to explain the accumulation of such massive corporate assets with regard to his modest origin and his official annual salary of MYR590,000 (US\$192,000).<sup>24</sup> He has used his political positions to award his family members with concessions such as for timber and palm oil or with state contracts.<sup>25</sup> In June 2011, the Malaysian Anti Corruption commission (MACC) announced they had opened an investigation against Taib for alleged corruption.<sup>26</sup> The authorities of the UK, Switzerland, Germany, Australia, Canada and the United States have been alerted by the Bruno Manser Fund over suspected money-laundering activities by Taib companies in their respective countries.<sup>27</sup>

### Sarawak Energy's new dams

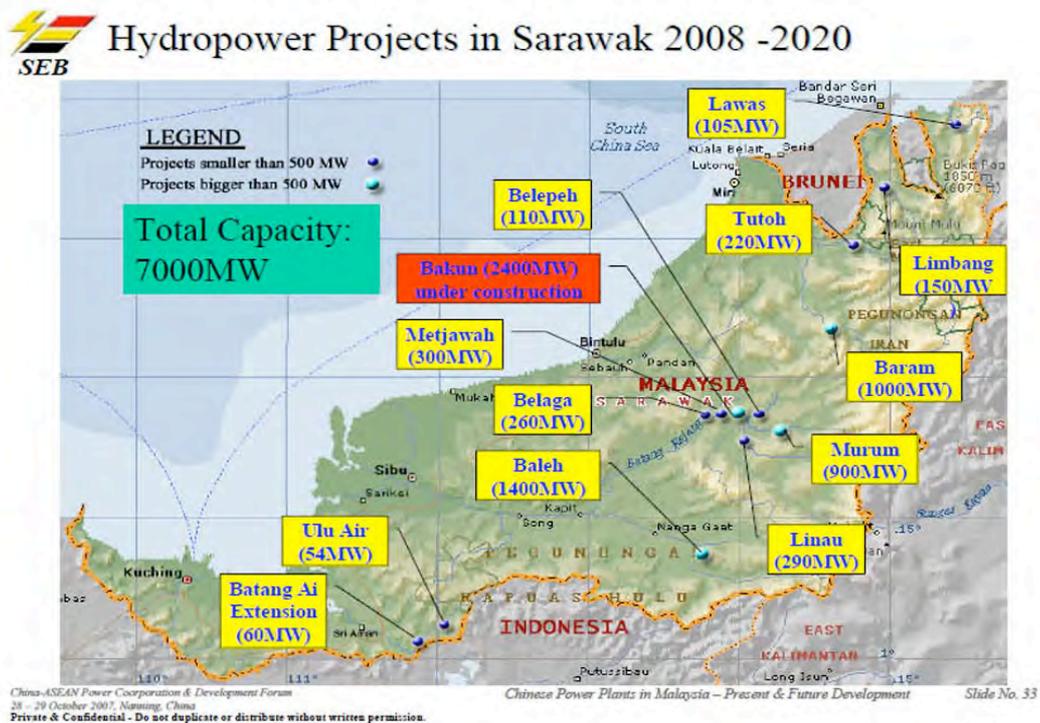
The long-term goal of Sarawak's government is the realization of around 50 hydroelectric dams, which are meant to have a combined installed capacity of 20,000 Megawatt (MW) (see figure 2).<sup>28</sup> In 2008, 12 of these projects (see figure 1) were already underway or in the planning phase. Together with the recently completed Bakun Dam, they were meant to provide a total capacity of 7,000 MW.<sup>29</sup> Sarawak Energy Berhad is implementing this dam mega-complex.<sup>30</sup>

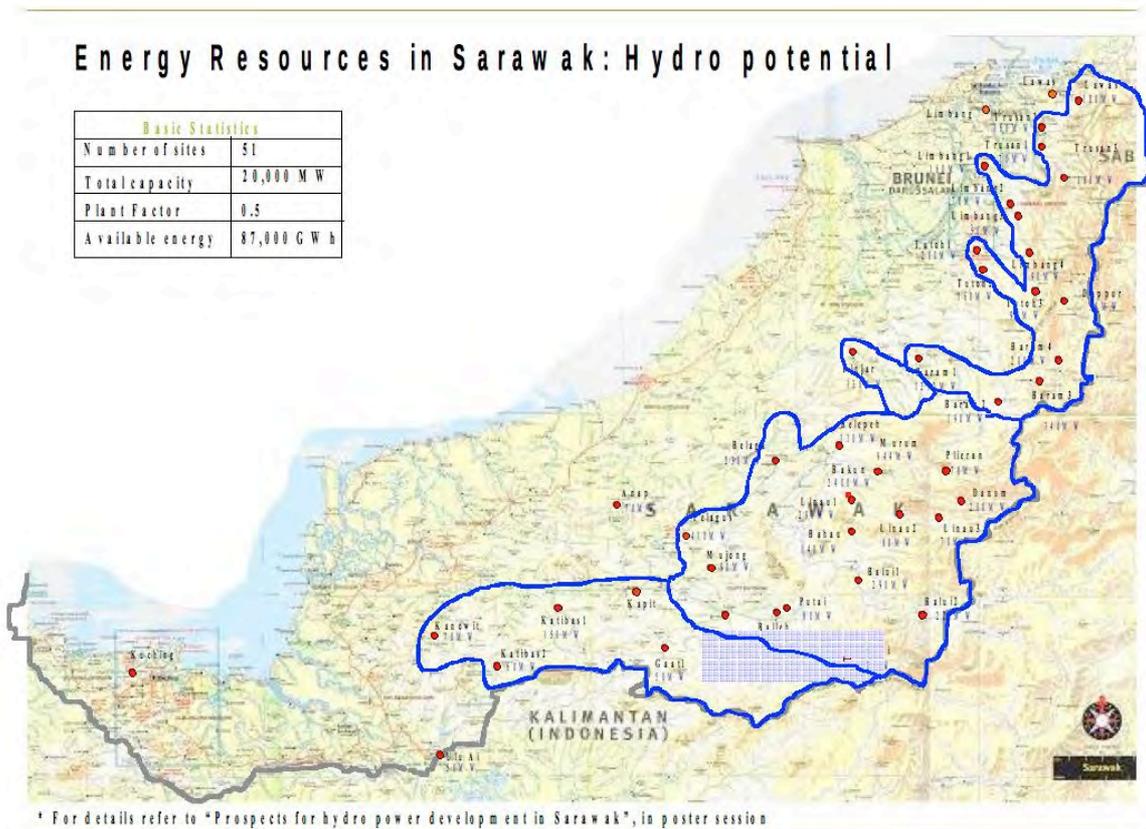
### Sarawak Energy Berhad

Sarawak Energy Berhad ("SEB") is a 100% state-owned electricity supplier in Sarawak under the State Financial Secretary who reports to Finance Minister (and Chief Minister) Taib Mahmud. Sarawak Energy is the main implementing agency of SCORE. It is responsible for the planning of all hydropower projects and coal plants in Sarawak. It is chaired by Abdul Hamed Sepawi, the cousin and one of the closest business allies of Sarawak Chief Minister Taib Mahmud. Sepawi made a fortune from logging contracts granted by his cousin. With an estimated fortune of USD 175 million, he has been ranked Malaysia's 38<sup>th</sup> richest person by Forbes Asia in 2012.<sup>31</sup>

To realize the ambitious power goals under SCORE, Sarawak Energy has hired a number of foreign experts. A Norwegian national, Torstein Dale Sjøtveit became CEO in 2009 and the Australian company Hydro Tasmania has seconded several key staff to support Sarawak Energy in realizing its ambitious dam plans.

Figure 1: The planned twelve dams under SCORE as leaked in 2008<sup>32</sup>





**Figure 2: 51 potential dam sites in Sarawak as identified by Sarawak Energy<sup>33</sup>**

In the meantime, the Bakun Dam, labelled as “under construction” on the map (figure 1), has been completed and fully impounded – although the government is still looking for purchasers for its 2,400 MW capacity. The construction works at Murum Dam, the first dam of this series, have also rapidly advanced under a cloud of secrecy and restricted access and have now reached the final phase. Impoundment might start in early 2013.

These plans from 2008 have since been enlarged. Several sources<sup>34</sup> indicate that many more sites than the initial 12 have been worked on or evaluated since 2008. This suggests that Sarawak Energy intends to do feasibility studies for all or most of the 50 identified dam sites and will change the priorities according to the results of the latest studies. For Sarawak’s indigenous peoples this implies that all of the 50 identified potential dam sites could materialize in the coming years, depending on which dam is the easiest to implement – and faces the least resistance from the local communities. As a result, each indigenous community in Sarawak’s interior may be the next to face eviction from their homes because of the construction of a dam – no indigenous community is safe from this threat.

Sarawak Energy’s 2010 Annual Report, published in mid-2012, reveals some new information to the public. The information indicates that planning work has been initiated for almost 20 hydroelectric projects. In 2009, feasibility studies for the hydroelectric projects of Limbang 1,

Limbang 2, Belaga and Pelagus were completed. By late 2010, feasibility studies for dams at Baram 1, Baleh and Lawas were “substantially completed”<sup>35</sup> and more generally, feasibility studies for a total of 13 sites were undertaken<sup>36</sup>. The 2010 Annual Report also announces the preparation of business cases in 2011 for the hydroelectric projects of Trusan 2, Baram 3, Baram 4, Belepeh, Linau 1 and the already mentioned Baram 1, Lawas, Limbang 1, Limbang 2, Belaga, Pelagus and Baleh.<sup>37</sup> Together with a new potential site for a hydroelectric project discovered by Hydro Tasmania, Punan Bah, and the leaked map from 2008 (figure 1), which also shows the Batang Ai extension, Ulu Air, Tutoh and Metjawah, a total of almost 20 sites for hydroelectric projects are currently circulating.

Sarawak Energy is planning to develop at least five more hydropower projects until 2020. On the top priority list appear the Baram 1 (1,200 MW), Baram 3 (300 MW), Linau (297 MW), Belepeh (114 MW), Pelagus (411 MW) and Baleh (1,300 MW) dams. Sarawak Energy may also realize the Limbang 1 and 2 (245 MW) and Lawas (87 MW) hydroelectric projects for power supply to Brunei and Sabah.<sup>38</sup> From an outside perspective, Baram 1 dam and Baleh dam seem to be the most advanced projects. An overview of the current dam projects is provided in figure 3.

**Figure 3: Status of different hydropower projects**

*Completed dams / under construction:*

**Batang Ai:** 108 MW<sup>39</sup>, completed in the 1980s, assessment for 60 MW capacity increase completed by Entura (Australia)

**Bakun:** 2,400 MW, completed in 2011

**Murum:** 944 MW, construction by China Three Gorges Corporation almost completed

*Sarawak Energy’s high priority projects (in 2010)<sup>40</sup>:*

**Baram 1:** 1,200 MW, feasibility study completed by Fichtner GmbH & Co KG (Germany)

**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:** 245MW, feasibility study completed/underway by SMEC (Australia)

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

**Baram 3:** 300MW

**Belepeh:** 114MW

**Linau:** 297 MW

### ***Sarawak Corridor of Renewable Energy - SCORE***

The electricity to be produced by these dams should allow for an immense industrialization programme called the Sarawak Corridor of Renewable Energy (SCORE). Interestingly, it is not intended for the electrification of rural Sarawak. The adjective “renewable” is actually a false label, as the electricity is not only generated from new dams, but also from the exploitation of coal reserves. The Sarawak government also plans to construct new coal power plants. The new power is to feed energy intensive industries such as aluminium and steel production, two of the priority sectors under SCORE.<sup>41</sup>

The main interested investors in energy-intensive industries are Malaysian companies Press Metal (aluminium smelter), Tokuyama (polycrystalline silicon plant), OM Materials (manganese and ferrosilicon alloy smelter) and Asia Minerals Ltd (manganese smelter).<sup>42</sup> The Taib family is a joint owner of OM Materials (see section 4.1).

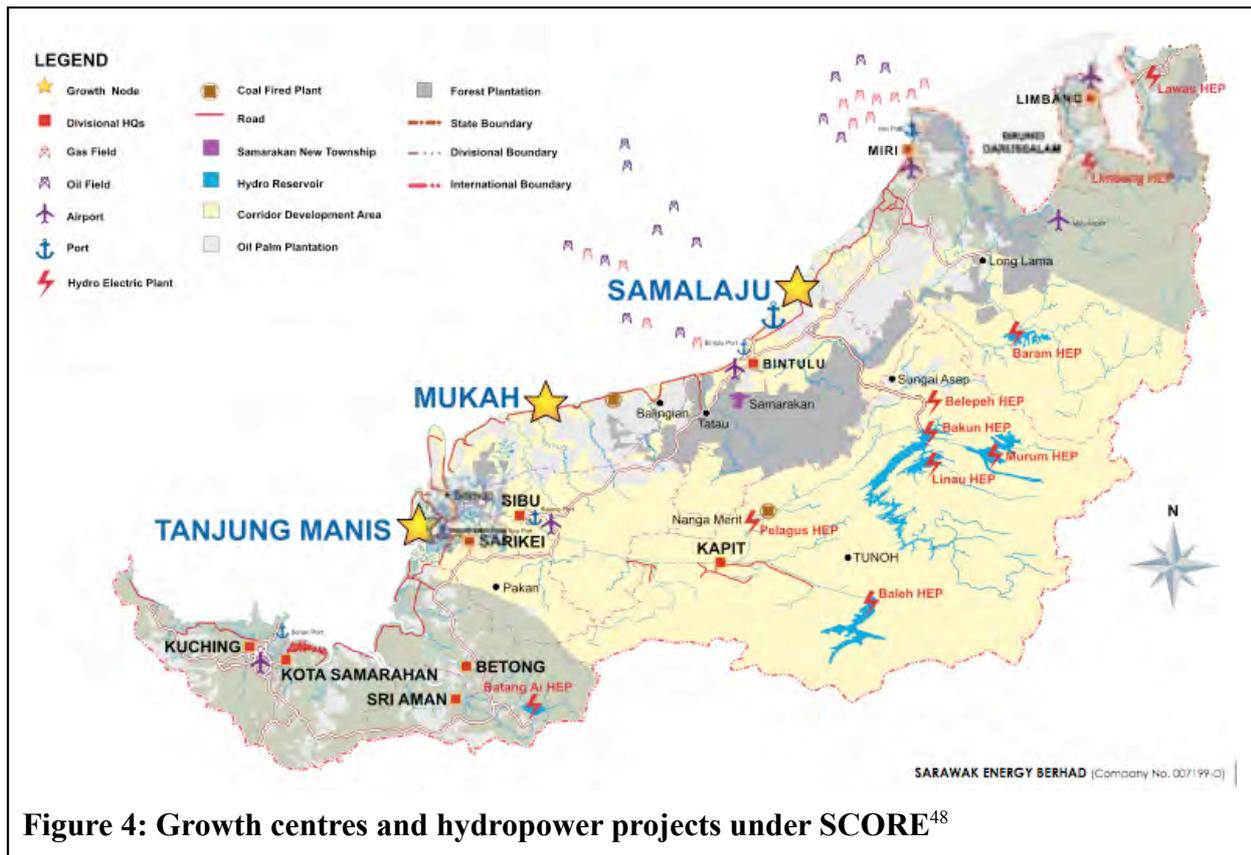
The emissions produced by such smelters bear a high risk for the environment and the people living in surrounding areas. Recent reports from an aluminium smelter of Press Metal in Mukah, Sarawak, indicate that people living in the vicinity of the plant suffer from severe health problems and environmental degradation.<sup>43</sup> No western government would ever tolerate such hazardous industries in their own countries.

SCORE is not limited to the power sector and its related industries. SCORE, as one out of five regional development corridors in Malaysia, delivers a multi-billion dollar infrastructure development plan.<sup>44</sup> Companies associated with Cahya Mata Sarawak (CMS), which is controlled by the Taib family, have been granted many of the contracts for the construction of these infrastructure projects (see section 4.1). In addition, new roads have opened up the rainforest for further logging and the expansion of palm oil plantations. These timber-based and palm-oil industries are two other priority sectors within SCORE.<sup>45</sup> Thus, SCORE impacts the environment as well as Sarawak’s inhabitants, especially the indigenous peoples.

The development under SCORE would be concentrated in three centres, so-called “major growth nodes” (figure 4). The Samalaju industrial park near the coastal town of Bintulu would become the centre for the heavy industries and equipped with a port. Mukah would host the centre for administration and training. Tanjung Manis, finally, would become a food-processing centre and a port should allow for food, timber and palm oil exports all over the world.<sup>46</sup>

Chief Minister Taib Mahmud stresses that “SCORE will act as the catalyst for growth and development” and that it “will capitalise on the region’s abundance of energy resources such as hydropower for the development of energy-based industries to relatively cheaper-priced electricity”. His overall goal is to “transform Sarawak into a developed State” and to “significantly improve the socio-economic well-being of the people”.<sup>47</sup>

Past experience, however, shows that his family’s companies have received many of the state contracts. The people who were displaced by the Bakun Dam in the late 1990s and by the Batang Ai Dam during the 1980s, on the other hand, have been facing more poverty in their resettlement sites than they experienced before, in their ancestral villages. Furthermore, the rural areas in need of household electricity are the same areas where electricity would be produced by the dams, however, they will not be connected to the grid. This is because the new energy is produced to feed the energy-intensive industries and not rural households. In sum, SCORE risks to further exacerbate existing inequalities in Sarawak between the rural and the urban areas.



### *Hydropower: clean and green?*

Hydropower is generally believed to be a source of clean energy and, therefore, dams are seen as a green alternative to other – dirty – forms of electricity such as oil or coal. But this perception is misleading: recent scientific results reveal that the impact of hydropower plants located in tropical areas may have an even bigger impact on climate change than natural gas plants generating the same amounts of electricity.<sup>49</sup> This is due to the large amount of biomass that is submerged by the water reservoir of a dam. The organic matter, consisting of vegetation and soils, that is flooded by a dam or washed into the reservoir, soon starts rotting. The gases produced by such a process are emitted from the surface and through the turbines and spillways. Canadian scientists have estimated that dam reservoirs release up to 70 million tons of methane and a billion tons of CO<sub>2</sub> worldwide. This corresponds to four per cent of total human-related CO<sub>2</sub> emissions and around one-fifth of methane emissions.<sup>50</sup> CO<sub>2</sub> and methane are both furthering climate change. In the case of the recently-completed Bakun Dam, the government failed to implement the recommendation of the Environmental Impact Assessment (EIA) to get rid of as much biomass as possible before the impoundment,<sup>51</sup> which resulted in a higher emission rate of such gases.

## 2.2 Power glut in Sarawak

SCORE is the most ambitious energy project in Southeast Asia<sup>52</sup>. SCORE is based on the belief that the increased provision of energy will entail economic growth, which in turn is equated with development. With SCORE, the Sarawak state government follows a supply-oriented rather than a demand-driven logic: the more power on the market, the more development.

American technology researchers Benjamin K. Sovacool and L.C. Bulan stated in 2011: *“The massive expansions in energy capacity planned under SCORE assumes that GDP growth and per capita energy consumption must go hand in hand and that the trickle down benefits from industrialization and rapid economic growth can solve poverty.”*

Andrew Pattle, a Hydro Tasmania secondee to Sarawak Energy and a leading figure in the construction of Sarawak’s dams, argued in an article in 2012: *“The aim is to use SCORE to change the economic base of Sarawak from reliance on extractive industries such as oil, gas and timber, transitioning to a manufacturing economy. This will spur improved living standards and infrastructure development. It follows similar models such as Norway, Iceland and Tasmania, however the difference is the fast pace of the development.”*<sup>53</sup>

### ***Power supply***

In 2009, Sarawak’s electricity peak demand was at 972 MW and the projected peak demand for 2020, excluding energy-intensive industries and power export, is at 1500 MW.<sup>54</sup> The installed capacity in 2009 was 1,182 MW. The Batang Ai Dam, the first hydroelectric dam in Sarawak, constructed in the early 1980s, is contributing 108 MW to this figure.<sup>55</sup>

The recently completed Bakun Dam – Asia’s largest dam outside of China – has a capacity of 2,400 MW<sup>56</sup> and is now going on line to the electrical grid. Sarawak’s power capacity will therefore triple. The Bakun Dam alone will produce even more than the projected demand for 2020 of 1,500 MW. Yet, another dam is nearing completion, the Murum Dam, which will contribute an additional 944 MW<sup>57</sup> and is intended to begin producing electricity in early 2014<sup>58</sup>. As mentioned before, Sarawak Energy is planning to realize another five hydropower projects until 2020. In combination with two new coal plants, one with a capacity of 600 MW at Balingian<sup>59</sup>, Sarawak Energy plans to instal an additional 6,200 MW of power production capacity (including Murum and Bakun) until the end of this decade<sup>60</sup>.

Sarawak Energy is targeting a nine-fold rise in energy output between 2010 and 2020 from 5,921GWh to 54,947GWh between 2010 and 2020. Production capacity should thus increase from 1,300MW in 2010 to between 7,000MW and 8,500MW in 2020.<sup>61</sup> The goal is to have a mix of 69% hydropower, 19% coal, 10% gas and 2% diesel by 2020.<sup>62</sup>

The pace of energy supply increase under SCORE would definitely be uniquely fast, from a peak demand and capacity of around 1000 MW in 2009 to a total capacity of around 8000 MW in 2020 and maybe even 20,000 in 2030.<sup>63</sup> Whether the demand will actually follow this highly ambitious plan is, however, highly questionable. Even Malaysia’s Minister of Energy Peter Chin was cited saying: *“After the completion of Bakun, Sarawak will be having surplus energy for a long time and there will be no worry of not having enough electricity for many years to come.”*<sup>64</sup>

### ***Power demand***

Recent experience indicates that Sarawak Energy is having difficulties to find enough power purchasers for Bakun’s 2,400 MW. In 2010, Sarawak Energy claimed to be in negotiations with 21 potential customers from different industries and also with Sarawak’s neighbours Sabah, Brunei

and West Kalimantan. However, most of these negotiations appear to be highly vague. With Bakun already on the power net, Sarawak Energy only recently found purchasers for parts of its electricity. Tokuyama Malaysia Sdn Bhd signed a purchase agreement for about 140 MW for a polycrystalline silicon plant, Press Metal Bintulu Sdn Bhd signed up for about 480 MW for an aluminium smelter, OM Materials (Sarawak) Sdn Bhd took about 500 MW for a manganese alloy and silicon alloy smelter plant and, finally, Asia Minerals Limited signed for about 270 MW for a manganese ferroalloy smelting plant.<sup>65</sup>

However, Sarawak Energy's main trump, Rio Tinto, backed off in March 2012. Between 2007 and 2012, Rio Tinto Alcan, a subsidiary of the British-Australian mining giant Rio Tinto, and the Malaysian construction company Cahya Mata Sarawak (majority-owned by the Taib family) have planned an aluminium smelter project in a joint venture called SALCO. The US\$2 billion smelter has always been treated as a showcase for Sarawak's attractiveness for foreign investors and as a power purchaser for the Bakun Dam. Rio Tinto stated that its decision came about as a result of a failure to come to an agreement over the prices of the electricity from the Bakun dam.<sup>66</sup>

When the Bakun dam was initiated, its development was justified as a response to the need for its power in West Malaysia. The intention was to build a submarine cable from Sarawak to West Malaysia for power export. The project, however, has been cancelled twice.<sup>67</sup> Consequently, the two main justifications for the Bakun dam, the undersea cable for export to West Malaysia and the aluminium smelter of Rio Tinto, have failed to materialize.

Although Sarawak Energy now managed to sell 1390 MW, this supply-driven logic is highly risky as it is unclear whether Sarawak will find enough purchasers. In this current situation, Sarawak is under much pressure to sell its electricity and therefore, may be pushed into low rates that do not cover production costs. With the current plans to build more and more dams, this risk will increase further.

### ***Energy security***

The Sarawak government's view that an increase of energy production is equivalent to economic growth, which is in turn understood as development, is based on an extremely narrow and outdated perception of energy security. It only partly addresses the availability of energy and completely excludes other dimensions such as affordability, efficiency and stewardship.<sup>68</sup>

SCORE promises to improve the availability of energy – however, SCORE only addresses big customers, such as industries, and fails to include the rural population, which is mostly excluded from accessing grid power. Nor does it tackle the question of affordability for the energy poor, the people without access to energy.<sup>69</sup>

SCORE provides incentives for a greater increase in energy consumption, which contravenes current worldwide efforts to save energy. It fails to support greater energy efficiency and a decrease in growth of energy demand.<sup>70</sup> Finally, SCORE completely fails in the dimension of stewardship. For a multi-dimensional understanding of energy security, any energy policy has to be chosen on the basis of having the least possible harm for the local communities and the environment.<sup>71</sup> SCORE clearly sacrifices the welfare of Sarawak's indigenous peoples to large-scale energy-intensive industries. SCORE offers no solution to poverty and energy scarcity in rural areas

Sarawak Energy and the Sarawak government have an outdated, one-dimensional and socially dangerous understanding of development and energy security. As previously explained, modern energy strategies are renewable, decentralized and small-scale. The World Commission on Dams concluded already in 2000: "Decentralised, small-scale options (micro hydro, home-scale solar

electric systems, wind and biomass systems) based on local renewable sources offer an important near-term, and possibly long-term potential, particularly in rural areas far away from centralised supply networks.”<sup>72</sup>

## **2.3 Financial risks**

SCORE is Southeast Asia’s most capital-intensive project with its full implementation costing an approximate US\$105 billion until 2030.<sup>73</sup> In addition to the costs associated with the construction of the dams and the smelters, the costs of the necessary associated infrastructure should not be underestimated. For example, Sarawak Energy projects an investment of over MYR20 billion (US\$6.6 billion) into new generation and transmission infrastructure.<sup>74</sup>

### ***The funding of SCORE***

The financing for SCORE and the dams has not yet been finalised as many projects have not entered the implementation phase yet. While 70 per cent of funding for SCORE are planned to come from the private sector, 10 per cent will be from government-linked companies and 20 per cent from a mix of federal and state funds.<sup>75</sup> However, information about funders or potential funders is only partially accessible to the public.

Malaysian banks seem to be important lenders to various SCORE projects. Maybank, RHB Bank and Alliance Bank, for example, loan Press Metal MYR400 million (US\$133 million) to build its aluminium smelter.<sup>76</sup> Sarawak Energy named RHB Bank, EON Bank and AmInvestment Bank as its principal financial institutions,<sup>77</sup> which indicates that Malaysian Banks are the main creditors behind the dams. The main lenders behind Murum Dam are the Malaysian AmInvestment Bank, CIMB Investment Bank, RHB Islamic Bank, Hong Leong Bank and Kenanga Investment Bank as well as the foreign funder, Kuwait Finance House.<sup>78</sup> It is worth mentioning that, through its business flagship Cahya Mata Sarawak, the family of Chief Minister Taib Mahmud is the largest shareholder of Kenanga Investment Bank (25%), which is backed by Deutsche Bank.<sup>79</sup>

The strong funding from Malaysian sources and the lack of involvement of international agencies such as the World Bank imply that international standards are not thoroughly applied in SCORE funding. Non-Malaysian investors therefore need to be careful, and verify that their Malaysian business partners comply with the international standards that they claim to abide to. The UN Guiding Principles on Business and Human Rights<sup>80</sup> state that companies have a responsibility to respect human rights in all of their business operations, even if they do not have the lead in a specific project.

### ***High financial risks for the state of Sarawak***

With US\$105 billion, the costs of SCORE are extremely high and it is likely that they will rise further. Bakun dam, for example, has cost far more than the originally calculated amount. While it was announced to cost MYR2.5 billion,<sup>81</sup> the official cost has now risen to MYR7.4 billion.<sup>82</sup> However, this figure has surely been exceeded as many major companies involved in the Bakun dam construction have declared cost overruns. Argentina’s IMPSA Group has declared a cost overrun of MYR140 million<sup>83</sup> and Sime Darby of an astronomical MYR1.7 billion – and this for a contract worth MYR1.8 billion.<sup>84</sup> Energy policy researchers Sovacool and Bulan estimate that the total costs amounted to over MYR15 billion<sup>85</sup> (US\$4.9 billion) – a multiple of the originally declared costs and still the double of today’s claimed costs. Sarawak Energy recently increased the project budget for Murum Dam from MYR3.71 Billion to MYR4.28 billion.<sup>86</sup> This indicates that the estimated costs are usually too conservative, and are likely to rise further during the implementation of SCORE.

The main drivers behind the cost explosion are likely to include social and environmental costs, corruption and technical problems. The lack of infrastructure in Sarawak appears to be one of the biggest challenges. For every project, access roads need to be built first in order to deliver the construction material.<sup>87</sup> Murum Dam, for example, has suffered from severe delays because the material was delivered via a logging road and the construction of a permanent access road was delayed by two years.<sup>88</sup> The high level of erosion, often caused by logging activities, is likely to reduce the life span of the dams from the usually estimated 50 years to 30 or 40 years.<sup>89</sup> The lack of necessary skills and expertise also makes the realization of SCORE difficult.<sup>90</sup>

With these rising costs and the expected shortened dam operation time on Sarawak, it is questionable whether the energy can be sold at a rate that covers the production costs. Dams are built at a staggering rate and their power needs to get sold – at whatever price. It is also questionable whether SCORE is cost-effective and if all the promised benefits will materialize.

Additionally, the true cost of SCORE has never been estimated, as social and environmental consequences have been largely ignored. The 2000 report of the World Commission on Dams states that “the true economic profitability of large dam projects remains elusive as the environmental and social costs of large dams were poorly accounted for in economic terms.”<sup>91</sup> In any case, “the benefits and costs (especially social and environmental costs) are not of the same currency and cannot be explicitly weighed against each other”.<sup>92</sup>

As Sarawak Energy is fully owned by the Sarawak state government, the greater Sarawak public will carry the final risk for the projects. If the income generated by the dam is below what is predicted, the public will have to step in and pay back the loans that were provided to state-owned Sarawak Energy.

Past experiences with the Bakun Dam confirm that it is the public who bears the highest financial risk. The Malaysian government financed the Bakun Dam through the Employees Provident Fund and the Pensions Fund<sup>93</sup> and supported by the China Exim Bank (China Export Import Bank).<sup>94</sup> Ultimately, Sarawak’s taxpayers will have to pay for the dams if the dams fail to generate the expected income to pay back the costs that they produced.

There are high risks and costs attached to SCORE. The people from Sarawak, however, will only to a small extent benefit from the jobs SCORE will generate. Sarawak lawyer and leading opposition politician Baru Bian pointed out earlier this year that SCORE requires mainly skilled workers, but only 17% of Sarawakians have tertiary education. Consequently, he argues that most people, especially indigenous people, will not benefit from this job creation.<sup>95</sup>

The government is planning to import 600,000 skilled workers for SCORE until 2030. This corresponds to 20% of Sarawak’s population.<sup>96</sup> Two foreign advisers<sup>97</sup> of Sarawak Energy admit in an article that most of the workers at Murum dam construction were foreign: “Only 10% of the 2,000 workers were from Malaysia, the remainder were foreign workers, mostly from China and Pakistan.” Moreover, for the construction of the Bakun Dam, 5000-7000 workers had to be flown in from other parts of Asia.<sup>98</sup>

### ***SAVE Rivers Network – fighting the Sarawak government’s dam plans***

People affected by the government’s dam plans have started getting organized and fighting the construction of the dams. In late 2011, the “Save Sarawak’s Rivers Network” (“SAVE Rivers”) was founded by civil society organisations, affected communities and concerned citizens in order to reunite all affected communities and coordinate the campaign against the dams.

The greatest resistance is coming from the Baram area where 20,000 people would be displaced by the planned dams. SAVE Rivers’ campaign has gained momentum in recent months. They have appeared in the Malaysian news with their conferences, protests, petitions and letters. They are powerfully fighting the myth, which the government and Sarawak Energy are propagating, that the local people have been informed, consulted and have agreed to the construction of the Baram Dam.<sup>99</sup> In late September 2012, Penan communities affected by the Murum dam joined the protests and started blocking the access road to the Murum project because of the government’s disregard of their concerns. Thereafter, the state-wide resistance has expanded and been strengthened.

SAVE Rivers are gaining the support of more and more people as they are strongly defending the interests of Sarawak’s indigenous peoples and dare to openly defy Chief Minister Taib Mahmud and his colleagues in power. As such, the government is currently facing a strong civil society opposition. This has also started attracting international attention to the human rights violations taking place in Sarawak under SCORE and the dams.



**Picture: SAVE Rivers Network protesting against dam construction in Sarawak.**

### **3. The impact of Sarawak’s planned dams**

The full impact of the planned series of dams in Sarawak is not known due to a lack of transparency and due to changing plans. It is clear that the proposed dams will flood several hundreds of square kilometres of forests, farmland and villages and, thereby, displace tens of thousands of indigenous people. In order to better understand the implications of the dams undertaking, in this chapter we examine the impacts of dams and the international regulations concerning dam building.

We shed light on the social and environmental impacts of the entire dam programme in Sarawak, based on an investigation into the consequences of dams worldwide. There are many international standards and laws that are applicable in Sarawak, and these are introduced here. Dam projects are not new to Sarawak. Past experiences with dam construction and planning in Sarawak such as at Bakun, Murum and Baram will reveal a lot about common practices in Sarawak.

### 3.1 Environmental and social impacts of dams

#### *Environmental impacts*

The proposed dams would flood several hundreds of square kilometres<sup>100</sup> of an astonishingly diverse rainforest in Sarawak. Borneo forms part of the so-called “Sundaland biodiversity hotspot” which is one of the “hottest hotspots” on earth, whereby a “biodiversity hotspot” is defined by its extraordinary high amount of different plant and animal species. 15,000 plant species (out of a total of 25,000 locally found plant species) are endemic to the Sundaland hotspot – they do not exist anywhere else on earth.<sup>101</sup> The different kinds of Rafflesia, Lady’s Slipper Orchid and the Crab Claw Flower are some of the best-known flowers Sarawak has to offer and they will all be threatened. In addition, the habitat of endangered animals such as the orang-utan and the clouded leopard will be further reduced.

While the proposed Baram Dam would flood an area of some 400km<sup>2</sup>, the recently completed Bakun Dam reservoir is known to have submerged an area of 700 km<sup>2</sup> of rainforest and farmland, which equates to the size of Singapore. Sadly, this distinctive world drowned in the waters of the Bakun impoundment.

Although in some cases there may be positive environmental impacts of dams, such as the creation of wetlands around the reservoirs of dams, large dams have mostly negative impacts on ecosystems as the World Commission on Dams acknowledged in its 2000 report.<sup>102</sup> In addition,



**Picture - dying trees at Bakun Lake**

the commission concludes that efforts to mitigate the impacts of dams on the ecosystem “have met with limited success owing to the lack of attention given to anticipating and avoiding impacts and the only partial implementation and success of mitigation measures”.<sup>103</sup> In other words, dams have a bad environmental record.

The inundation of the reservoir always kills terrestrial plants and forests and dispels animals. This in turn results in land degradation and in an increase in sedimentation.<sup>104</sup> Furthermore, dams threaten the

balance of the ecosystem of an entire area, not only upstream but also downstream, as dams disrupt river flow regimes. Dams block the natural fish migration patterns, resulting in a decrease in the fish population downstream of the dam. On a worldwide scale, dam constructions cause substantial losses in downstream fishery production and are even identified as “one of the major causes for freshwater species extinction”.<sup>105</sup> All these ecological problems may be deepened when several dams are built in one river system as is planned for Baram and Limbang in Sarawak.<sup>106</sup>

#### *Social impacts and livelihood deprivation*

The total number of people to be displaced by the dams is difficult to estimate as it depends on which projects will be realized – something that has been kept secret. It is clear that the Bakun Dam displaced 10,000 people, Murum will displace 1,500 and Baram could displace even up to 20,000 people. Already the construction of a limited number of dams would mean that tens of thousands of people, mainly indigenous people, would be displaced and their livelihoods and cultures threatened.

The World Commission on Dams highlights that the special needs and vulnerabilities of indigenous peoples are often inadequately addressed in so-called development projects around the world. It also finds that “indigenous and tribal peoples have suffered disproportionately from the negative impacts of large dams, while often being excluded from sharing in the benefits” because of discrimination and marginalisation.<sup>107</sup> This is a real danger in Sarawak, as indigenous peoples in rural areas are sidelined to make way for the dams that are intended to bring jobs to urban areas and to benefit mainly people from outside the affected communities.

In Sarawak, as elsewhere, one core component, which is also one of the most controversial issues of dam construction, is the resettlement of the local communities. The World Commission on Dams<sup>108</sup> states a “generalised lack of commitment or lack of capacity to cope with displacement” after a thorough review of past dam endeavours worldwide.

Resettlement programmes usually focus on the physical relocation of the people, rather than the restoration of the displaced people’s livelihoods and their social and economic development.<sup>109</sup> Resettlement is a complex matter and goes beyond finding the right size of free land to distribute to the affected communities. Resettlement has to take into account the displaced communities’ livelihoods, social cohesion and their relationship to the environment.

As resettlement sites are often environmentally degraded, the displacement usually results in the people’s “loss of access to traditional means of livelihood.”<sup>110</sup> The environmental base for their traditional livelihoods is often lacking in their new settlements. Consequently, they have to change their way of life. Indigenous peoples may have to change from subsistence agriculture to cash crop production or find a job to earn a living.

Displacement usually leads to the loss of culture, heritage and disruption of social relations. The flooding of burial sites is a particularly sensitive issue. Examples from all over the world show that hardly any measures have been taken to diminish or to ease the loss of cultural and archaeological sites caused by dam construction.<sup>111</sup>

The land functions as link between the past, the present and the future in many indigenous cultures. With the expropriation of their land, they also lose their connection with their ancestors. A description by Peter Kallang, a Kenyah from Sarawak’s Baram region and the chairman of the Orang Ulu Association in Miri, shows clearly how indigenous people feel about their traditional lands and how a dam could uproot the indigenous communities in Sarawak:

*“The construction of mega-dams will unavoidably force the population to move out from their traditional land, which is a significant part of their heritage and lifeline. In the normal Orang Ulu villages, even the very structures of the longhouses are traditional in nature, reflecting the social structure of the communities and thus keeping them united. With their social structure, order and solidarity is possible in each community. These social structures have been keeping the Orang Ulu in general like the Kenyah and Kayan, together from time immemorial, enabling them to face famines, wars, epidemics and natural tragedies. These structures are delicate and are now facing a lot of challenges from modern lifestyle and globalization. Mass relocation of the people will no doubt spell the end of the traditional social structure.”<sup>112</sup>*

This uprooting and loss may also manifest itself in other areas. According to the findings of the World Commission on Dams,<sup>113</sup> “socio-cultural disruptions can be traumatic for communities,” which may result in health problems. This uprooting may also bring about higher alcohol consumption and a feeling of powerlessness, which in turn often results in domestic violence.<sup>114</sup>

### *Downstream communities*

An often-neglected issue is the effect of dam projects on downstream communities, i.e. the villages below the dam site. The World Commission on Dams<sup>115</sup> stressed in its 2000 report the extent to which these communities are confronted with a changing environment and changing livelihoods: “Downstream communities throughout the tropics and subtropics face some of the most drastic impacts of large dams, particularly where the changed hydrological regime of rivers has adversely affected floodplains that supported local livelihoods through flood-recession agriculture, fishing, herding and gathering floodplain forest products.” The consequences on downstream fisheries have been especially profound: a severe decline in fishing has been reported worldwide as a direct impact of dam projects. The impacts downstream communities are mostly unassessed and unaddressed, as these villages lack “social, economic and political power to press their case for mitigation and development.”<sup>116</sup>

Downstream communities as well as other communities staying in the area around a dam are often faced with health problems. The installation of a reservoir, for example, may result in further spreading of water-borne diseases like malaria and schistosomiasis (a disease caused by parasitic worms).<sup>117</sup>



“Danger from disease”-sign at Bakun Dam

### **3.2 Relevant international standards**

There are several international standards regulating resettlement in the context of big projects such as the aforementioned report by the World Commission on Dams, the UN Declaration on the Rights of Indigenous Peoples (UNDRIP), the International Finance Corporation Performance Standards and the Equator Principles.

Sarawak’s state government and Sarawak Energy CEO, Torstein Dale Sjøtveit, have expressed their intention to respect international standards in the dam projects and have specifically made mention of the UNDRIP and the Equator Principles.<sup>118</sup> Sarawak Energy and the Sarawak government are bound to the UNDRIP as Malaysia ratified it in 2007. However, Sarawak Energy and the Sarawak government have only paid lip service to these international standards. As long as they refuse to publicly report on how they are performing against these standards, their conduct amounts to greenwash.

The UNDRIP and the Equator Principles guarantee a whole range of rights to the people affected

by the dams. The most important rights are listed here:

### ***UNDRIP – The UN Declaration on the Rights of Indigenous Peoples<sup>119</sup>***

The UN Declaration on the Rights of Indigenous Peoples (UNDRIP) was adopted by the UN General Assembly in 2007. Although not legally enforceable, it is still an important reflection of the internationally recognized rights of indigenous peoples. Malaysia endorsed the UNDRIP and agreed to recognize and integrate these rights into its national laws.

Some of the key provisions of UNDRIP include:

- Indigenous peoples have the right to the lands, territories and resources, which they have traditionally occupied (Article 26).
- The state shall give legal recognition and protection to these lands (Article 26 and 8).
- Indigenous peoples shall not be forcibly removed from their territories without their free, prior and informed consent and without just and fair compensation (Article 10, 28).
- States have to inform and consult with the communities concerned through their own representative institutions in order to obtain their free, prior and informed consent (Article 32).
- “Indigenous Peoples have the right to self-determination.” Therefore, they are free to pursue their own chosen path of development (Article 3).

### ***The IFC Performance Standards and the Equator Principles<sup>120</sup>***

The International Finance Corporation (IFC), the private sector lending arm of the World Bank Group, has developed a set of standards that have become the leading international benchmark for environmentally and socially responsible project development. The IFC requires its clients to abide by the Performance Standards, yet many companies throughout the world have also voluntarily committed to follow the standards. Most notably, over 60 commercial banks have committed to use the IFC Performance Standards in their project financing in emerging markets. These banks are known as the “Equator Principle” banks.

The following principles are a core part of both the IFC Performance Standards and the Equator Principles:

- A requirement to conduct an assessment of social and environmental impacts, as well as an action plan to mitigate risks. These documents should be disclosed to local communities.
- A requirement to consult meaningfully with affected communities throughout the life of the project. In particular, the IFC Performance Standards require projects to obtain the free, prior and informed consent of indigenous peoples.
- Creation of project level grievance mechanisms, where affected communities can raise concerns about the project to company officials and have their concerns addressed.
- Careful protection of any people displaced by the project to ensure that their livelihoods are restored and they are left better off than before.

### ***The Hydropower Sustainability Assessment Protocol***

The International Hydropower Association (IHA) was formed in 1995 under the auspices of UNESCO in order to advance sustainable hydropower. It mainly consists of companies involved in the dam business. Sarawak Energy has been a member of the IHA since 2010.<sup>121</sup> In 2010, the IHA released a new protocol, called Hydropower Sustainability Assessment Protocol, which is meant to be used to measure and guide performance in the hydropower sector based on the four main stages of hydropower development: early stage, preparation, implementation and operation.

The Hydropower Sustainability Assessment Protocol is a voluntary scorecard, which dam builders and their consultants can use to assess the performance of their projects against a long list of criteria. However, the protocol does not define any bottom line of acceptability. Therefore, every company willing to undergo the assessment gets the official title “Sustainability Partner”, independently of how well or badly they score.

The IHA has strong connections to Sarawak. Torstein Dale Sjøtveit, CEO of Sarawak Energy, is one of its board members. Sarawak Energy is among the first participants in the protocol and therefore a so-called Sustainability Partner. The employees of Sarawak Energy Berhad have recently completed the world’s first Hydropower Sustainability Assessment Protocol training session. In addition, Sarawak is going to host the International Hydropower Association Congress in May 2013.<sup>122</sup>

In sum, according to the UNDRIP, IFC Performance Standards, and the Equator Principles, the people affected by a dam project need to be properly informed, they have a right to be consulted and involved in the design of the project, and must have their livelihoods restored in case of a displacement.<sup>123</sup> When the affected people are indigenous, both the UNDRIP and IFC Performance Standards guarantee that these people shall not be forcibly removed from their lands without their “free, prior and informed consent.”<sup>124</sup>

In the case of dam building in Sarawak, the Sarawak government and Sarawak Energy have publicly committed to follow international standards and have specifically made reference to the UNDRIP and Equator Principles in their statements. Nevertheless, there is no evidence that these standards have been followed. Conversely, examples from past and current dam undertakings point into the opposite direction as the following sections on the Bakun Dam, the Murum Dam and the Baram Dam will show.

### **3.3 Bakun dam: a story of broken promises and lost livelihoods**

The 2,400 MW Bakun dam is located on the Balui River, upstream from Belaga. Balui River is part of the Rajang River system, the largest river system in Sarawak.<sup>125</sup> The Bakun dam is a concrete-faced rockfill dam with a crest height of 206m and a crest length of 814m.<sup>126</sup> It is one of Asia’s largest dams.

A first study on the hydropower potential of the Rajan Basin was completed in the 1960s. The Bakun proposal was formally put forward in 1986 and since then, the Bakun project has been approved, cancelled and postponed several times.<sup>127</sup> It was finally completed in 2011.<sup>128</sup> The impoundment of the 700km<sup>2</sup> reservoir started in October 2010<sup>129</sup> and was completed in early 2012.

In spite of being a federal Malaysian project, the Bakun Dam is a good example of the capacity –

or lack of capacity – of Sarawak to deal with resettlements. Indeed, the Sarawak government, namely its State Planning Unit, was responsible for the resettlement of 10,000 Sarawak natives.

In 1998, a number of communities of Kayan, Kenyah, Ukit, Penan and Kajang, followed the government's instructions and moved to Sungai Asap, downstream of the Bakun Dam. Sadly, the story that these people<sup>130</sup> tell of their experience of resettlement, is one of broken promises by the government, and attests to the gross violations of international standards and human rights. The displaced communities were never properly informed about the construction of the Bakun Dam and its consequences, nor had they been offered an opportunity to give their consent or been invited to become involved in the planning process of the dam and the resettlement site.

An old Kayan woman now living at Uma Balui Liko in Sungai Asap remembered the beginning of the dam issue: "Strangers came to our village to inform our headman about the dam. Our headman later on informed us about what they told him. But we normal villagers did not understand what a dam was. We thought that it is impossible to stop the force of the river." She explained that she imagined a dam to be a big rock falling from the sky. The government did not inform them that a dam involves resettlement at the outset. Later on, they believed the government's promises of a better life in a new place, yet now they feel betrayed.

People in Sungai Asap, the resettlement site of Bakun, complain that the distributed land is too small, especially for growing families, and often not suitable for agriculture. The most dramatic consequence, however, is their loss of access to the rainforest. The rainforest was as a source of free food and traditional cultural activities. Now, communities are forced to pay for their food, which is a huge challenge due to the lack of job opportunities in Sungai Asap.

Simon F. from the Kajang village of Uma Lahanan in Sungai Asap spoke about his disappointment with the government: "The government has promised us many things, but the only promise that they realized is the easier access to the health clinic. On the other hand, we are more often sick than before because of the bad water quality here." All communities that moved to Sungai Asap voice similar concerns. The government promised them large houses, a lot of land and free electricity, but hardly any of the promises were fulfilled.

Compensation for the loss of their land and houses has been held back, to a smaller or larger extent, depending on the community. People also complain that the water level of the Bakun reservoir is higher than projected. As people could only claim compensation for land and properties submerged by the water, the parts that have been flooded unexpectedly have not been surveyed for compensation and are, therefore, not part of the payments.

Simon F., a father of several children, noted that alcohol consumption has increased in his community since the resettlement due to the loss of their traditional activities and hobbies, the lack of prospects and the disintegration of the community caused by the displacement. Therefore, he fears a bleak future for his children: "There are no job opportunities here in Sungai Asap, only the government's cronies within the community get jobs and contracts."

In short, people in Sungai Asap have lost their traditional livelihoods because of the limitations of the resettlement site, but they have extremely limited options to participate in the modern economy as Sungai Asap has no employment opportunities to offer. The people conclude that they are worse off than before and ask: "Where is the promised development?"

The communities living downstream of the Bakun dam are also struggling to survive under the new conditions. A Kayan community living right below Bakun dam, Ruma Nyaving, has been confronted with a low water level caused by the impoundment.<sup>131</sup> In late 2011, during the impoundment, they were not able to use their normal boats and even really small boats faced the danger of getting stuck or damaged when used. They also experienced a shortage of fish – the

base of their livelihood – which was clearly a result of the impoundment. Many were hoping that the fish would come back once the reservoir was fully impounded, but most remain sceptical. Furthermore, a group of men complained about the water quality: “The water is really dirty. After having been in contact with water of the river, we feel itchy and need to take a shower.” The worst factor, however, is the fear that the dam is not safe: “We have nightmares of the dam breaking and flooding our village.”

### ***Is the Bakun dam safe?***

In 2011, compromising material leaked out that showed that workers cut corners during the construction of the prestigious Bakun project. A video released by whistleblower website Sarawak Report shows how workers added too much water to the cement, which was judged to be unsafe by the construction industry.<sup>132</sup> Sinohydro, the Chinese company in charge of the construction work, was forced to admit that the construction processes were not in accordance to correct procedures.<sup>133</sup> This clearly puts the safety of the Bakun dam in a bad light.

A secondee from Hydro Tasmania to Sarawak Energy, Andrew Pattle, stated in Hydro Tasmania’s 2010 Annual Report that “safety and environmental compliance are not given (...) much importance” during dam-building in Malaysia<sup>134</sup>. A review of the works done at Bakun by Entura, a subsidiary of Hydro Tasmania, indirectly admitted safety risks at the Bakun Dam: “The dam and other civil works, including the intake spillway and associated control structures, the power house and the switchyard are generally well designed and constructed. The risks identified by the study may all be mitigated, by various means and effort, to successfully deliver a commercially operational power station.”<sup>135</sup> This implies that there are risks, which have to be mitigated to secure the safe operation of the dam.

### ***The floating houses of Bakun***

Some of the 10,000 Sarawak natives who normally required resettlement, finally refused to move to the government’s resettlement site and stayed on what is left of their former lands.: They now live in the so-called floating houses (jelatongs) on the Bakun reservoir. One indigenous Ukit community, for example, resisted the government’s resettlement plans because they did not want to give up their ancestral lands. From their new floating homes they are now watching the drowning of their homelands, villages and graveyards. “We have already started building a new longhouse onshore near our former village”, the headman of the Ukit community said. “But it is difficult and the government refuses to support us. They have not even paid us compensation for our submerged land because we refused to move to the government’s resettlement site.” They currently live under precarious sanitary conditions. As the dam has submerged their traditional farmlands, the Ukit had to search for a new livelihood, as such they now live from fishing, hunting and harvesting and selling some of the trees in the area of the Bakun reservoir.



**Pictures – Floating houses (jelatongs) at the Bakun dam.**

### **3.4 Murum dam: how to build a dam in secrecy**

The Murum dam is the first dam of the SCORE series of dams that is under construction. The roller-compacted concrete (gravity) dam is located above the Bakun dam. The 141m high dam will have a capacity of 944 MW and flood around 250km<sup>2</sup> of forest and farm land. Over 1,400 people<sup>136</sup> from the six Penan villages of Long Wat, Long Malim, Long Luar, Long Tangau, Long Menapa and Long Singu as well as the Kenyah village of Long Umpa, will be displaced.

The works started in 2008, and excluded any public input. By late 2012, the construction works are almost completed and the impoundment of the reservoir is meant to start in early 2013. The Murum Dam should produce its first electricity in early 2014.<sup>137</sup>

The China Three Gorges corporation, the company in charge of the controversial Three Gorges Dam in China, is involved in the management of the Murum dam project. Sinohydro, another Chinese company and the largest dam company worldwide, is actually constructing it.<sup>138</sup> Hydro Tasmania and MWH Global (see chapter 4.2) have been advising Sarawak Energy on the Murum Dam and a Hydro Tasmania secondee is overseeing its construction.

Suhakam, Malaysia's Human Rights Commission, published a report on the Murum Dam in 2009 based on an extensive investigation. Suhakam concluded that there was "a shortfall in the extent of free, prior and informed consultation with the affected communities" and a neglect of inputs from civil society and environmental groups before the project's implementation.<sup>139</sup> They also criticized the fact that the environmental impact assessment (EIA) was neither completed before the start of the construction works nor accessible at the time of their investigation. Suhakam called for compliance with international human rights standards, full transparency, more inclusive consultations with the affected communities in the dam construction and resettlement process and fair compensation.<sup>140</sup> Unfortunately, since the publication of the report in 2009, none of the above mentioned issues and shortcomings have been properly addressed.

On the 26<sup>th</sup> of September 2012, the Penan and Keyah decided to put up a blockade on the access road to the Murum Dam. For several weeks, they have successfully interrupted the supply of construction material to the dam. In September, they received a leaked copy of the Murum Hydroelectric Power Project Resettlement Action Plan.<sup>141</sup> Furious about this information, which had been withheld from them for so long, and the poor compensation the Action Plan accorded them, they set up the blockade.<sup>142</sup>



**Picture – Affected Penan communities set up a blockade at Murum.**

Today, three years after the publication of the Suhakam report, the main criticisms remain the same as in 2009. International Rivers, an international NGO working on dam issues all over the world, lately reviewed the Resettlement Action Plan and a fact-sheet written by Sarawak Energy on the Murum project. They identified three main violations of international standards:<sup>143</sup>

- **Lack of free, prior and informed consent:** The indigenous communities have not been given the chance to grant or withhold their free prior and informed consent for the project. Some form of consultation appears to have taken place for the resettlement site. However, this agreement was “neither free from coercion, nor prior to the start of the construction, nor informed by access to information about the project’s impacts.”<sup>144</sup>
- **Flawed social and environmental impact assessment (SEIA):** International standards require the SEIAs to be finalized during the design phase before the project is approved and construction starts. The SEIA for Murum, however, was not completed before the start of construction works and it has still not been disclosed to the public and the affected communities until today.
- **Failure to allow the indigenous communities to choose their own development path:** “Sarawak Energy’s fact-sheet highlights a number of ways that the government plans to modernize the affected indigenous communities and improve their lives. The UN Declaration on the Rights of Indigenous Peoples explicitly recognizes that indigenous communities should have a voice in their own development, including the design of any housing, economic, and social programs on their behalf. By selecting these types of programs without the communities’ consent, the Sarawak government is again violating their rights.”<sup>145</sup> The Resettlement Action Plan, for example, only guarantees access to forests for the resettled communities during the transition period from traditional activities to the cash economy.<sup>146</sup> This livelihood choice is not a decision that can be taken by the government on behalf of the communities under international law.

The people at the Murum blockade site feel betrayed by the government, the same dominant feeling as in Sungai Asap, and want to keep up the pressure until their concerns are properly addressed.



**Picture – Penan protest against the Murum dam, October 2012.**

***Sarawak’s Australian dam project director: Andrew Pattle***

Andrew Pattle has been seconded from his Australian employer Hydro Tasmania to Sarawak Energy for knowledge and skills transfer. He was not only Project Director for the Murum Dam until 2011 but has recently also been appointed as Senior Project Manager for the proposed Baram and Baleh dams.

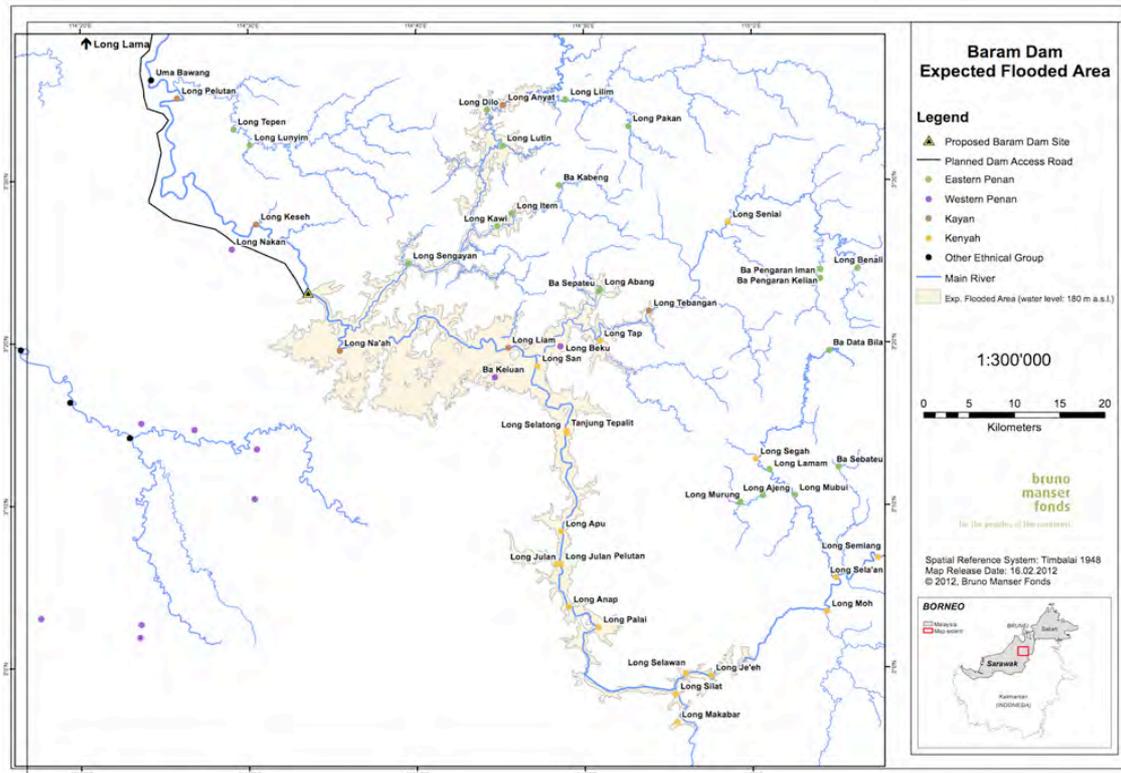
Pattle has been in the news lately saying that “safety and environmental compliance are not given (...) much importance” during dam-building in Malaysia. This has been the reason for the outrage of the affected communities, who have yet to be properly informed and consulted.<sup>147</sup>



**3.5 Baram dam: construction despite lack of consent?**

The Baram dam seems to be the most advanced dam in the SCORE series, following the Murum dam. With the feasibility study completed and the expropriation of the land for the access road to the dam finalized since late 2011, people are now expecting the construction works on the access road to start soon.

Sarawak Energy and the Sarawak government have not officially informed the public about the Baram dam yet. Based on some leaked information, the Bruno Manser Fund has been able to estimate the impacts of the planned Baram dam and published a respective map in early 2012: the Baram river, the second largest river in Sarawak, would be dammed from below Long Na'ah and a rainforest and farm land area of 412km<sup>2</sup> would be flooded leaving 20,000 people from 26 villages of the Kenyah, Penan and Kaya displaced.



In the meantime, BMF managed to obtain more information on the extent and scale of the project. The Baram Dam is designed to have a capacity of 1,200 MW and 800 MW firm power. The roller-compacted concrete (gravity) dam is 160m high and will cost US\$1,222.6 billion. The reservoir will flood an area of 400km<sup>2</sup> and the water level will lie at 180m above sea level.<sup>148</sup>

This information, however, is not officially available in Sarawak. Therefore, affected communities complain about this lack of access to information. The government and Sarawak Energy only started their information sessions about the dam in May 2012. People who attended the sessions reported that they were only allowed to listen to what was presented and were not allowed to ask any questions.

The people from Baram started voicing out their disagreement with the construction of the dam and their concerns about the chosen approach to information and consultation. They formed the “Baram Protection Action Committee” (BPAC) to defend their interests. They also approached the responsible authorities with letters and a petition. They held protests in the towns and villages of Kuching, Miri, Marudi, Long Lama, Long San and Long Na'ah. They even demonstrated their displeasure with the dam through two gatherings at the proposed dam site. They demanded their right as indigenous peoples to give or withhold their consent on the dam project affecting their land. Up until now, the government has not replied to their concerns.

People in Baram are mobilizing strongly against the dam because they know that it would be the end of the life they know, the end of their villages, the end of their traditions and the end for the forest. Clearly, this is not what they understand development to be.



Peter L. from Long Anap,<sup>149</sup> a Kenyah village to be flooded by the Baram Dam, was stunned by the magnitude of the plans: “A human made tsunami will roll down and destroy everything- forest, rivers, crops, churches, schools, graveyards, just everything! This will be the end of our lives!”

**Picture – Affected villagers protest against the Baram dam**

“When the government floods our forest and land with the dam, we will not survive,” said Grace M., an old Penan woman from Long Lilim. Similarly to Grace M., the majority of indigenous peoples who still live in their traditional villages in the rainforest of Sarawak survive as farmers, hunters and gatherers. Hence, the flooding of their territories will result in the loss of their economic base. Resettlement forces these communities out of their traditional way of life into a money-based economy often without access to the rainforest, where they previously could hunt and gather their food at no cost.

The people in the Baram region are not only scared of losing their livelihood, but also their culture and history. The imminent displacement and resettlement threatens to uproot the communities and their social cohesion. Their graveyards are of special significance as they mark the connection of today’s generations with their ancestors. “We living people can at least run away as soon as the water comes, but what about our dead ancestors?,” asked Maria K. from the Kenyah village of Long Anapon on the banks of the Baram river.

Thomas M., retired secondary teacher from the regional centre of Long San, is particularly upset about the imminent flooding of his father’s grave. With tears in his eyes he said: “My father died in 2002. I will not let them flood my father’s grave and I will not allow my father to die twice because of the dam. I will fight this dam.” Thomas M. and his friends put up a banner next to the graveyard of Long San: “Stop Baram Dam”.



**Picture – Affected Baram Communities are sending the message loud and clear.**



### **Pictures – Communities affected by the impending Baram Dam**

Most people in Baram do not believe in the government’s promises of development anymore. John K. from Long Anap predicted: “The dam will only bring us suffering. Only a handful of our people support its construction and of these few, only those whose position depends on the government.” As a paddy and rubber farmer, he is scared of losing his land.

The people to be affected by the various dam projects have also learnt from previous experiences of dam construction in Sarawak such as Batang Ai and Bakun. Several have visited the Bakun Dam and the resettlement site at Sungai Asap. Penan Moses P. from Long Pakan concluded: “We Penan don’t want the government to build the Baram Dam. I visited (the) Bakun Dam and could see that the people at Sungai Asap are suffering.” Like Moses, many of the Baram people returned from Bakun and Sungai Asap with their informed decision taken against the construction of a dam in their region.



**Picture – At a SAVE Rivers workshop in Sarawak, people say no to the Baram Dam.**

***Torstein Dale Sjøtveit, Sarawak Energy's controversial Norwegian CEO***

Chief Minister Taib Mahmud has chosen Torstein Dale Sjøtveit, a Norwegian with experience in the aluminium and energy sectors, to implement his dam plans.<sup>150</sup> Sjøtveit has been Chief Executive Officer of Sarawak Energy since November 2009.<sup>151</sup> A Malaysian reporter calculated that his annual salary of US\$1.2 million – plus ten all expenses paid holidays, a new car and free housing – is equivalent to 2,003,700 plates of chicken rice, a popular Sarawak lunch dish, which means lunch for 5,489 years.<sup>152</sup>



Torstein Dale Sjøtveit has faced strong protests in Sarawak lately. The communities affected by the Baram Dam have repeatedly written to him to demand their right for information and consultation and to express their rejection of the project. They accuse Torstein Dale Sjøtveit of contravening international transparency standards. Sjøtveit prefers to remain silent when faced with such criticism. When he participated in a government-organized ceremony to “bless” the proposed dam last April, 30 protestors arriving by boat at the dam site interrupted the ceremony. One month later, 150 people held a counter ceremony at the same spot to express their concern about the proceeding dam plans and the abuse of their traditions. Torstein Dale Sjøtveit dismissed the protests and called the Baram people “ignorant”.<sup>153</sup>

In early September, a group of natives lodged a corruption complaint against Sjøtveit with the Malaysian Anti-Corruption Commission. They are accusing Sjøtveit of having abused his position to grant Sarawak Energy contracts to companies linked to the family of Chief Minister Taib Mahmud. In October 2012, the Bruno Manser Fund informed Norway’s anti-corruption watchdog, Økokrim, on the corruption allegations surrounding Sjøtveit.<sup>154</sup>

## 4. Corporate actors behind Sarawak's dam plans

After analysing the scope of the government's dam plans, the associated risks, environmental and social impacts on the people of Sarawak, it is time to have a closer look at the corporate actors behind Sarawak's dams and the SCORE project. Firstly, we will analyse the role of companies linked to the Taib family in SCORE before zooming in on Sarawak Energy and its foreign partners.

### 4.1 The role of Taib-linked companies in SCORE

The Taib family has accumulated shares in over 400 companies in 25 countries and offshore jurisdictions during Chief Minister Taib Mahmud's 30 year term in office. In Malaysia alone, Taib, his four children, eight siblings and his cousin Hamed bin Sepawi have stakes in 332 companies.<sup>155</sup> Taib and his closest family members have monopolized the economic and political power in Sarawak. This demands a closer look at the dam business while focusing on corruption understood as "the misuse of a public or private position for direct or indirect personal gain".<sup>156</sup>

#### *SCORE-companies with links to the Taib family*

An investigation into the companies benefiting from SCORE reveals several companies that are linked to the Taib family.



#### *A) Cahya Mata Sarawak (CMS)*

Taib Mahmud and his family profit from the dam business through the construction companies that they control, namely Cahya Mata Sarawak Berhad (CMS).<sup>157</sup> CMS is the biggest company in East Malaysia and a major player at the Kuala Lumpur Stock Exchange (KLSE). It is a massive construction conglomerate, which benefits from many state contracts.<sup>158</sup> An estimated MYR500 million are handed out each year to CMS by the department of Public Works alone. On top of that, they are given numerous one-off projects, such as the construction of the new Parliament Building in Kuching, which cost MYR300 million. It is widely known that CMS benefits from a cement monopoly in Sarawak – a secure way to profit from the dam constructions.<sup>159</sup>

*Family connection:* The Taib family controls over 80% of CMS shares.<sup>160</sup> Taib's eldest son, Mahmud Bekir is on the board of directors as well as his son-in-law, Syed Ahmad Alwee Alsree.<sup>161</sup> CMS is the main tool by which Taib and his family access state money invested into the dams and SCORE, as they collaborate with other companies. These joint ventures are then provided with contracts in the framework of SCORE.

#### *B) OM Materials (Sarawak) Sdn. Bhd.*

As part of SCORE, OM Materials (Sarawak) runs a MYR1.5 billion ferro alloy smelting plant in the Samalaju Industrial Area with energy that has been provided by Sarawak Energy for 20 years.

*Family connection:* OM Materials (Sarawak) Sdn. Bhd is a joint venture between CMS (20%) and Singapore based OM Materials (S) Pte Ltd (80%).<sup>162</sup> CMS, as mentioned above, is largely owned by Taib's family.

### **C) KKB Engineering Berhad**

KKBEB has been awarded a host of contracts under the SCORE scheme. Among these contracts are a key water supply project in Samalaju (MYR296 million), earthworks package for OM Materials<sup>163</sup> (MYR70 million), structural steel package for Tokuyama Corp (MYR5.5 million) and KKBEB has also been pre-qualified for building and civil engineering projects with Asia Minerals Ltd, Tokuyama Corp and OM Materials.<sup>164</sup>

*Family connection:* CMS owns 20% of the shares of KKBEB.<sup>165</sup>

### **D) PPES Works (Sarawak) Sdn. Bhd.**

PPES has been awarded the MYR101.3 million contract to upgrade the 35.7-km stretch<sup>166</sup>, which formed part of the road that linked the Baram district to Miri city and also links to the proposed site of the Baram hydroelectric project. A joint venture between PPES Works and Chiyoda Malaysia was awarded the MYR120 million contract by ASSAR Chemicals to develop phases 3/4 of the Independent Oil Terminal project adjacent to Senari Port in Kuching.<sup>167</sup> The company was also awarded the Tubau–Bakun access road, valued at MYR219 million, which serves as the main access road to the Bakun Dam.

*Family Connection:* CMS owns the majority shares (51%) in PPES Works.<sup>168</sup> 49% of the shares are controlled by Sarawak Economic Development Corporation.<sup>169</sup>

### **E) Naim Holdings Berhad**

An MoU has been signed between Naim Holdings Berhad (60%), Cahya Mata Sarawak Berhad (30%) and the Bintulu Development Authority (10%) to build a MYR1.5 billion township in Bintulu.<sup>170</sup> Naim's subsidiary, NCSB Engineering has been given the MYR168 million Bengoh dam resettlement scheme contract – Bengoh dam was built near Kuching for water supply.<sup>171</sup>

*Family connection:* Naim Holdings Berhad is 16% owned by Taib's first cousin Abdul Hamed bin Sepawi. Hamed Sepawi is also chairman of the company.<sup>172</sup>

### **F) Sarawak Cable Berhad<sup>173</sup>**

Sarawak Cable Berhad (SCB) is tipped to be one of the biggest beneficiaries of SCORE. According to analysts, SCB is expected to bag the 500kv Bunut-Kuching line job worth MYR3billion, which will be the main trunk line connecting all the smaller transmission lines in Sarawak.<sup>174</sup> SCB has secured the Murum-Murum junction line under SCORE, a contract worth MYR99 million.<sup>175</sup> In addition, state-owned Sarawak Energy sold Sarawak Cable its manufacturing subsidiary Sawarja Timur in 2010.<sup>176</sup>

*Family connection:* Taib's son Mahmud Abu Bekir Taib is the Director and a major shareholder (32%) of Sarawak Cable Berhad.<sup>177</sup>

### **G) MMC Berhad/Pan Kingdom Investment Co.**

In May 2012, Cahya Mata Sarawak (CMS), MMC Berhad and Pan Kingdom Investment Co. signed a US\$1.5 billion memorandum of understanding to jointly develop a fully integrated steel cluster including a palletising plant, direct reduction plant and a rolling mill.<sup>178</sup>

*Family Connection:* CMS is controlled by the Taib family.

### **H) Tanjung Manis Halal Hub**

The Tanjung Manis Halal Hub is earmarked as the Southern Growth Node of SCORE and a core aspect of the SCORE vision. It is a park for upstream and downstream Halal food and manufacturing activities.

*Family connection:* Taib's cousin Norah Tun Abdul Rahman is the executive chairperson of TMHH.<sup>179</sup>

#### ***I) Acacia Cellulose International Sdn. Bhd.***

Acacia Cellulose (Acacell) and Sarawak Planted Forest Sdn. Bhd. signed an agreement for the latter to deliver 3.2 million cubic meter a year of pulpwood to Acacell.<sup>180</sup>

*Family connection:* Taib's cousin Abdul Hamed bin Sepawi is the director of Acacell.<sup>181</sup>

#### ***Compliance and reputational risks for foreign investors***

With regard to this close association of the corporate actors behind SCORE and the Taib family, corruption is highly likely to be part of SCORE. Foreign investors are reminded that corruption is an internationally enforceable criminal offence and that they should be careful not to be complicit with Taib's blatant violations of human rights and international standards under the SCORE.

Taib Mahmud has an impressive track record of enriching his family through the systematic abuse of his public position in favour of his family members and his political cronies.<sup>182</sup> This applies also to the construction of the dams under SCORE, directly with CMS' monopoly on cement, but mostly indirectly with the projects that are powered by the dams and are implemented by the Taib family-run companies in the framework of SCORE. Consequently, all individuals and corporate actors working with Taib and Sarawak Energy in the development of the dams are highly likely to support Taib's network of corruption. Some of these actors benefitting from Taib's regime are further elaborated in the next section.

As long as Taib Mahmud is Chief Minister of Sarawak, all foreign investors active in Sarawak, or associated with this extremely corrupt politician and his family, are facing serious reputational and compliance risks and might later be held liable for their role under the repressive, corrupt and unjust Taib government.

## **4.2 The dam builders and advisers**

The main Malaysian actor in Sarawak's dam business is Sarawak Energy Berhad, responsible not only for electricity generation and transmission but also for the development of the dams. Sarawak Energy contracts other companies, especially Chinese and Western companies to do specific work on different phases of a project. Generally, Chinese companies are hired to do the construction work, whereas Western consultancy companies do the feasibility studies, engineering designs and reviews. The following list and descriptions give an overview of the involved companies and their contributions –this list is by no means exhaustive, it is only a reflection of our current knowledge.

#### ***A) Sarawak Energy Berhad***

Sarawak Energy Berhad is Sarawak's power supplier and it is fully state-owned. It holds a monopoly over the generation, transmission and distribution of electricity throughout the whole of Sarawak, and is in charge of the implementation of the dams.<sup>183</sup> Its declared goal is to “transform Sarawak into a developed State by the year 2020”<sup>184</sup> on the principle of “no harm to anyone at any time.”<sup>185</sup> Its total revenue for 2010 was at MYR15553.77 million and the profit at MYR336.2 million.<sup>186</sup>

The people in charge at Sarawak Energy have ambitious goals: in addition to transforming Sarawak into a “developed state,” the local utility company Sarawak Energy should be converted into a “major regional supplier of competitively priced renewable energy”<sup>187</sup> thanks to Sarawak's

hydropower.

To reach these objectives, Sarawak Energy relies heavily on foreign support and knowledge. In 2009, a Norwegian national, Torstein Dale Sjøtveit, became the CEO of Sarawak Energy. Thereafter, another Norwegian manager, Einar Kilde, was brought in by Sjøtveit as “Head of Project Execution”. In 2010, Australian hydropower operator Hydro Tasmania started to second staff to Sarawak Energy. The goal was to establish an official partnership between the two companies in order to guarantee Sarawak Energy the necessary skills to build the planned dams. Sarawak Energy announced in its 2010 Annual Report (which was released in mid-2012) that the partnership with Hydro Tasmania would be “a formal agreement for knowledge transfer, which includes secondment of staff from Hydro Tasmania, consulting services and a number of co-development agreements for specific hydropower projects”.<sup>188</sup>

Sarawak Energy stresses that their foreign helper’s skills are “not yet” available in Sarawak, but “essential” for the realizations of the dams. In this context, Hydro Tasmania seconded nine of its Australian employees (seven managers) to Sarawak Energy in 2010 while it was planned that “20-30 additional support staff” should be appointed under the program over time.<sup>189</sup> Andrew Pattle, Project Director for the Murum dam and Senior Project Manager for the proposed Baram and Baleh dams, is one of the staff seconded from Hydro Tasmania. Other examples are Miles Smith, the Vice President and Head of Planning & Strategy at Sarawak Energy, Graeme Maher, Senior Manager Hydropower Development at Sarawak Energy, and James Hannon, Senior Manager Contracts. Nick Wright, former Senior Advisor to Tasmania’s Energy Minister, now holds a position at Sarawak Energy as Vice President who is responsible for Corporate Social Responsibility. In his position, he is also responsible for resettlement issues, sustainability and community consultation.<sup>190</sup>

Within the Sarawak state government, the State Financial Secretary is the owner of Sarawak Energy. As Minister of Finance, Taib has direct influence over the State Financial Secretary. As a result, he has the power over Sarawak Energy: over the decision-making process, over the development, the construction process and especially over awarding contracts.

Furthermore, Taib’s cousin Abdul Hamed bin Sepawi functions as Chairman and Non-Executive Director of Sarawak Energy<sup>191</sup>. Taib’s brother-in-law, Abdul Aziz, served as director of Sarawak Energy, but resigned in 2009.<sup>192</sup> The state assembly, which is the state’s parliament, however, has no say in Sarawak Energy. In spite of being a state owned company, there are no checks and balances for Sarawak Energy.

The fact that the State Financial Secretary is the sole shareholder of Sarawak Energy bears advantages for both, Sarawak Energy and Chief Minister Taib Mahmud.<sup>193</sup> This secures Sarawak Energy with a collateral to use for taking loans or issuing bonds, essentially ensuring themselves against the monumental risks of SCORE. At the same time though, the current structures makes allowances for selling off shares. This means that if the projects are successful, the company can later be privatised: the state carries the risk, and the profits can go into private pockets - a modus operandi that has been used successfully by the Taib family in earlier years to enrich itself.<sup>194</sup>

### ***Chinese dam builders***

Chinese companies seem to be important partners in realizing Malaysian dam projects. First and foremost, Chinese companies are responsible for the construction. Without their building capacity, Sarawak Energy would not be able to implement the ambitious multi-dam complex.

### ***B) Sinohydro Corporation (China)***

The Bakun project was led by a joint venture with China’s Sinohydro Corporation and Malaysia’s

Sime Engineering Sdn. Bhd.<sup>195</sup> Sinohydro Corporation is a Chinese state-owned hydropower engineering and construction company, the largest dam company in the world.<sup>196</sup> Sinohydro Corporation has been involved in the construction of Sarawak's Bengoh dam, a dam built to secure the water supply for Kuching.<sup>197</sup> It is also involved in the Murum dam project.

### ***C) China Three Gorges Corporation (China)***

The other big Chinese dam construction company involved in Sarawak is the China Three Gorges Corporation currently which is currently in charge of Murum dam.<sup>198</sup> The Chinese government founded the Three Gorges Corporation to manage the Three Gorges Project. In the meantime, the company became an important dam builder abroad because it is highly capitalized and has a special agreement with the China Exim Bank, which provides it with a preferential treatment for projects abroad.<sup>199</sup> The China Exim Bank (China Export-Import Bank) was also involved in funding the Bakun dam.<sup>200</sup>

### ***Western consultancy companies***

Western consultancy companies are important knowledge providers. Without their help, Sarawak Energy would not be able to construct the dams. This is why the respective companies need to realize the role they play in the Taib government's corrupt dam plans.

### ***D) Hydro Tasmania and Entura (Australia)***

Hydro Tasmania is owned by the Government of the Australian state of Tasmania and is specialized in dam development and renewable energy.<sup>201</sup> Hydro Tasmania is providing knowledge and skills to Sarawak Energy within the framework of a partnership agreement, whose scope and current status remain unclear.

Entura, Hydro Tasmania's subsidiary and consultancy branch, was hired by Sarawak Energy to do a review of the Bakun dam in 2010<sup>202</sup> and an overall assessment of the Batang Ai dam and the options for capacity increase in 2009<sup>203</sup>. In addition, Entura conducted the feasibility studies of the proposed Belaga, Pelagus and Metjawah dams between 2008 and 2009.<sup>204</sup> During the investigation, Entura even discovered another potential site for a hydroelectric project, Punan Bah, which is currently undergoing a feasibility study.<sup>205</sup> Entura also advised Sarawak Energy repeatedly on matters concerning the Murum Dam<sup>206</sup>.

### ***E) Fichtner GmbH & Co KG (Germany)***

Fichtner GmbH & Co KG with its headquarters in Stuttgart is Germany's largest independent firm of consulting engineers.<sup>207</sup> Fichtner was hired by Sarawak Energy to identify and assess project options for the planned 1,200 MW Baram Dam. They conducted detailed investigations with the "assessment of all technical, environmental and economic aspects".<sup>208</sup> Fichtner staff also regularly speak at international hydropower conferences<sup>209</sup> and even at a German University<sup>210</sup> about their experiences with the Baram dam. Fichtner is thus providing experts and German students with information that is denied to the affected communities in Baram and the greater Malaysian public. Fichtner has also completed a feasibility study for a potential submarine cable from Sarawak to West Malaysia.

### ***F) SMEC (Snowy Mountains Engineering Corporation) (Australia)***

SMEC is an Australian engineering and development consultancy company<sup>211</sup> with a subsidiary in Malaysia<sup>212</sup>. SMEC has already been involved in the Bakun Dam. They have provided experts in the field of design and construction and have helped to monitor and review quality control and construction work.<sup>213</sup> In addition, SMEC finished a feasibility study on Limbang dam<sup>214</sup> and got awarded further contracts for feasibility studies and design reviews for Lawas, Trusan, Limbang 1

and Limbang 2 in September 2011.<sup>215</sup>

### ***G) MWH Global (United States)***

MWH Global is a US-based international company engaged in the engineering, construction and management of some of the largest wet infrastructure, hydropower, mining and transportation projects.<sup>216</sup> MWH seems to have been involved in Bakun Dam before and its New Zealand branch has recently done a feasibility study for one of the proposed dams under SCORE<sup>217</sup> – as to which dam is not exactly clear. MWH has also been advising Sarawak Energy on stability issues concerning Murum Dam.<sup>218</sup> They also seem to be involved in the Baram dam project now<sup>219</sup>.

### ***H) GHD (Australia)***

GHD is an Australian engineering conglomerate working in the field of, among others, water and energy. GHD has opened a subsidiary in Sarawak. GHD completed a pre-feasibility study and a cost estimation and economic comparison study for Baleh Dam between 2007 and 2008 and was again hired to do the feasibility study, which started in June 2008.<sup>220</sup> They also recently seem to have become involved in the planning of the Baram dam.<sup>221</sup>

### ***I) Norconsult (Norway)***

Norconsult is a leading Norwegian engineering and design consultancy company.<sup>222</sup> Norconsult is assisting Sarawak Energy in the implementation of SCORE. They were hired to do an initial phase study for Pelagus hydroelectric project with a potential capacity of 410 MW.<sup>223</sup>

### ***Bakun – a monument of corruption***

The Bakun Dam project was proposed in 1986, but cancelled because of an economic recession. It was revived and approved in 1994. The Malaysian company Ekran Berhad under Ting Pek King, a crony of former Prime Minister Mahathir bin Mohamad, received the contract without any public tender. ABB became the primary electromechanical and transmission contractor. By the late 1990s, however, the project was suspended due to the Asian financial crisis.<sup>224</sup> At that time, Ekran Berhad was already paid MYR1.6 billion and as soon as the project was revived, the Malaysian government paid Ekran another MYR700 million to MYR1 billion of redress for the nationalization of the project.<sup>225</sup>

With this third attempt of realizing the Bakun Dam in 2000, the Malaysian government set up a government-owned company called Sarawak Hydro, to manage the project. The main builder became the Malaysia-China Hydro Joint Venture consortium, led by Sime Darby Berhad and Chinese Sinohydro. French Alstom and Argentinian IMPSA were contracted for the electromechanical works, especially the turbines.<sup>226</sup> After years of delays, the Bakun Dam was finally completed in 2011.

A source who was involved in the implementation of the Bakun dam, said in an academic investigation: “I do not understand how some of these contractors were selected, but I am certain it was for political reasons, rather than sound engineering ones. Doing a project this way, this size and on this scale, is unheard of in the industry.”<sup>227</sup> It is also likely that Sarawak’s Chief Minister received bribes of up to US\$50 million.<sup>228</sup> Unsurprisingly, Transparency International called the Bakun Dam a “Monument of Corruption” in its 2005 Global Corruption Report.

## **5. SCORE as a costly mistake – the need for a new way forward**

SCORE is a costly, high-risk undertaking with immense environmental and social consequences. The understanding of development at the core of SCORE is entrenched in the past century – the century of gigantism and prestigious (and corruption-prone) mega-projects. SCORE is a vision of the past and mainly serves a handful of actors with political power and vested interests in Sarawak.

Development and energy security should be understood in their full complexity and economic policies shaped accordingly. Responsible governments nowadays search for alternatives to big, risky, costly and harmful dams and focus on small-scale, decentralized, renewable power systems. This means to move away from development mega-projects and instead support small-scale initiatives based on the local people's real needs.

**The Sarawak state government and Sarawak Energy are requested to listen to the call of the affected communities and immediately stop all planning works on further dams.**

More precisely, the Sarawak government is asked to:

- **put a moratorium on all dam constructions in Sarawak, including Murum**
- **commission an independent external review of the existing dams (Bakun, Bengoh, Batang Ai) that examines their profitability, safety and legal compliance**
- **provide full transparency on all projects under SCORE, and to disclose all financial information, social and environmental impact assessments in particular**
- **respect the indigenous peoples' right to free, prior and informed consent and strengthen the protection of native customary land rights**
- **develop projects together with the indigenous peoples that acknowledge their right to pursue their own chosen path of development**
- **address resettlement issues at Sungai Asap, the Bakun resettlement site**

Sarawak Energy is asked to:

- **sack Abdul Hamed Sepawi, the Chief Minister's cousin, as its Chairman**
- **publish information on all contracts granted to companies linked to Sarawak Chief Minister Taib Mahmud and his family members during the last ten years**
- **provide full transparency on its finances, contracts and funders**
- **follow the IFC performance standards and the UN Declaration on the Rights of Indigenous Peoples and regularly update on the proceedings**

The Malaysian federal government is asked to:

- **stop turning a blind eye to Chief Minister Taib Mahmud's rampant corruption in Sarawak and ensure that Taib is held responsible for his criminal conduct**
- **admonish Malaysian banks not to fund dam projects that involve corruption and the violation of indigenous peoples' rights**

The international business partners and foreign investors are asked to:

- **shun SCORE and the Taib government's hydropower program that is inextricably linked to corruption, environmental damage and the violation of indigenous peoples'**

## <sup>1</sup>References

- Colchester, Marcus et al. (2007) "Land is life: land rights and oil palm development in Sarawak", Forest Peoples Programme and Perkumpulan Sawit Watch, England and Indonesia, page 4.
- <sup>2</sup> Intercontinental Cry, 5 April 2011 "It's time for the Sarawak government's reign of plunder to end", <http://intercontinentalcry.org/its-time-for-the-sarawak-governments-reign-of-plunder-to-end/>, viewed July 2012, page 23.
- <sup>3</sup> Malaysian Palm Oil Board (MPOB) "Area Under Oil Palm (MAture and Immature) By states : December 2011", <http://bepi.mpob.gov.my/index.php/statistics/area/97-area/552-area-under-oil-palm-mature-and-immature-by-states-december-2011-hectares.html>, viewed August 2012.
- <sup>4</sup> Sovacool, Benjamin K. and Bulan, L.C. (2011) „Meeting Targets, Missing People: The Energy Security Implications of the Sarawak Corridor of Renewable Energy (SCORE)“, in Contemporary Southeast Asia Vol 33, No. 1, p. 56, 58.
- <sup>5</sup> Patrick McCully (enlarged edition 2001) „Silenced Rivers: The Ecology and Politics of Large Dams“, London and New York: Zed Books.
- <sup>6</sup> The World Commission on Dams (WCD) was established by the World Bank and the World Conservation Union (IUCN) in 1998 in order to review large dams, assess potential alternatives as well as to develop international guidelines and standards for planning, design and operation of dams. It consisted of 12 members from different backgrounds reaching from NGOs to corporations. The final report "Dams and Development" was released in 2000.
- <sup>7</sup> Patrick McCully (enlarged edition 2001) "Silenced Rivers: The Ecology and Politics of Large Dams", London and New York: Zed Books, introduction.
- <sup>8</sup> Bruno Manser Fonds (2012) "The Taib Timber Mafia: Facts and Figures on Politically Exposed Persons (PEPs) from Sarawak, Malaysia", Basel, Switzerland.
- <sup>9</sup> Hong, Evelyne (1987) „Natives of Sarawak: Survival in Borneo's vanishing forest“, Institut Masyarakat, Penang, Malaysia, page 1.
- <sup>10</sup> Colchester, Marcus et al. (2007) "Land is life: land rights and oil palm development in Sarawak", Forest Peoples Programme and Perkumpulan Sawit Watch, England and Indonesia, page 6.
- <sup>11</sup> Department of Statistics, Malaysia (2011) "Population and housing census, Malaysia 2012", [http://www.statistics.gov.my/portal/index.php?option=com\\_content&view=article&id=1215%3Apopulation-distribution-and-basic-demographic-characteristic-report-population-and-housing-census-malaysia-2010-updated-2972011&catid=130%3Apopulation-distribution-and-basic-demographic-characteristic-report-population-and-housing-census-malaysia-2010&Itemid=154&lang=en](http://www.statistics.gov.my/portal/index.php?option=com_content&view=article&id=1215%3Apopulation-distribution-and-basic-demographic-characteristic-report-population-and-housing-census-malaysia-2010-updated-2972011&catid=130%3Apopulation-distribution-and-basic-demographic-characteristic-report-population-and-housing-census-malaysia-2010&Itemid=154&lang=en), viewed August 2012.
- <sup>12</sup> Department of Statistics, Malaysia (2011) "Population and housing census, Malaysia 2012", [http://www.statistics.gov.my/portal/index.php?option=com\\_content&view=article&id=1215%3Apopulation-distribution-and-basic-demographic-characteristic-report-population-and-housing-census-malaysia-2010-updated-2972011&catid=130%3Apopulation-distribution-and-basic-demographic-characteristic-report-population-and-housing-census-malaysia-2010&Itemid=154&lang=en](http://www.statistics.gov.my/portal/index.php?option=com_content&view=article&id=1215%3Apopulation-distribution-and-basic-demographic-characteristic-report-population-and-housing-census-malaysia-2010-updated-2972011&catid=130%3Apopulation-distribution-and-basic-demographic-characteristic-report-population-and-housing-census-malaysia-2010&Itemid=154&lang=en), viewed August 2012.
- <sup>13</sup> Colchester, Marcus et al. (2007) "Land is life: land rights and oil palm development in Sarawak", Forest Peoples Programme and Perkumpulan Sawit Watch, England and Indonesia, page 7.
- <sup>14</sup> Department of Statistics, Malaysia (2011) "Population and housing census, Malaysia 2012", [http://www.statistics.gov.my/portal/index.php?option=com\\_content&view=article&id=1215%3Apopulation-distribution-and-basic-demographic-characteristic-report-population-and-housing-census-malaysia-2010-updated-2972011&catid=130%3Apopulation-distribution-and-basic-demographic-characteristic-report-population-and-housing-census-malaysia-2010&Itemid=154&lang=en](http://www.statistics.gov.my/portal/index.php?option=com_content&view=article&id=1215%3Apopulation-distribution-and-basic-demographic-characteristic-report-population-and-housing-census-malaysia-2010-updated-2972011&catid=130%3Apopulation-distribution-and-basic-demographic-characteristic-report-population-and-housing-census-malaysia-2010&Itemid=154&lang=en), viewed August 2012.
- <sup>15</sup> Colchester, Marcus et al. (2007) "Land is life: land rights and oil palm development in Sarawak", Forest Peoples Programme and Perkumpulan Sawit Watch, England and Indonesia, page 6-7.
- <sup>16</sup> Hong, Evelyne (1987) „Natives of Sarawak: Survival in Borneo's vanishing forest“, Institut Masyarakat, Penang, Malaysia, page 3.
- <sup>17</sup> Hong, Evelyne (1987) „Natives of Sarawak: Survival in Borneo's vanishing forest“, Institut Masyarakat, Penang, Malaysia, page 3.
- <sup>18</sup> Official Website of the Chief Minister of Sarawak, <http://chiefministertaib.sarawak.gov.my/en>, viewed July 2012.
- <sup>19</sup> Democratic Action Party Sarawak (2009) „Democratising Sarawak's Economy – Sarawak DAP's Alternative budget 2010“, page 4.
- <sup>20</sup> 5 per cent is an estimate, see for example Intercontinental Cry, 5 April 2011 "It's time for the Sarawak government's reign of plunder to end", <http://intercontinentalcry.org/its-time-for-the-sarawak-governments-reign-of-plunder-to-end/>, viewed July 2012, page 23.
- <sup>21</sup> Official Website for Ministry of Land Development Sarawak: [http://www.mlds.sarawak.gov.my/page.php?id=86&menu\\_id=0&sub\\_id=154](http://www.mlds.sarawak.gov.my/page.php?id=86&menu_id=0&sub_id=154), viewed September 2012.
- <sup>22</sup> Jack Wong (2010) "Sarawak to double oil palm plantation area", in: The Star [Malaysia], 30.11.10.
- <sup>23</sup> Bruno Manser Fonds (2012) "The Taib Timber Mafia: Facts and Figures on Politically Exposed Persons (PEPs) from Sarawak, Malaysia", Basel Switzerland.
- <sup>24</sup> Bruno Manser Fonds, <http://www.stop-timber-corruption.org>, viewed July 2012; Sarawak Report, <http://www.sarawakreport.org/>, viewed July 2012.
- <sup>25</sup> Bruno Manser Fonds (2012) "The Taib Timber Mafia: Facts and Figures on Politically Exposed Persons (PEPs) from Sarawak, Malaysia", Basel Switzerland.
- <sup>26</sup> MACC investigates Sarawak Chief Minister Taib Mahmud, Bernama, 9 June 2011.
- <sup>27</sup> Bruno Manser Fonds, <http://www.stop-timber-corruption.org>, viewed July 2012; Sarawak Report, <http://www.sarawakreport.org/>, viewed July 2012.
- <sup>28</sup> The Sarawak State Government "Sarawak Corridor of Renewable Energy – An overview", page 9. This report speaks of a hydropower potential of 28,000 MW, but newer publications use the reduced number of 20,000 MW: Sarawak Energy Berhad (2010) "Long-Term Hydropower Development in Sarawak", Presentation held at British Hydropower Association Annual Conference 2010, Glasgow, Scotland, October 13-14<sup>th</sup>.
- <sup>29</sup> Sarawak Energy Berhad (2007) "Chinese Power Plants in Malaysia – Present & Future Development", Presentation held at China – ASEAN Power Cooperation & Development Forum Nanning, Guangxi, China, 28<sup>th</sup> – 29<sup>th</sup> October 2007.
- <sup>30</sup> Sarawak Energy Berhad's official website: <http://www.sarawakenergy.com.my/>, viewed July 2012.
- <sup>31</sup> [http://www.forbes.com/lists/2012/84/malaysia-billionaires-12\\_Abdul-Hamed-Sepawi\\_N73D.html](http://www.forbes.com/lists/2012/84/malaysia-billionaires-12_Abdul-Hamed-Sepawi_N73D.html)
- <sup>32</sup> Sarawak Energy Berhad (2007) "Chinese Power Plants in Malaysia – Present & Future Development", Presentation held at China – ASEAN Power Cooperation & Development Forum Nanning, Guangxi, China, 28<sup>th</sup> – 29<sup>th</sup> October 2007.
- <sup>33</sup> Sarawak Energy Berhad (2010) "Long-Term Hydropower Development in Sarawak", Presentation held at British Hydropower Association Annual Conference 2010, Glasgow, Scotland, October 13-14<sup>th</sup>
- <sup>34</sup> Sarawak Energy Berhad (2012) "2010 Annual Report"; Sovacool, Benjamin K. and Bulan. L.C. (2011) "Settling the SCORE: The implications of the Sarawak Corridor of Renewable Energy (SCORE) in Malaysia", Energy Governance Case Study No. 04.
- <sup>35</sup> Sarawak Energy Berhad (2012) "2010 Annual Report", page 39.
- <sup>36</sup> Sarawak Energy Berhad (2012) "2010 Annual Report", page 7.
- <sup>37</sup> Sarawak Energy Berhad (2012) "2010 Annual Report", page 21.

- <sup>38</sup> Sarawak Energy Berhad (2012) “2010 Annual Report”, page 37.
- <sup>39</sup> Sarawak Integrated Water Resources Management “Management Master Plan”, [http://www.siwrs.com.my/modules/iwrm/page.php?id=8&menu\\_id=0&sub\\_id=3](http://www.siwrs.com.my/modules/iwrm/page.php?id=8&menu_id=0&sub_id=3), viewed July 2012.
- <sup>40</sup> For a list of all the sites for hydropower projects currently circulating with Sarawak Energy, refer to the text. This figure only shows the high priority projects of Sarawak Energy from 2010 – the priorities may also have changed in the meantime.
- <sup>41</sup> The Sarawak State Government “Sarawak Corridor of Renewable Energy – An overview”
- <sup>42</sup> Oxford Business Group (2011) “The Report: Sarawak 2011”, page 64.
- <sup>43</sup> Peoples Documentary, <http://peoplesdocumentary.wordpress.com/2012/02/27/report-of-field-trip-findings-on-pollution-by-press-metal-sarawak-sdn-bhd-aluminium-smelting-plant-at-balingian-mukahsarawak/>, viewed October 2012.
- <sup>44</sup> The Sarawak State Government “Sarawak Corridor of Renewable Energy – An overview”.
- <sup>45</sup> The Sarawak State Government “Sarawak Corridor of Renewable Energy – An overview”.
- <sup>46</sup> The Sarawak State Government “Sarawak Corridor of Renewable Energy – An overview”.
- <sup>47</sup> The Sarawak State Government “Sarawak Corridor of Renewable Energy – An overview”.
- <sup>48</sup> Sarawak Energy Berhad (2012) “2010 Annual Report”, page 29.
- <sup>49</sup> International Rivers Network (2003) “Warming the Earth – Hydropower threatens efforts to curb climate change”.
- <sup>50</sup> International Rivers Network (2003) “Warming the Earth – Hydropower threatens efforts to curb climate change”
- <sup>51</sup> Free Malaysia Today “Disaster looming over Bakun” 25 August 2011.
- <sup>52</sup> Sovacool, Benjamin K. and Bulan, L.C. (2011) „Meeting Targets, Missing People: The Energy Security Implications of the Sarawak Corridor of Renewable Energy (SCORE)“, in Contemporary Southeast Asia Vol 33, No. 1, p. 58.
- <sup>53</sup> Pattle, Andrew and Foster, Peter F. (2012) „Sarawak’s hydro projects – building a better future with renewable energy“, IPENZ Engineers New Zealand, page 73.
- <sup>54</sup> Sarawak Energy Berhad (2010) “Long-Term Hydropower Development in Sarawak” Presentation held at British Hydropower Association Annual Conference 2010, Glasgow, Scotland, October 13-14<sup>th</sup>.
- <sup>55</sup> Sarawak Energy Berhad (2010) “Long-Term Hydropower Development in Sarawak” Presentation held at British Hydropower Association Annual Conference 2010, Glasgow, Scotland, October 13-14<sup>th</sup>.
- <sup>56</sup> Bakun dam is a Concrete Faced Rockfill Dam in Belaga with a crest length of 814m and a crest height of 206m flooding almost 700km<sup>2</sup>. Source: Sarawak Integrated Water Resources Management “Management Master Plan”, [http://www.siwrs.com.my/modules/iwrm/page.php?id=8&menu\\_id=0&sub\\_id=3](http://www.siwrs.com.my/modules/iwrm/page.php?id=8&menu_id=0&sub_id=3), viewed July 2012.
- <sup>57</sup> Murum dam is a Roller Compacted Concrete Dam in Lubok Antu with a crest length of 473m and a crest height of 141m flooding almost 250km<sup>2</sup>. Source: Sarawak Integrated Water Resources Management “Management Master Plan”, [http://www.siwrs.com.my/modules/iwrm/page.php?id=8&menu\\_id=0&sub\\_id=3](http://www.siwrs.com.my/modules/iwrm/page.php?id=8&menu_id=0&sub_id=3), viewed July 2012.
- <sup>58</sup> Sarawak Energy Berhad, official website: <http://www.sesco.com.my/index.php/about-us/what-we-do/upcoming-projects/murum-hydroelectric-project>, viewed September 2012.
- <sup>59</sup> See Sarawak Energy’s website: <http://www.sesco.com.my/index.php/about-us/what-we-do/upcoming-projects/balingian-project> (Viewed 15 November 2012) and Jack Wong, 21 May 2012, The Star online, “SEB opens 3 more power transmission line projects for bidding, <http://biz.thestar.com.my/news/story.asp?file=/2012/5/21/business/11320872&sec=business>
- <sup>60</sup> Sarawak Energy Berhad (2012) “2010 Annual Report”, page 25.
- <sup>61</sup> Sarawak Energy Berhad (2012) “2010 Annual Report”, page 28.
- <sup>62</sup> Sarawak Energy Berhad (2012) “2010 Annual Report”, page 37.
- <sup>63</sup> 20,000 MW in 2030 is according to Sovacool, Benjamin K. and Bulan, L.C. (2011) “Behind an ambitious megaproject in Asia: The history and implications of the Bakun hydroelectric dam in Borneo”, Energy Policy 39, page 4842-4843.
- <sup>64</sup> The Borneo Post (2011) “Chin: Surplus power after commissioning of Bakun”, June 15 2011, viewed October 2012.
- <sup>65</sup> Sarawak Energy Berhad, official Website: <http://www.sesco.com.my/index.php/score-us/our-SCORE-customers>, viewed October 2012.
- <sup>66</sup> Sarawak Report, 27 March 2012 “Backing out of Bakun – rio Tinto Pulls Out!”, <http://www.sarawakreport.org/2012/03/backing-out-of-bakun-rio-tinto-pulls-out/>, viewed July 2012; Sarawak Report, 16 February 2012 “Scandal of SALCO – How Taib plans to make billions from Baun. Exclusive!”, <http://www.sarawakreport.org/2012/02/scandal-of-salco-how-taib-plans-to-make-billions-from-bakun/>, viewed July 2012.
- <sup>67</sup> Sovacool, Benjamin K. and Bulan, L.C. (2011) “Behind an ambitious megaproject in Asia: The history and implications of the Bakun hydroelectric dam in Borneo”, Energy Policy 39, page 4845.
- <sup>68</sup> Sovacool, Benjamin K. and Bulan, L.C. (2011) „Meeting Targets, Missing People: The Energy Security Implications of the Sarawak Corridor of Renewable Energy (SCORE)“, in Contemporary Southeast Asia Vol 33, No. 1.
- <sup>69</sup> Based on Sovacool, Benjamin K. and Bulan, L.C. (2011) „Meeting Targets, Missing People: The Energy Security Implications of the Sarawak Corridor of Renewable Energy (SCORE)“, in Contemporary Southeast Asia Vol 33, No. 1.
- <sup>70</sup> Sovacool, Benjamin K. and Bulan, L.C. (2011) „Meeting Targets, Missing People: The Energy Security Implications of the Sarawak Corridor of Renewable Energy (SCORE)“, in Contemporary Southeast Asia Vol 33, No. 1, p. 57.
- <sup>71</sup> Sovacool, Benjamin K. and Bulan, L.C. (2011) „Meeting Targets, Missing People: The Energy Security Implications of the Sarawak Corridor of Renewable Energy (SCORE)“, in Contemporary Southeast Asia Vol 33, No. 1.
- <sup>72</sup> World Commission on Dams (2000) “Dams and Development: A new Framework for Decision-Making”, UK and US, page 32.
- <sup>73</sup> Sovacool, Benjamin K. and Bulan, L.C. (2011) „Meeting Targets, Missing People: The Energy Security Implications of the Sarawak Corridor of Renewable Energy (SCORE)“, in Contemporary Southeast Asia Vol 33, No. 1, p. 56, 58.
- <sup>74</sup> Sarawak Energy Berhad (2012) “2010 Annual Report”, page 25.
- <sup>75</sup> Sovacool, Benjamin K. and Bulan, L.C. (2011) “Settling the SCORE: The implications of the Sarawak Corridor of Renewable Energy (SCORE) in Malaysia”, Energy Governance Case Study No. 04, page 5, <http://www.spp.nus.edu.sg/docs/energy-case/%235-settling-the-score.pdf>
- <sup>76</sup> The Borneo Post, 14 August 2011 “Sarawak: Bankrolling SCORE”, <http://www.theborneopost.com/2011/08/14/sarawak-bankrolling-score/>, viewed July 2012.
- <sup>77</sup> Sarawak Energy Berhad (2010) “Annual Report 2009”.
- <sup>78</sup> International Financing Review, 3 October 2009; Thomson One Database, “Tearsheet 2489382115”, Thomson One Database, 16 July 2009; HydroWorld, “Malaysia utility to issue bonds to fund 900 MW Murum”, HydroWorld, 28 March 2012 ([www.hydroworld.com/index/display/article-display/3966784519/articles/hrhrw/News/Malaysia\\_utility\\_to\\_issue\\_bonds\\_to\\_fund\\_900-MW\\_Murum.html](http://www.hydroworld.com/index/display/article-display/3966784519/articles/hrhrw/News/Malaysia_utility_to_issue_bonds_to_fund_900-MW_Murum.html)), viewed June 2012; Thomson One Database, “Tearsheet 2380045101”, Thomson One Database, viewed June 2012.
- <sup>79</sup> Kenanga Investment Bank is a wholly-owned subsidiary of K&N Kenanga Holdings Bhd. As of 30 June 2011, the Taib family’s Cahya Mata

Sarawak (CMS) held 25% of K&N Kenanga Holdings' shares while Deutsche Bank, the second largest shareholder, held 16.55 percent. <http://www.kenanga.com.my/index.php?q=about/sh>, accessed 15 November 2012.

<sup>80</sup> UN Guiding Principles on Business and Human Rights, <http://www.business-humanrights.org/Documents/UNGuidingPrinciples>, viewed October 2012.

<sup>81</sup> Sovacool, Benjamin K. and Bulan. L.C. (2011) "Settling the SCORE: The implications of the Sarawak Corridor of Renewable Energy (SCORE) in Malaysia", Energy Governance Case Study No. 04, page 19.

<sup>82</sup> Oxford Business Group (2011) "The Report: Sarawak 2011", page 63.

<sup>83</sup> The Edge, "Claims for Bakun pile up", 7 May 2012, <http://www.theedgemaalaysia.com/highlights/212991-claims-for-bakun-pile-up.html>, viewed July 2012.

<sup>84</sup> Sovacool, Benjamin K. and Bulan. L.C. (2011) "Settling the SCORE: The implications of the Sarawak Corridor of Renewable Energy (SCORE) in Malaysia", Energy Governance Case Study No. 04, page 19-20.

<sup>85</sup> Sovacool, Benjamin K. and Bulan. L.C. (2011) "Settling the SCORE: The implications of the Sarawak Corridor of Renewable Energy (SCORE) in Malaysia", Energy Governance Case Study No. 04, page 6.

<sup>86</sup> Sarawak Energy Berhad (2012) "2010 Annual Report", page 41.

<sup>87</sup> Sovacool, Benjamin K. and Bulan. L.C. (2011) "Settling the SCORE: The implications of the Sarawak Corridor of Renewable Energy (SCORE) in Malaysia", Energy Governance Case Study No. 04, page 18.

<sup>88</sup> Sarawak Energy Berhad (2012) "2010 Annual Report", page 41.

<sup>89</sup> Sovacool, Benjamin K. and Bulan. L.C. (2011) "Settling the SCORE: The implications of the Sarawak Corridor of Renewable Energy (SCORE) in Malaysia", Energy Governance Case Study No. 04, page 17-18.

<sup>90</sup> Sovacool, Benjamin K. and Bulan. L.C. (2011) "Settling the SCORE: The implications of the Sarawak Corridor of Renewable Energy (SCORE) in Malaysia", Energy Governance Case Study No. 04, page 17.

<sup>91</sup> World Commission on Dams (2000) "Dams and Development: A new Framework for Decision-Making", UK and US, page 130.

<sup>92</sup> World Commission on Dams (2000) "Dams and Development: A new Framework for Decision-Making", UK and US, page 122.

<sup>93</sup> Oxford Business Group (2011) "The Report: Sarawak 2011", page 63.

<sup>94</sup> International Rivers "Bakun Dam, <http://www.internationalrivers.org/campaigns/bakun-dam>, viewed October 2012.

<sup>95</sup> Baru Bian (2012) "Baru Bian: Score of no benefit to Sarawakians", March 17 2012, <http://www.barubian.net/2012/03/baru-bian-score-of-no-benefit-to.html>, viewed October 2012.

<sup>96</sup> Joseph Tawie (2011) „SCORE will turn Sarawak into another Sabah“, November 17 2011, <http://www.freemalaysiatoday.com/category/nation/2011/11/17/score-will-turn-sarawak-into-another-sabah/>, viewed October 2012.

<sup>97</sup> Pattle, Andrew and Foster, Peter F. (2012) „Sarawak's hydro projects – building a better future with renewable energy“, IPENZ Engineers New Zealand, page 76.

<sup>98</sup> Sovacool, Benjamin K. and Bulan, L.C. (2011) "Behind an ambitious megaproject in Asia: The history and implications of the Bakun hydroelectric dam in Borneo", Energy Policy 39, page 4849.

<sup>99</sup> More information available in the blog and the facebook profile of SAVE Rivers: <http://saveriversnet.blogspot.com/>; <http://www.facebook.com/pages/SAVE-Rivers/376175715744786>

<sup>100</sup> It is unclear how many square miles would be flooded, but our own calculations reveal that Baram alone would flood around 400km<sup>2</sup>. This implies that a total of 12 dams flood a multiple of this amount.

<sup>101</sup> Myers N., Mittermeier R. A., Mittermeier C. G., Da Fonseca G. A. B., Kent J. (2000) "Biodiversity hotspots for conservation priorities", Nature 403:853-858.

<sup>102</sup> World Commission on Dams (2000) "Dams and Development: A new Framework for Decision-Making", UK and US, page 74. The World Commission on Dams (WCD) was established by the World Bank and the World Conservation Union (IUCN) in 1998 in order to review large dams, assess potential alternatives as well as to develop international guidelines and standards for planning, design and operation of dams. It consisted of 12 members from different backgrounds reaching from NGOs to corporations. The final report "Dams and Development" was released in 2000.

<sup>103</sup> World Commission on Dams (2000) "Dams and Development: A new Framework for Decision-Making", UK and US, page 93.

<sup>104</sup> World Commission on Dams (2000) "Dams and Development: A new Framework for Decision-Making", UK and US, page 75.

<sup>105</sup> World Commission on Dams (2000) "Dams and Development: A new Framework for Decision-Making", UK and US, page 77-82, 84.

<sup>106</sup> World Commission on Dams (2000) "Dams and Development: A new Framework for Decision-Making", UK and US, page 88.

<sup>107</sup> World Commission on Dams (2000) "Dams and Development: A new Framework for Decision-Making", UK and US, page 110-111.

<sup>108</sup> World Commission on Dams (2000) "Dams and Development: A new Framework for Decision-Making", UK and US, page 129-130.

<sup>109</sup> World Commission on Dams (2000) "Dams and Development: A new Framework for Decision-Making", UK and US, page 129.

<sup>110</sup> World Commission on Dams (2000) "Dams and Development: A new Framework for Decision-Making", UK and US, page 103.

<sup>111</sup> World Commission on Dams (2000) "Dams and Development: A new Framework for Decision-Making", UK and US, page 117.

<sup>112</sup> Peter Kallang (2012) "Save Sarawak's Rivers Network (SAVE Rivers)", Press release February 2012.

<sup>113</sup> World Commission on Dams (2000) "Dams and Development: A new Framework for Decision-Making", UK and US, page 118.

<sup>114</sup> World Commission on Dams (2000) "Dams and Development: A new Framework for Decision-Making", UK and US, page 115.

<sup>115</sup> World Commission on Dams (2000) "Dams and Development: A new Framework for Decision-Making", UK and US, page 112.

<sup>116</sup> World Commission on Dams (2000) "Dams and Development: A new Framework for Decision-Making", UK and US, page 112-113.

<sup>117</sup> World Commission on Dams (2000) "Dams and Development: A new Framework for Decision-Making", UK and US, page 118.

<sup>118</sup> See for example, 'The Report – Sarawak 2011' and a briefing held by Sarawak Energy in August 2011.

<sup>119</sup> UN Declaration on the Rights of Indigenous Peoples (UNDRIP) 2007.

<sup>120</sup> International Finance Corporation (IFC) Performance Standards on Environmental and Social Sustainability, edition 2012: [http://www1.ifc.org/wps/wcm/connect/topics\\_ext\\_content/ifc\\_external\\_corporate\\_site/ifc+sustainability/publications/publications\\_handbook\\_pps](http://www1.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/publications/publications_handbook_pps), viewed August 2012 and The Equator Principles, June 2006, <http://www.equator-principles.com/index.php/about-ep/the-eps>, viewed August 2012.

<sup>121</sup> Sarawak Energy Berhad (2012) "2010 Annual Report", page 30.

<sup>122</sup> Information available on the official website of the Hydropower Sustainability Assessment Protocol: <http://hydrosustainability.org/>, viewed July 2012.

<sup>123</sup> UN Declaration on the Rights of Indigenous Peoples (UNDRIP) 2007, Article 10, 28 and 32; Equator Principles, Principle 5.

<sup>124</sup> UN Declaration on the Rights of Indigenous Peoples (UNDRIP) 2007, Article 10, 28 and 32.

- <sup>125</sup> Sovacool, Benjamin K. and Bulan, L.C. (2011) "Behind an ambitious megaproject in Asia: The history and implications of the Bakun hydroelectric dam in Borneo", Energy Policy 39, page 4845.
- <sup>126</sup> Sarawak Integrated Water Resources Management "Management Master Plan", [http://www.siwrs.com.my/modules/iwrm/page.php?id=8&menu\\_id=0&sub\\_id=3](http://www.siwrs.com.my/modules/iwrm/page.php?id=8&menu_id=0&sub_id=3), viewed July 2012.
- <sup>127</sup> Sovacool, Benjamin K. and Bulan, L.C. (2011) "Behind an ambitious megaproject in Asia: The history and implications of the Bakun hydroelectric dam in Borneo", Energy Policy 39, page 4845.
- <sup>128</sup> Sarawak Hydro, official website, [http://www.sarawak-hidro.com/?page\\_id=7](http://www.sarawak-hidro.com/?page_id=7), viewed October 2012.
- <sup>129</sup> Stephen Then „Bakun dam flooding begins“, in: The Star, October 14 2010, <http://thestar.com.my/news/story.asp?file=/2010/10/14/nation/7222500&sec=nation>, viewed October 2012.
- <sup>130</sup> All the interviews in the Bakun area – Sungai Asap and near the dam site or in the dam reservoir – were conducted by the Bruno Manser Fund in October 2011.
- <sup>131</sup> A group of men from Ruma Nyaving said this during interviews done in October 2012.
- <sup>132</sup> Sarawak Report, 13 April 2011 "Bakun dam 'unsafe'!", <http://www.sarawakreport.org/2011/04/bakun-dam-unsafe-exclusive-evidence-on-corner-cutting-and-sloppy-construction-practices/>, viewed July 2012.
- <sup>133</sup> Hornbill unleashed, 1.7.2011 "Sinohydro admits flaws in Bakun Dam construction procedures".
- <sup>134</sup> Hydro Tasmania "Annual and Sustainability Report 2010, page 57.
- <sup>135</sup> Entura, Hydro Tasmania "Case study: Bakun hydro-electric project".
- <sup>136</sup> Sarawak Integrated Water Resources Management "Management Master Plan", [http://www.siwrs.com.my/modules/iwrm/page.php?id=8&menu\\_id=0&sub\\_id=3](http://www.siwrs.com.my/modules/iwrm/page.php?id=8&menu_id=0&sub_id=3), viewed July 2012; Sarawak Energy Berhad, official website: <http://www.sesco.com.my/index.php/about-us/what-we-do/upcoming-projects/murum-hydroelectric-project>, viewed October 2012.
- <sup>137</sup> Sarawak Energy Berhad, official website: <http://www.sesco.com.my/index.php/about-us/what-we-do/upcoming-projects/murum-hydroelectric-project>, viewed October 2012.
- <sup>138</sup> Herbertson, Kirk (2012) "Sarawak Energy Publishes 'Facts' About the Murum Dam", International Rivers, October 2012, page 6.
- <sup>139</sup> Suhakam (2009) "Suhakam's Report on the Murum Hydroelectric Project and its Impact towards the Economic, Social and Cultural Rights of the Affected Indigenous Peoples in Sarawak", page I-II.
- <sup>140</sup> Suhakam (2009) "Suhakam's Report on the Murum Hydroelectric Project and its Impact towards the Economic, Social and Cultural Rights of the Affected Indigenous Peoples in Sarawak", page II-III.
- <sup>141</sup> Chemsain Konsultant Sdn Bhd (2011) „MURUM Hydroelectric Power Project Resettlement Action Plan: Final Report“, November 2011.
- <sup>142</sup> For more information, consult: [www.stop-corruption-dams.org](http://www.stop-corruption-dams.org)
- <sup>143</sup> Herbertson, Kirk (2012) "Sarawak Energy Publishes 'Facts' About the Murum Dam", International Rivers, October 2012, page 1 and 17.
- <sup>144</sup> Herbertson, Kirk (2012) "Sarawak Energy Publishes 'Facts' About the Murum Dam", International Rivers, October 2012, page 1 and 17.
- <sup>145</sup> Herbertson, Kirk (2012) "Sarawak Energy Publishes 'Facts' About the Murum Dam", International Rivers, October 2012, page 1 and 17.
- <sup>146</sup> Chemsain Konsultant Sdn Bhd (2011) „MURUM Hydroelectric Power Project Resettlement Action Plan: Final Report“, November 2011, page 79-80.
- <sup>147</sup> Hydro Tasmania "Annual and Sustainability Report 2010, page 57. More information on this issue can be found under: [www.stop-corruption-dams.org](http://www.stop-corruption-dams.org) and [www.sarawakreport.org](http://www.sarawakreport.org)
- <sup>148</sup> Presentation of Fichtner GmbH & Co. KG at the University of Braunschweig, 18 July 2012.
- <sup>149</sup> We only use pseudonyms as revealing the people's real names might put them at risk. The interviews from Baram cited in these reports were conducted in November 2011 and March 2012 by the Bruno Manser Fund.
- <sup>150</sup> Clean Power Asia "Torstein Dale Sjøtveit", <http://www.cleanpower-asia.com/speaker/torstein-dale-sjotveit>, viewed October 2012.
- <sup>151</sup> Sarawak Energy Berhad (2009) "Annual Report 2009", Kuching.
- <sup>152</sup> Maximus Kho, January 18 2012, "Ya Allah! Where have all the Sarawakians gone?", <http://hornbillunleashed.wordpress.com/2010/01/18/5515/>, viewed July 2012.
- <sup>153</sup> For more details on these events: [www.stop-corruption-dams.org](http://www.stop-corruption-dams.org)
- <sup>154</sup> More information available on [www.stop-corruption-dams.org](http://www.stop-corruption-dams.org)
- <sup>155</sup> Bruno Manser Fonds (2011) "EXCLUSIVE: Taib family's illicit billions disclosed!", [http://www.stop-timber-corruption.org/campaign\\_update/?show=35](http://www.stop-timber-corruption.org/campaign_update/?show=35), viewed October 2012.
- <sup>156</sup> United Nations (2004) "United Nations handbook on practical anti-corruption measures for prosecutors and investigators", Vienna September 2004.
- <sup>157</sup> Cahya Mata Sarawak Berhad Annual Report 2011.
- <sup>158</sup> Sarawak Report – "Keeping It In The Family! – How Taib ,The Godfather' Corruptly Controls CMS". Published 01.12.2011, viewed 09.09.2012
- <sup>159</sup> Andrew Aeria: "Politics, Business, The State and Development in Sarawak 1970-2000" Development Studies Institute, London School of Economics and Political Science, University of London. Published 2002.
- <sup>160</sup> Cahya Mata Sarawak Berhad Annual Report 2011.
- <sup>161</sup> Official website of Cahya Mata Sarawak Berhad. See Board of Directors <http://www.cmsb.com.my> Viewed 09.09.12
- <sup>162</sup> Suruhanjaya Syarikat Malaysia – Companies Commission of Malaysia - Om Materials (Sarawak) Sdn. Bhd. Company No. 915304-H Extracted – 24-01-2012
- <sup>163</sup> Jack Wong - The Star – "KKB Engineering eyes lucrative smelting plant contract in Bintulu" Published 02.08.2012 Viewed 09.09.2012
- <sup>164</sup> Jack Wong – The Star – „KKB sees busy days ahead“ Published 06.08.2011 Viewed 09.09.2012
- <sup>165</sup> KKB Engineering Berhad Annual Report 2011
- <sup>166</sup> Cahya Mata Sarawak Berhad Annual Report 2010. See page 32. Viewed 09.09.2012
- <sup>167</sup> PPES Works (Sarawak) Sdn Bhd official website. Viewed 09.09.2012
- <sup>168</sup> Suruhanjaya Syarikat Malaysia – Companies Commission of Malaysia - PPES Works (Sarawak) Sdn Bhd. Company No. 209892-K Extracted 25-09-2011
- <sup>169</sup> Suruhanjaya Syarikat Malaysia – Companies Commission of Malaysia - PPES Works (Sarawak) Sdn Bhd. Company No. 209892-K Extracted 25-09-2011
- <sup>170</sup> The Malaysian Insider – „RM1.5b Bintulu township to start soon“ – Published 12.10.2012 Viewed 09.09.2012
- <sup>171</sup> Naim Holdings Berhad – Press Room – „Bengoh Dam to be completed on time“ 08.07.2009 Viewed 09.09.2012

- <sup>172</sup> Naim Holdings Annual Report 2011, Cahya Mata Sarawak Berhad Annual Report 2011
- <sup>173</sup> For more information: <http://www.sarawakreport.org/2012/04/how-taib-scores-mega-millions-from-his-dam-projects-expose/>, viewed July 2012.
- <sup>174</sup> Max Koh - The Edge Malaysia - „Sarawak Cable Powered for Growth“ – Published 14.10.2011 Viewed 09.09.2012
- <sup>175</sup> Reuters – “Sarawak Cable Berhad receives letter of award” – Published 04.11.2010 Viewed 09.09.2012
- <sup>176</sup> Sarawak Report “How Taib ‘SCORES’ Mega-Millions From His Dam Projects – Expose!”, 1 April 2012, <http://www.sarawakreport.org/2012/04/how-taib-scores-mega-millions-from-his-dam-projects-expose/>, viewed October 2012.
- <sup>177</sup> Suruhanjaya Syarikat Malaysia – Companies Commission of Malaysia – Sarawak Cable Berhad. Company No. 456400-V Extracted 02-03-2011
- <sup>178</sup> Bloomberg Business Week - “Samalaju Industries Sdn Bhd Enters Memorandum of Understanding with Giig Holdings Sdn Bhd and Pan Kingdom Invest, Co. for the Steel Cluster and Iron Ore Hub Project” Published 11.05.2012 Viewed 09.09.2012
- <sup>179</sup> Tanjung Manis Halal Hub – The Investment Guide 2011 Viewed 09.09.2012
- <sup>180</sup> KSLE Investor – AmResearch Company Report – Sarawak Cable. See „Table 6: Other Major SCORE proposals“ Page 12
- <sup>181</sup> Suruhanjaya Syarikat Malaysia – Companies Commission of Malaysia – Acacia Cellulose Sdn Bhd – Company No. 624062-X Extracted 23-02-2012
- <sup>182</sup> Bruno Manser Fonds (2012) “The Taib Timber Mafia: Facts and Figures on Politically Exposed Persons (PEPs) from Sarawak, Malaysia”, Basel, Switzerland.
- <sup>183</sup> Sarawak Energy Berhad, website: <http://www.sarawakenergy.com.my/corpinfo.php>, viewed July 2012.
- <sup>184</sup> Sarawak Energy Berhad, official website „SCORE & US“, <http://www.sesco.com.my/index.php/score-us>, viewed September 2012.
- <sup>185</sup> Sarawak Energy Berhad (2012) “2010 Annual Report”, page 10.
- <sup>186</sup> Sarawak Energy Berhad (2012) “2010 Annual Report”, page 10.
- <sup>187</sup> Sarawak Energy Berhad (2012) “2010 Annual Report”, page 29.
- <sup>188</sup> Sarawak Energy Berhad (2012) “2010 Annual Report”, page 46-47.
- <sup>189</sup> Sarawak Energy Berhad (2012) “2010 Annual Report”, pages 22 and 47.
- <sup>190</sup> Sarawak Report (2012) “Misled! How Hydro-Tasmania Played Down Its “Essential” Role In SCORE! – Exclusive”, 27 September 2012, <http://www.sarawakreport.org/2012/09/misled-how-hydro-tasmania-played-down-its-essential-role-in-score/>, viewed October 2012.
- <sup>191</sup> Companies Commission of Malaysia, Corporate Information on Sarawak Energy Berhad, viewed 2011.
- <sup>192</sup> Sarawak Energy Berhad 2009: Annual Report 2009, Kuching.
- <sup>193</sup> Companies Commission of Malaysia, Corporate Information on Sarawak Energy Berhad, viewed 2011. Delegation SDN. BHD. is named as the second shareholder of SEB besides the Sarawak State Financial Secretary. Delegation, however, is owned by the Sarawak State Financial Secretary.
- <sup>194</sup> The best example for this is the privatization and reverse takeover of formerly state-owned Cahya Mata Sarawak by the Taib family. Andrew Aeria: “Politics, Business, The State and Development in Sarawak 1970-2000” Development Studies Institute, London School of Economics and Political Science, University of London. Published 2002, p. 169-174.
- <sup>195</sup> Malaysia-China Hydro (MCH), official website, <http://www.bakundam.com>, viewed July 2012.
- <sup>196</sup> International Rivers „Sinohydro Corporation“, <http://www.internationalrivers.org/campaigns/sinohydro-corporation>, viewed July 2012.
- <sup>197</sup> Water Power Magazine, 8 July 2010, <http://www.waterpowermagazine.com/story.asp?sectionCode=46&storyCode=2056807>, viewed July 2012.
- <sup>198</sup> The Star, 5 August 2008, <http://biz.thestar.com.my/news/story.asp?file=/2008/8/5/business/22001717&sec=business>, viewed July 2012.
- <sup>199</sup> International Rivers „China Three Gorges Corporation“, <http://www.internationalrivers.org/it/node/2275>, viewed July 2012.
- <sup>200</sup> Whether Chinese Banks are also involved in the funding of the current dam plans, however, is not known.
- <sup>201</sup> Entura, official website, <http://www.entura.com.au/>, viewed July 2012.
- <sup>202</sup> Entura, Hydro Tasmania “Case study: Bakun hydro-electric project”.
- <sup>203</sup> Entura, Hydro Tasmania “Case study: Batang Ai Power condition assessment”.
- <sup>204</sup> Entura, Hydro Tasmania “Case study: Sarawak hydroelectric feasibility studies”.
- <sup>205</sup> Entura, Hydro Tasmania “Case study: Sarawak hydroelectric feasibility studies”.
- <sup>206</sup> Documents provided by Hydro Tasmania to the Tasmanian Parliament showing their involvement in Sarawak.
- <sup>207</sup> Fichtner GmbH & Co KG: [www.fichtner.de/en/](http://www.fichtner.de/en/), viewed July 2012.
- <sup>208</sup> Fichtner: [http://www.fichtner.de/en/reg\\_energies\\_projects.html](http://www.fichtner.de/en/reg_energies_projects.html), viewed July 2012.
- <sup>209</sup> See for example „Water Resources and Renewable Energy Development in Asia“ March 2012, <http://www.cjgr.org/documents/asia2010water.pdf>, viewed July 2012.
- <sup>210</sup> At the university of Braunschweig, [https://www.tu-braunschweig.de/Medien-DB/hyku/lehre/wb\\_ss2012\\_veranstaltungskalender.pdf](https://www.tu-braunschweig.de/Medien-DB/hyku/lehre/wb_ss2012_veranstaltungskalender.pdf), viewed July 2012.
- <sup>211</sup> SMEC, official website, [www.smec.com](http://www.smec.com), viewed July 2012.
- <sup>212</sup> SMEC Malaysia, official website, <http://www.smecmal.com.my>, viewed July 2012.
- <sup>213</sup> SMEC, official website on Bakun involvement, <http://www.smec.com/Default.aspx?aProjId=492>, viewed July 2012.
- <sup>214</sup> SMEC, official website on Limbang involvement, <http://www.smec.com/Default.aspx?aProjId=489>, viewed July 2012.
- <sup>215</sup> SMEC, official website, press release, <http://www.smec.com/about-smec/media/smec-wins-hydropower-studies-in-malaysia>, viewed July 2012.
- <sup>216</sup> MWH Global, official website, [www.mwhglobal.com/](http://www.mwhglobal.com/), viewed July 2012.
- <sup>217</sup> Edward White Wellington, 28 December 2010, The Royal Society of New Zealand „Kiwi dam builders changing the face of Borneo“, <http://www.royalsociety.org.nz/2010/12/28/malaysia-nz-dams/>, viewed July 2012.
- <sup>218</sup> Pattle, Andrew and Foster, Peter F. (2012) „Sarawak’s hydro projects – building a better future with renewable energy“, IPENZ Engineers New Zealand, page 74.
- <sup>219</sup> There logo appeared on design maps of Baram dam.
- <sup>220</sup> GHD, official website, <http://www.ghd.com/global/projects/hydroelec-feasibility-studies/>, viewed July 2012.
- <sup>221</sup> Official design maps of Baram dam are carrying the logo of GHD.
- <sup>222</sup> Norconsult, official website, <http://www.norconsult.com/?aid=9033571>, viewed October 2012.
- <sup>223</sup> Norconsult, official website, <http://www.norconsult.com/?did=9108694>, viewed October 2012.
- <sup>224</sup> Sovacool, Benjamin K. and Bulan, L.C. (2011) “Behind an ambitious megaproject in Asia: The history and implications of the Bakun hydroelectric dam in Borneo”, Energy Policy 39, page 4845-46, 4851.
- <sup>225</sup> Sim Kwang Yang (2009) “Damned dams in Sarawak”, Malaysiakini, March 28 2009, <http://www.malaysiakini.com/news/101181>, viewed October

2012.

<sup>226</sup> Sovacool, Benjamin K. and Bulan, L.C. (2011) "Behind an ambitious megaproject in Asia: The history and implications of the Bakun hydroelectric dam in Borneo", *Energy Policy* 39, page 4846.

<sup>227</sup> Sovacool, Benjamin K. and Bulan, L.C. (2011) "Behind an ambitious megaproject in Asia: The history and implications of the Bakun hydroelectric dam in Borneo", *Energy Policy* 39, page 4849.

<sup>228</sup> Sovacool, Benjamin K. and Bulan, L.C. (2011) "Behind an ambitious megaproject in Asia: The history and implications of the Bakun hydroelectric dam in Borneo", *Energy Policy* 39, page 4851.