



global witness

SHIFTING SAND

How Singapore's demand for Cambodian sand threatens ecosystems and undermines good governance

A Report by Global Witness May 2010



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EXECUTIVE SUMMARY

With a GDP per capita of US\$50,000, Singapore is among the richest nations in the world – but in terms of land it is very poor. The city state is three and a half times the size of Washington DC with nearly eight times as many inhabitants.¹ Yet its diminutive stature belies its ambition. To maintain its status as a global financial hub, Singapore has expanded its surface area by 22% since the 1960s; an operation which involves extensive land reclamation and construction – up, down and outwards.

The process requires vast quantities of sand. Singapore needs to source this from beyond its national boundaries and this is proving harder and harder to do. Among its neighbours, one government after another has limited or banned exports of sand to Singapore due to its potentially heavy environmental toll. These include Indonesia, Malaysia and Vietnam. As each stops, others jump in. Most recently, Cambodia has become a major supplier of sand to Singapore.



Singapore – growing on sand imported from beyond its national borders. The country's surface area has expanded by 22% since the 1960s

Plicker / William Cho

As an international non-governmental organisation (NGO) concerned with the governance of Cambodia's natural resources, Global Witness has investigated the sand industry in Cambodia over the course of 2009 and 2010. This work builds upon evidence published in February 2009 of how the patterns of corruption and patronage found in Cambodia's forest sector and documented by Global Witness over thirteen years, are now being duplicated in the country's extractive industries. This paper exposes the devastating effect of this regional sand trade on Cambodia, and the urgent need for all involved to take immediate action to mitigate against the social, environmental and governance impacts. The main findings of the report are as follows:ⁱ

Singapore's demand for sand is fuelling the industry in Cambodia.

- The Cambodian government claims to have regulated, even "banned" sand exports. However, the country's sand industry is still booming and the government's actions appear to have facilitated, rather than limited, dredging operations.
- Singapore is the primary consumer of sand exported from Cambodia.
- Exploitation and export licences have been issued along Cambodia's coast. Operations from one province alone are estimated to be worth roughly US\$248m annually in retail value Singapore.
- The trade appears to go beyond simple commercial deals - some of these sand dredging licences obtained by Global Witness bear the stamp of a Singaporean official in the Phnom Penh embassy.

The industry in Cambodia is controlled by two individuals close to the prime minister and the ruling CPP party.

- These tycoons are both Senators with the ruling Cambodian People's Party (CPP) and have previously benefitted from other damaging natural resource deals and government concessions. They are:
 - H.E. Mong Reththy
 - H.E. Ly Yong Phat
- There is a complete lack of transparency and accountability surrounding the allocation

ⁱ References for the points covered in this section can be found in the main body of the report.



Global Witness

Sand stockpiles owned by L.Y.P. Group awaiting export photographed in November 2009 in Koh Kong Province, Cambodia

and beneficiaries of these sand licences, and Global Witness found evidence of irregular payments.

- Companies sourcing sand from these individuals are registered suppliers of sand to the Singapore government.

Millions of dollars are changing hands, but there is no way of tracking whether royalties, taxes and other revenues generated from the sand dredging and export industries are reaching the national treasury.

- As a result of this lack of transparency, the national economic benefit of extracting this valuable natural resource is simply not clear.

Companies operating in the sand sector as well as Cambodia's regulatory agencies are ignoring its national environmental and social safeguards, and international industry best practices. The environmental consequences are potentially devastating.

- Sand dredging licences are being allocated in rivers and estuaries along Cambodia's coastline. Concessions have been allocated inside protected areas and in close proximity to internationally significant ecosystems

and habitats of some of the world's most endangered aquatic species. On one day alone nine dredging vessels were spotted by Global Witness inside a protected area.

- Local fishermen, meanwhile, complain that their livelihoods have been destroyed as fish stocks and crab harvests have plummeted since the dredging vessels arrived.
- Ignoring these safeguards is in violation of Cambodia's national legislation, international commitments to protect human rights, obligations to conserve biodiversity and best environmental management practices of the dredging industry.

Singapore is not doing enough to mitigate against the negative impacts of its consumption of Cambodian sand, and this undermines its position as an environmental leader in the region.

- Despite having the most advanced policies for environmental sustainability in the region, Singaporean government agencies appear to be sourcing sand through companies which have agreements to purchase sand from the Cambodian companies which in turn are owned by high-level officials and whose operations appear to ignore environmental

and social safeguards. This:

- Does not appear to comply with requirements that Singaporean companies operating overseas follow host country legal frameworks;
- Is not in line with some government procurement requirements to submit environmental assessments of source sand mine concessions, and;
- Directly undermines the government's stated commitments to sustainability.
- Sustainable sourcing of sand from the region (substantiated by Environmental Impact Assessments) was suggested in Singapore's Parliament, but the debate concluded that the government did not consider it appropriate to prescribe requirements on exporters.
- Global Witness met with the Singapore government in November 2009 to discuss the sand trade. They agreed to meet again in March 2010 to discuss the findings of this investigation, but then decided a follow-up meeting might not be necessary and sent a written response to questions.
- In June 2010, Singapore will host the World Cities Summit to showcase its environmental leadership. Global Witness is calling

on Singapore to establish due diligence requirements for Singaporean companies and agencies for the sourcing of sand as proof of this leadership.

Cambodia's donors are not doing enough to encourage better governance of the country's natural resources.

- Global Witness believes that governance failures in Cambodia's sand sector are indicative of the wider failure of international donors to use their leverage to ensure that the Cambodian government effectively harnesses such developmentally significant natural assets for poverty reduction goals. As the government and the international donor community prepare for requests and pledges of development assistance at the forthcoming Cambodian Development Cooperation Forum, Global Witness calls on the donors to ensure that funds are only disbursed after the government achieves reforms for transparent and accountable management of natural resources and their revenues.



Global Witness

Dredging operations photographed in November 2009 in L.Y.P. Group's concession area on the Ta Tai river, Koh Kong. Dredging takes place right beside Koh Kong's protected mangrove forests and within the Peam Krasop Wildlife Sanctuary.

1. SAND BLASTED

Cambodia's sand sector exposed by Global Witness in *Country for Sale*

In February 2009 Global Witness launched *Country for Sale: how Cambodia's elite has captured the country's extractive industries*.² This report documented how, having made their fortunes from logging much of the country's forest resources, Cambodia's elite had diversified their commercial interests to encompass other forms of state assets - land, fisheries, tropical islands and beaches, minerals and petroleum. The report documented how the rights to these resources had been awarded behind closed doors and in a dubious manner. It presented evidence that the beneficial owners of mines and companies awarded oil blocks had strong military and government ties. Financial bonuses paid to the government to secure concessions, totalling millions of dollars, did not appear to have reached the national treasury.³ ii Given Cambodia's small economy, had these funds reached the national treasury, they could have significantly contributed to the country's poverty reduction goals.



One of the cases investigated in 2008 was Koh Kong province's sand mining industry. The overall "sand sector"ⁱⁱⁱ operation appeared to be controlled by a CPP Senator named Ly Yong Phat through his company the L.Y.P. Group Co Ltd, and as such, was another example of elite capture in Cambodia's mining industry.⁴ Evidence revealed a complex situation involving multiple buyers and sellers, estimated to have annual values of at least US\$8.6m at the point of extraction in Cambodia and US\$35m in retail value in Singapore in 2008.⁵ iv



Senator Ly Yong Phat, reported in *Country for Sale* as controlling Koh Kong's sand sector, through his company the L.Y.P. Group

Country for Sale also examined the role of Cambodia's international donors in the country's emerging extractive industries. Cambodia continues to be one of the world's poorest countries and is heavily dependent on foreign aid to fill the gap in the national budget.⁶ Yet, the actual impact of this development assistance has been severely hampered by weak government institutions and high-level corruption. Years of negotiation and dialogue at donor-government meetings have had little impact on the Cambodian government's misappropriation of state assets. Benchmarks geared towards improving transparency and governance in Cambodia have been consistently eroded or unfulfilled, yet donor aid has continued to flow.⁷ This did not bode well, Global Witness concluded, for the Cambodian government's ability to harness its natural resources towards national development goals. Cambodia's international donors needed to take action to address this, or risk losing the best opportunity in a generation to lift Cambodia out of poverty.

ii Based on 2006 or 2007 revenue reports from the Ministry of Economy and Finance (MEF).

iii This report uses the term "sand sector" to describe the sand mining industry in Cambodia and the government agencies and companies involved in it.

iv Workers at one depot told Global Witness that in three days they could fill a 15,000 tonne vessel for export. One supplier quoted the price for sand in Koh Kong in 2008 as being US\$11 per tonne, and assuming a conservative rate of one vessel of this size leaving Cambodia each week, this could mean the annual revenue for the provinces sand industry to be US\$8.6 million. Once in Singapore, the value of sand quadruples to US\$45 per tonne, brining the retail value of Koh Kong's exports there to US\$35 million annually.

Three months after the publication of *Country for Sale* Cambodian Prime Minister Hun Sen announced a ban on sand exports, supposedly in response to local protests, with the objective of improving regulation of the sector and ensuring environmental protection.⁸ Global Witness welcomed this step, but committed to investigate further the terms of this new regulation and its implementation. What we discovered was that the legislation's content in fact only bans *river sand* from export, not sea sand. In addition, evidence collected during 2009 and 2010 shows that the inter-ministerial committee tasked with implementing this regulation has continued to approve licences for the exploitation of *both* types of sand export, while also failing to ensure compliance with Cambodia's other environmental and socio-economic legal frameworks.

The first section of this report presents evidence from our investigation of Cambodia's sand sector. Following sections assess the impacts of this trade on the environment and local livelihoods, and analyse Cambodia's legal framework and the new regulations issued by the Prime Minister's office for the sector. The next section presents the role which Singapore plays in Cambodia's sand sector. Finally, the role of Cambodia's international donor community is assessed with respect to the need to improve governance of



Global Witness

Prime Minister Hun Sen announced a supposed "ban" on sand exports in May 2009, with the objective of improving regulation of the sector and ensuring environmental protection

Cambodia's natural resources. The report ends with recommendations for all agencies involved in Cambodia's sand sector.



Global Witness

Sand dredging operations approximately 30km off the coast of Koh Kong Province, Cambodia. Global Witness estimates Koh Kong's sand trade to be worth US\$28.7 million annually at the point of extraction in 2009.

2. ILL-GOTTEN GRAINS

Key players in Cambodia's sand sector in 2009 – 2010

Since the announcement by the Prime Minister's office of regulations for the sector, dredging has actually expanded along Cambodia's coastline. As previously documented by Global Witness, due to lack of transparency in concession allocation it is not clear how companies come by these lucrative opportunities. Some dredging operations have been given licences inside protected areas. In addition, an industry source told Global Witness that companies exporting sand from Cambodia had to make informal payments to Cambodian government authorities.⁹ Regional sand trade figures and Global Witness' own field-work indicate that Singapore is the primary destination of Cambodia's export-orientated sand sector. The annual value of this trade is estimated to be US\$28.7 million in Cambodia from Koh Kong province alone and US\$248 million in retail value in Singapore.

Almost all of the companies investigated have connections to Singapore and some are registered with a Singapore government agency to supply building materials, including sand. In addition, Global

Witness has seen Cambodian sand dredging and export licences which bear the stamp and signature of a representative of the Singapore Embassy in Cambodia.¹⁰ Koh Kong province, the focus of the sand trade, appears to be under the control of two of Cambodia's most infamous tycoons – Senator Ly Yong Phat and Senator Mong Reththy. Their involvement is documented below. Global Witness wrote to all the companies and individuals mentioned in this report and got only two responses; from Mong Reththy Group Co Ltd and from the Ministry of National Development of the Singapore government.

L.Y.P. Group Co Ltd

The L.Y.P. Group Co Ltd (L.Y.P. Group) and its owner, CPP Senator Ly Yong Phat, has maintained the dominance of Koh Kong's sand sector that was noted in *Country for Sale*. On 24 July 2009 the company received permission from the "Committee for Sand Resources Management"^v (the "Sand Committee"), under the Ministry of



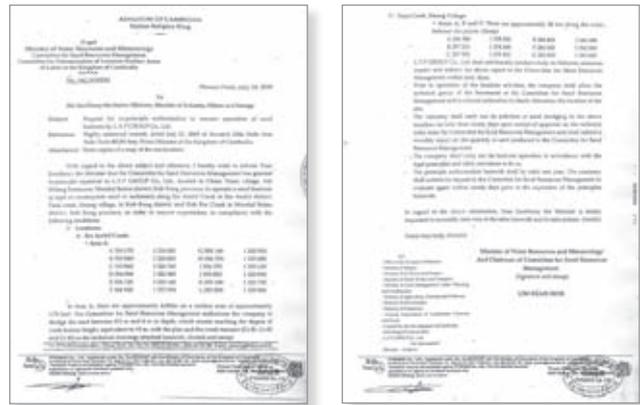
Global Witness

The Riverton 02 photographed dredging sand into a larger barge behind it, in November 2009, in the L.Y.P. Group's concession area on the Koh Por river, Koh Kong Province, Cambodia. Riverton is a Singaporean company identified by Global Witness as exporting sand from Cambodia.

^v The unofficial English translation of the "Decision on the Establishment of Commission of Sand Resource Management" from 2006 uses the term "Commission", however documents from the Ministry of Water Resources and Meteorology call the entity the "Committee", which is the term used throughout this report.

Water Resources and Meteorology (MoWRAM), to resume its sand operations for export.¹¹ This appears to be an extension of the L.Y.P. Group’s licences from 2007 and 2008 issued by the Ministry of Industry, Mines and Energy (MIME).¹² This July 2009 permission authorises the company to dredge sand between 0.5 and 6m in depth in three rivers - Sre Ambil, Ta Tai and Koh Por (shown on map 1 and 2 below).¹³ However, provincial authorities told Global Witness that the company actually controls all of Koh Kong’s sand dredging locations.¹⁴ The company also has two large sand depots across the Koh Por river from Koh Kong town.¹⁵ Permits for dredging in these three rivers are in direct violation of Article 1.2 of the *Decision Concerning the Limiting of Sand Trafficking* (the “Sand Trafficking Decision”) which banned dredging of river sand for export.^{vi}¹⁶ This calls into question the jurisdiction and capacity of the Sand Committee which is responsible for both enforcing this supposed ban, and re-issuing sand export permits.

The L.Y.P. Group has sub-contracted these rights to dredge and export sand to a number of companies, according to evidence seen by Global Witness. A company called Winton Enterprises Ltd (Winton) operates in partnership with L.Y.P. Group to export sand to Singapore and its ships were photographed by Global Witness, loaded with sand, in the L.Y.P. Group’s Ta Tai river concession area in November 2009.¹⁷ Winton is registered in Hong Kong, but two of its directors are Singaporean.¹⁸ A Singapore citizen sharing the same name and address in Singapore as one of these



Extracts from the LYP Group’s agreement in principle to dredge sand in the Sre Ambil, Ta Tai and Koh Por rivers, issued by the Ministry of Water Resources and Meteorology, 24 July 2009

directors, is also the director of a Singapore company called Camb Resources PTE Ltd which is registered with Singapore’s Building and Construction Authority (BCA) to supply “basic building materials”.¹⁹ The BCA describes itself as “an agency under the Ministry of National Development”, is responsible for regulating construction projects and its “Contractors Registry” is a list of companies which have registered with it to serve government procurement needs.²⁰ The BCA’s definition of “basic building materials” includes sand.²¹

The Singapore registered company Riverton Group (S) PTE Ltd (Riverton) has also been conducting sand dredging activities in Koh Kong, operating out of an office in Lam Dam.²² An industry source



The Winton T188 with other dredging boats behind, photographed in November 2009 in the L.Y.P. Group’s concession area at the southern edge of the Peam Krasop Wildlife Sanctuary and Koh Kapik Ramsar Site, Koh Kong Province, Cambodia. Winton Enterprises was reported as having a partnership with L.Y.P. Group to export sand from Cambodia to Singapore.

Global Witness

vi This title and the analysis of the content of the Sand Trafficking Decision below is based on an unofficial English translation of the Khmer version.



Global Witness

The Bina Sarana 68, a tug, and Bina Sarana 88, a barge, photographed in November 2009 on the Koh Por river, Koh Kong Province, Cambodia. Shortly afterwards the Bina Sarana 88 docked in Singapore. Documents suggest this vessel is being used by the L.Y.P. Group to transport sand from Cambodia to Singapore.

told Global Witness that Riverton has been sub-contracted by L.Y.P. Group to export sand from its concessions to Singapore and that the company has a contract to supply the Jurong Town Corporation (JTC).²³ In correspondence with Global Witness, the Singapore government described JTC as “a statutory board under the Ministry of Trade and Industry of the Singapore government”; JTC’s website describes it as a “semi-independent agency”.²⁴ Riverton is also registered with Singapore’s BCA to supply basic building materials.²⁵ Riverton vessels were photographed loading sand by Global Witness in L.Y.P. Group’s concession area, in Koh Por.²⁶

Evidence suggests that L.Y.P. Group also has a partnership with Ta Chang Selindo Cambodia Co Ltd, a company related to Selindo Global (S) PTE Ltd, a Singapore registered company.²⁷ Ta Chang Selindo Cambodia Co Ltd claims to have previously supplied sand to a Singapore company Song and Song, which Global Witness believes to be Song and Song Resources PTE Ltd.²⁸ This company has a Cambodian national listed as one of its directors, and is also registered with the BCA to supply basic building materials.²⁹

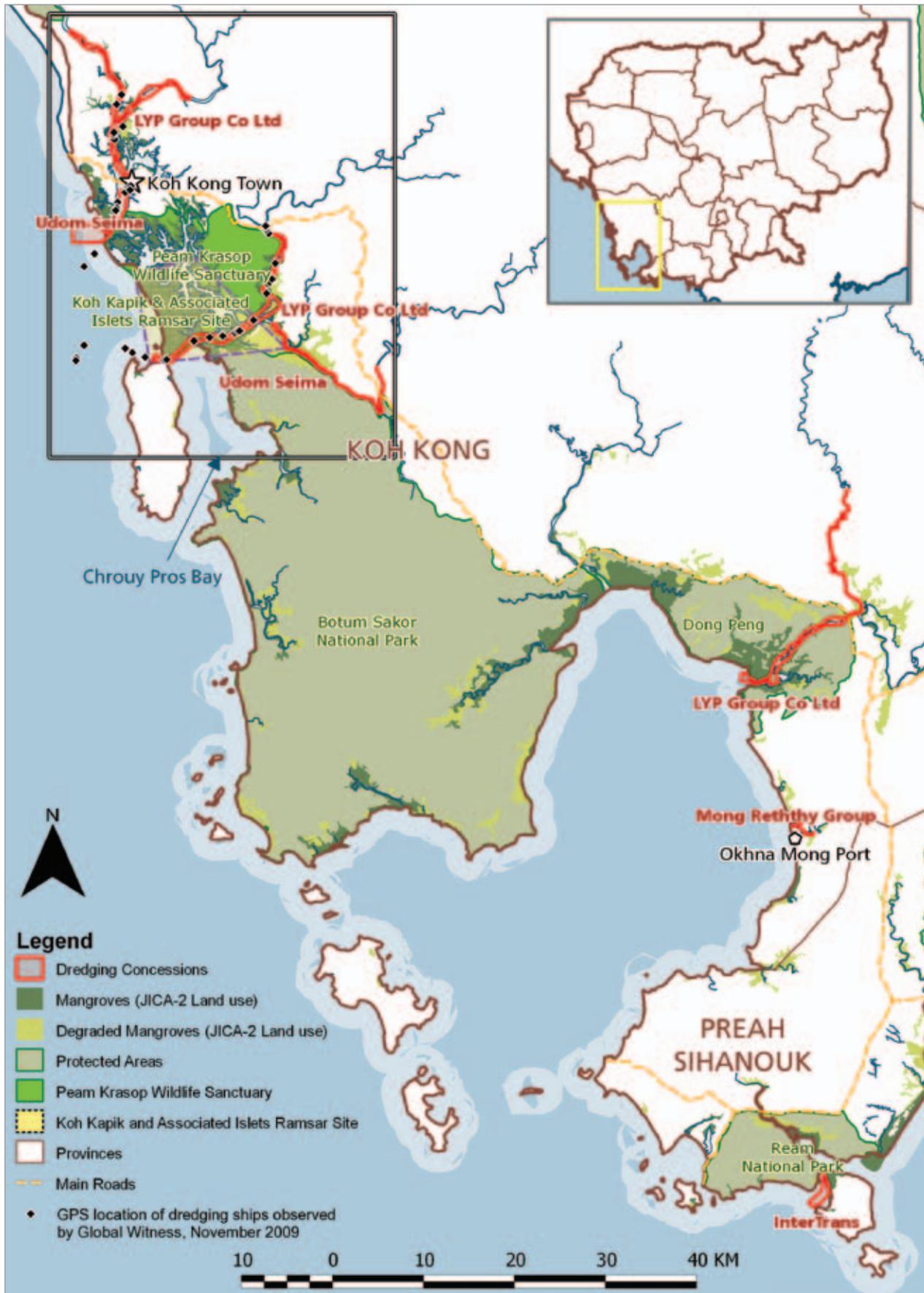
Global Witness obtained documents showing that over eight days during November 2009, the L.Y.P. Group appears to have exported at least 77,236 tonnes of sand to Singapore, through six shipments, via three shipping companies.³⁰ Global Witness believes that one of these, Teelek Management, is Teelek Resource Management, a company registered in Singapore as a quarrier of clay and sand.³¹

Another is the Singaporean company, Wan Qi PTE Ltd which is registered with the BCA to supply basic building material.³² Global Witness has seen a cargo manifest for the ocean-going barge Bina Sarana 88, which sailed from Koh Kong, Cambodia, on 17 of November 2009, with Wan Qi PTE as its consignee.^{vii 33} Its cargo was

...over eight days in November 2009, the L.Y.P. Group appears to have exported at least 77,236 tonnes of sand to Singapore, through 6 shipments...

vii Definition of Consignee: “Person or firm (usually a buyer) named by the consignor (usually a seller) in the transportation documents (such as an air waybill or bill of lading) as the party to whose order a consignment will be delivered at the port of destination. The consignee is considered to be the owner of the consignment for the purpose of filing the customs declaration, and for paying duties and taxes. Formal ownership (title) of the consignment, however, transfers to the consignee only upon payment of the seller’s invoice in full.” The Business Directory: <http://www.businessdictionary.com/definition/consignee.html> (last accessed 22 March 2010).

MAP 1: KNOWN DREDGING CONCESSIONS IN KOH KONG AND PREAH SIHANOUK PROVINCES, CAMBODIA



Known dredging concessions along Cambodia's coast, plotted using the coordinates from the company's licences. Map 2 focuses on dredging operations in Koh Kong for the area represented by the frame in map 1

MAP 2: DREDGING CONCESSIONS AND OPERATIONS AROUND PEAM KRASOP WILDLIFE SANCTUARY IN DETAIL



Concessions along Cambodia's coast have clearly been allocated for river sand, despite the ban on river sand dredging for export, as well as inside and bordering with protected areas. The black points indicate where Global Witness spotted dredging occurring in November 2009. On one day at least nine vessels were observed dredging sand and loading it onto barges inside the boundaries of Peam Krasop Wildlife Sanctuary and Koh Kapik Ramsar Site. Three of these vessels had "Singapore" on the hull, under the vessel's name, and one had a Singaporean flag.

3,200 tonnes of sea sand, supplied by the L.Y.P. Group. During the second week of November 2009 the boat was photographed on the Koh Por River with sand spilling from its gunwales,³⁴ and on 5 December it docked in a Singaporean port.³⁵ On the same day that the Bina Sarana 88 was photographed in Koh Por, six other sand barges of similar size were also photographed on the river, which is an L.Y.P. Group concession area.³⁶ All of these barges docked in Singapore shortly afterwards.³⁷

Global Witness has evidence showing that considerable payments have been made by two sub-contractors to secure their rights, as follows. Two companies claimed that they were required by the L.Y.P. Group to pay US\$200,000 as a deposit to secure their sub-contract for selling sand from the L.Y.P. Group's dredging concessions; Global Witness has seen the receipt confirming this transaction from one of them, Ta Chang Selindo Cambodia Co Ltd.³⁸ The status of these business to business payments is unclear. The official fee payable to the authorities for transferring mineral resource licences according to *Prakas*, should only be US\$500 per license.³⁹ Global Witness could not find any further legislation detailing specific payments. The requirements by the L.Y.P. Group and its owner for payments to secure contracts appear to follow an earlier trend identified by Global Witness. Previous reports have documented

the way in which individual high-level officials – who have been allocated lucrative concessions behind closed doors – are paid money by those wishing to gain access to state-owned resources.⁴⁰ Global Witness wrote to both companies involved but no reply had been received by the time of publication.

The portfolio of Senator Ly Yong Phat and his company extends to casinos, hotels and economic land concessions. Violent forced evictions of farmers to make way for plantations by the



Receipt confirming a payment made by Ta Chang Selindo Cambodia Co Ltd to the L.Y.P. Group for a deposit of US\$200,000 to secure access to sand from the L.Y.P. Group's dredging concessions

company have led to strong criticism from human rights groups.⁴¹ More recently on 22 February of this year Prime Minister Hun Sen announced that the L.Y.P. Group had agreed to sponsor six units of the Royal Cambodian Armed Forces, in “patronage relationships” between military units and private companies.⁴² Global Witness expressed grave concern over this bankrolling of Cambodia’s military by private businesses in a press release issued on 5 March 2010.⁴³ One month after this announcement, the L.Y.P. Group used Battalion 313 of the Royal Cambodian Armed Forces, which it is supporting through these sponsorship deals, to guard a plantation against communities protesting that the land is rightfully theirs.⁴⁴

Global Witness wrote to Senator Ly Yong Phat as director of the L.Y.P. Group in March 2010 asking for comments on these claims. At the time of publication no response had been received.

Maps 1 and 2 present the sand dredging concessions known about by Global Witness as of March 2010. Given the lack of information in the public domain, Global Witness believes that this map is incomplete, nevertheless it shows the extent of sand dredging activities in Koh Kong province and their proximity to internationally significant ecosystems. The concessions of the L.Y.P. Group clearly extend far upstream and are located inside the Peam Krasop Wildlife Sanctuary and Koh Kapik Ramsar Site.^{viii} On one day at least nine vessels were observed dredging sand and loading it onto barges inside the boundaries of these protected areas. Three of these vessels had “Singapore” on the hull, under the vessel’s name, and one had a Singaporean flag.⁴⁵

Mong Reththy Group Co Ltd

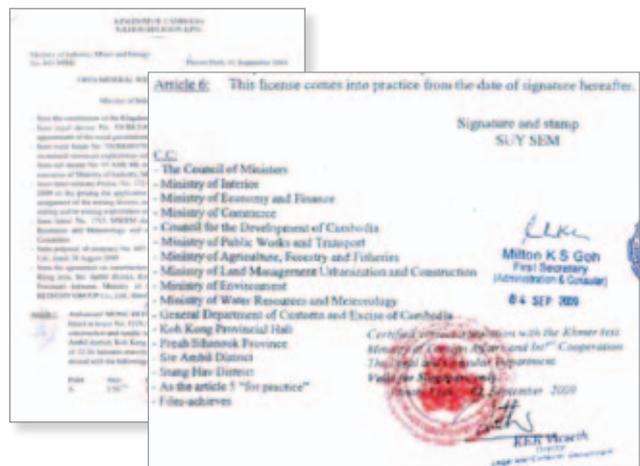
The Mong Reththy Group Co Ltd (Mong Reththy Group) was issued a licence by MIME on 1 September 2009 for sand exploitation for export in the Prek Thmor Rieng area of Sre Ambil, Koh Kong.⁴⁶ This licence followed an agreement in principle that the Mong Reththy Group could dredge sand for export, issued by the Sand Committee on 28 August 2009.⁴⁷ Government authorities told Global Witness that two other companies (apart from the L.Y.P. Group) have licences for sand exploration and export in Koh Kong province, interestingly, the Mong Reththy Group was not one of those listed.⁴⁸ The concession area has been plotted on the map above, again this concession is for *river sand*, against the provisions of the Sand Trafficking Decision. The Mong



Global Witness

Senator Mong Reththy, the owner of the Mong Reththy Group, who along with Senator Ly Yong Phat controls Koh Kong’s sand sector

Reththy Group and business interests of CPP Senator Oknha Mong Reththy,⁴⁹ its owner, are well known to Global Witness and were documented in our 2007 report, *Cambodia’s Family Trees*.⁵⁰ His portfolio includes plantations, commodities trading, construction and real estate.⁵¹ Local residents were forcibly evicted from land in Phnom Penh to make way for an urban development project owned by the company⁵² and his economic land concession in Stung Treng province is more than ten times the size permitted by Cambodia’s Land Law.⁵³ The Mong Reththy Group has also agreed to sponsor two units of the Royal Cambodian Armed Forces as announced by Prime Minister Hun Sen in February of this year.⁵⁴



Mong Reththy Group’s licence to quarry sand from 1 September 2009 issued by the Ministry of Industry, Mines and Energy and which bears the stamp and signature of Mr Milton KS Goh, the then First Secretary of the Singapore Embassy in Phnom Penh.

viii “Ramsar Sites” are wetlands designated for special environmental protection under the Convention on Wetlands of International Importance, an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources: http://www.ramsar.org/cda/en/ramsar-home/main/ramsar/1%5E7715_4000_0_ (last accessed 12 April 2010); The Koh Kapik and Associated Islets site was recognised under the Ramsar Convention in 1999: <http://www.ramsar.org/pdf/sitelist.pdf> (last accessed 12 April 2010).



Extracts of documents listing Brigadier General Nim Meng as an “advisor to H.E. Hin Bun Heang”, and being given the honorific title “Mohasena” by Prime Minister Hun Sen on 28 June 2008.

Evidence suggests that sand from the Mong Reththy Group concession is being exported to Singapore. Global Witness was informed by provincial authorities that a Singaporean company was already buying sand for export from the company.⁵⁵ The Mong Reththy Group’s licence from MIME and agreement in principle from MoWRAM were both signed by a representative of the Embassy of the Republic of Singapore in Phnom Penh: Milton KS Goh, the then First Secretary, on 4 September 2009.⁵⁶ The reason for this is not clear. Global Witness wrote to Mr Goh and the Singaporean Ministry of Foreign Affairs asking for clarification. By the time of publication Mr Goh had not responded. A response from the Singaporean government stated “You have enquired about the role of First Secretary ... in the Singapore Embassy in Phnom Penh. The duties of the person holding [the position of First Secretary] include rendering notarial services, such as certifying true documents”.⁵⁷ However, looking at the licence itself (inserted p12) there are no details given of which notarial service Mr Goh was fulfilling (such as document certification) by signing a contract between a Cambodian company and Cambodian government authority.

Additionally, Global Witness has seen copies of a sand quality report from two companies which both claim to have agreements with the Mong Reththy Group to export sand to Singapore from their concession.⁵⁸ One of them, dated September 2009, from a Cambodian company called Nim Meng Import and Export Development Co Ltd (Nim Meng), states that the source of the sand was “offshore Mongrithy Port, Cambodia” and “Mong Reththy Group Co Ltd”.⁵⁹ It also confirms that it is sand for reclamation purposes and has passed the JTC testing standards. Global Witness has seen the agreements drawn allowing Nim

Meng to dredge and export sand from the Mong Reththy Group’s licensed area.⁶⁰ According to a prominent Vietnamese traders’ website, a person of the same name, Mr Nim Meng, is a Cambodian Brigadier General and involved in Cambodia’s construction industry.⁶¹ This is not proof that Brigadier General Nim Meng is the owner of the Nim Meng company. But should Mr Nim Meng of Nim Meng Import Export Development Co Ltd, in fact be Brigadier General Nim Meng, then this would raise questions about the company’s potential links with the military and activities previously documented by Global Witness. Documentation seen by Global Witness lists Brigadier General Nim Meng as an “advisor to H.E. Hing Bun Heang”, the Commander of Hun Sen’s Bodyguard Unit that was previously reported by Global Witness in *Cambodia’s Family Trees* as being financed by illegal logging and timber smuggling out of Okhna Mong Port, owned by the Mong Reththy Group.⁶² Brigadier General Nim Meng appears to have a two-star ranking in the Royal Cambodian Armed Forces and was given the honorific title “Mohasena” by Prime Minister Hun Sen on 28 June 2008.⁶³

The portfolio of Senator Ly Yong Phat and his company extends to casinos, hotels and economic land concessions. Violent forced evictions of farmers to make way for plantations by the company have led to strong criticism from human rights groups.

Global Witness wrote to Senator Mong Reththy as the director of the Mong Reththy Group Co Ltd in March 2010 to ask for comment on these claims. An email was received from his office on 2 April 2010 inviting Global Witness to meet with the company in Phnom Penh. Global Witness responded that travel to Cambodia was impossible due to security concerns for staff, but that a telephone meeting could be arranged.⁶⁴ No further response was received from the company by the time of publication. Global Witness also attempted to contact Mr Nim Meng in March 2010 asking for comment; neither the company’s email or fax number worked and a staff member at the office refused to accept a letter delivered by courier. Global Witness also sent a letter to the company via the Cambodian Embassy to the UK. No response had been received by the time of publication. Global Witness looks forward to Mr Nim Meng clarifying these issues.

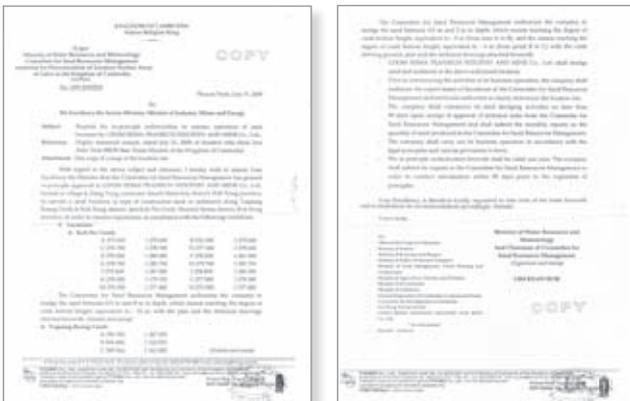


Global Witness

The sign for the offices of Udom Seima in Koh Kong Province, Cambodia, next door to the provincial Department of Industry, Mines and Energy

Udom Seima Peanikch Industry and Mine Co Ltd

The third company which has a licence for sand dredging exploitation and export in Koh Kong is Udom Seima Peanikch Industry and Mine Co Ltd (Udom Seima). Given the similarity of names and limited number of companies in Koh Kong, Global Witness believes this company to be the “Odom Cement Co Ltd” named in *Country for Sale* as a key player in Koh Kong’s sand sector. According to licence documents seen by Global Witness, the company has had permission to dredge in Koh Por estuary since 2007 and in the Trapeang Rong river since 2008.⁶⁵ These concession areas, for dredging at between 0.5 and 8m depth,⁶⁶ are included in the map above. On 31 July 2009 the Sand Committee granted approval in principle for Udom Seima to resume its sand operations in Trapeang Rong river for export, even though *river* sand dredging for export had been banned by the same Committee only ten weeks previously.⁶⁷



Extracts from Udom Seima’s agreement in principle to resume sand operations in Trapeang Rong river for export, issued by the Ministry of Water Resources and Meteorology

Global Witness could find no evidence that Udom Seima is registered with Cambodia’s Ministry of Commerce, but its offices in Koh Kong are located beside the Department of Industry, Mines and Energy.⁶⁸ The company is however registered in Singapore and two of four of its directors are Cambodian citizens: Mr Eat Seima and Mr Eat Bunthol.⁶⁹ In April 2009 both directors were given the honorific title of “Oknha” by Prime Minister Hun Sen.⁷⁰

Expansion of sand mining along Cambodia’s coast

Throughout 2009 and 2010, sand mining expanded along Cambodia’s coastline; in October 2009 MoWRAM publicly stated that 14 companies had been given concessions in Koh Kong, Preah Sihanouk and Kampot provinces.⁷¹ One company, InterTrans Co Ltd based in Cambodia, was issued a licence to dredge sand for export by MIME on 10 September 2009.⁷² As can be seen in Map 1, the concession which has been approved by the Sand Committee, is located inside Ream National Park, an area reserved for biodiversity conservation by royal decree. Global Witness obtained documentary evidence that another of these companies is K.T.A. Import Export & Development Co Ltd (K.T.A.) which has a concession to dredge and export sand in Kampot estuary⁷³, and has sub-contracted the export of sand to a Vietnamese company.⁷⁴

K.T.A. is owned by Mr Keo Tha and is registered in Cambodia.⁷⁵ Global Witness was told that Mr Keo Tha’s company was exporting sand to Singapore and as with the Mong Reththy Group, the licence for K.T.A.’s concession has been signed and stamped by Milton KS Goh, the then First Secretary of the Singapore Embassy in Phnom Penh, on 4 September 2009, the same date as the stamping of the Mong Reththy Group’s licence.⁷⁶ Again, the reason for an Embassy official stamping this document is unclear. Global Witness also wrote to Mr Goh to ask why he had stamped this sand export concession and to the Ministry of Foreign Affairs. By the time of publication, only the Singaporean government had responded, as described above on page 13.

Banking on Sand – the size and value of Cambodia’s sand sector

A Cambodian government website estimates that between 40,000 and 60,000 “tons”^{ix} of sand are extracted each month from the waters of Koh Kong province, though it does not say how much of this is intended for export.⁷⁷ It states that the

ix It is not clear from this website whether the figure refers to imperial tons (equal to 1016kg), short tons (907kg) or metric tons/tonnes (1000kg). Therefore the estimated quantity could be a maximum of 60,000 imperial tons, equal to 60,960 metric tons/tonnes. Hereafter, all tonnages are metric tons/tonnes, and will be referred to simply as ‘tonnes’.



K.T.A.'s agreement in principle to dredge sand which bears the stamp and signature of Mr Milton KS Goh, the then First Secretary of the Singapore Embassy in Phnom Penh.

government has imposed a strict limit on the amount of sand that can be extracted and that, while sand-mining operations remain small-scale, they are expected to have little impact on the local environment.⁷⁸ The government of Singapore meanwhile reported to the United Nations Statistics Division Commodity Trade Statistics Database (UN Comtrade) that it imported 3.8 million tonnes of sand from Cambodia in 2008;

equivalent statistics from Cambodia for sand exports from all provinces are not available on the UN Comtrade website.⁷⁹

However, evidence suggests that the true scale of the sand trade between Koh Kong and Singapore could be much greater. These calculations are estimates made by Global Witness based on the best available sources, due to the lack of public information on actual trade. An industry source in a position to know has estimated the monthly extraction rate for the L.Y.P. Group concession area to be approximately 300,000 tonnes.⁸⁰ This figure is supported by evidence from shipping documents seen by Global Witness, which record the transfer of 77,236 tonnes of sand to Singapore ports between the 15th and 22nd of November 2009.⁸¹ If this volume of trade represents typical business over eight days, it would equate to a monthly total of 289,000 tonnes. A licence, seen by Global Witness and bearing the stamp of the Royal Government of Cambodia's Ministry of Interior, sets a minimum rate of extraction of 10,000 cubic metres of sand each day for a concession area which Global Witness believes belongs to the Mong Reththy Group.⁸² This would equate to approximately 379,000 tonnes per month.^{x83}



Global Witness

Winton barges loading sand photographed in November 2009, Koh Kong Province, Cambodia. Global Witness estimates that the volume of sand being exported from the three main dredging concession holders in Koh Kong could be as much as 796,000 tonnes per month.

x A test report of sand dredged from the Mong Reththy Group's concession area, conducted by a Singapore-based laboratory gives a sand density of 1.263 tonnes per cubic metre. A daily extraction quantity of 10,000m³, or a monthly quantity of 300,000m³, therefore equates to 379,000 tonnes extracted each month from Mong Reththy's concession area.



Global Witness

Sand stockpiles owned by L.Y.P. Group awaiting export, photographed on November 2009, across the Koh Por river from Koh Kong town, Koh Kong Province, Cambodia

Licence documents seen by Global Witness state that the Mong Reththy Group concession occupies 54.85km²,⁸⁴ and that the Udom Seima concession occupies 17 km².⁸⁵ Proportionately, therefore, the Udom Seima area could be estimated to produce approximately 117,000 tonnes of sand per month^{xi} Using these estimates for the three concessions (300,000 tonnes for L.Y.P. Group, 379,000 tonnes for Mong Reththy Group and 117,000 tonnes for Udom Seima), the total quantity of sand extracted and exported from Koh Kong each month could currently be approximately 796,000 tonnes.

Cambodia's dredgers sell their sand for approximately US\$3 per tonne at point of extraction; at 796,000 tonnes each month Koh Kong's sand sector could therefore be valued at US\$28.7 million annually.⁸⁶ To purchase it at a Koh Kong port, ready to be shipped, costs approximately US\$5.60 per tonne.^{xii} In Singapore, the government agency JTC purchases sea sand from intermediary companies for approximately

US\$26 per tonne, representing nearly a nine-fold increase in price.^{xiii} Using these figures, and assuming monthly imports from Cambodia of 796,000 tonnes as calculated above, the trade from Koh Kong province would be valued in Singapore at approximately US\$20 million each month. This equates to US\$248 million per annum.⁸⁷ This total is an estimate for the trade from three concessions in Koh Kong province alone, the volumes and values of the remaining 11 along Cambodia's coast are unknown.

... from April to December 2009, the Koh Kong sand trade could have been expected to provide the government with a revenue of US\$10.7 million ...

xi The Udom Seima concession area is believed to be 31% of the size of the Mong Reththy area, so could be estimated to produce approximately 31% of the quantity of sand, or 117,000 tonnes each month.

xii This figure was calculated using price averaging on advertisements for Cambodian sand which were posted on the Alibaba global trade website. Global Witness found 19 advertisements for Cambodian sand which specified a price or a price range, and three of these price ranges were larger than \$1. Since these three advertisements were believed to be speculative, the prices were disregarded. Of the remaining 16 'Free on Board' prices advertised, the mean value was \$5.60 per tonne, with a standard deviation of \$0.53. http://www.alibaba.com/trade/search?SearchText=cambodia+sand&Country=&IndexArea=product_en&ssk=y (last accessed 25 February 2010).

xiii A JTC contract concerning 'supply and delivery of sea sand' with a Singaporean Company, dated 21 May 2008, sets a purchase price of S\$45 per cubic metre. Using the previously stated sand density of 1.263 tonnes per cubic metre and the contemporary exchange rate of US\$0.74 per 1S\$, this equates to a price of US\$26 per tonne.

SIZE OF CAMBODIA'S SAND TRADE 2009, ESTIMATED BY GLOBAL WITNESS



VALUE OF CAMBODIA'S SAND TRADE 2009, ESTIMATED BY GLOBAL WITNESS



According to a *Prakas* issued in March 2009, the Cambodian government sets royalties on each tonne of sand mined at US\$1.50.⁸⁸ Accordingly from April to December of 2009 the Koh Kong sand trade could have been expected to provide the government with a revenue of US\$10.7 million, assuming that roughly 796,000 tonnes are exported a month, as calculated above.^{xiv} However, due to the lack of disaggregated budgetary information made public by the Cambodian government, it is not possible to know how – or how much of – this revenue is entering the national treasury, nor the way in which this figure is being allocated to national expenditure priorities. The economic benefit of this trade to Cambodia is therefore impossible to quantify.

ប្រភេទ ថ្ម	អត្រា ប្រាក់ ប្រាក់	ឯកតា
ថ្ម ប្រភេទ ទូទៅ (មិន បាន ប្រមូល)	0.00	ដុល្លារ អាមេរិក/តោន
ថ្ម ប្រភេទ ទូទៅ (បាន ប្រមូល)	0.00	ដុល្លារ អាមេរិក/តោន
ថ្ម ប្រភេទ ទូទៅ (មិន បាន ប្រមូល) ប្រភេទ ទូទៅ	0.00	ដុល្លារ អាមេរិក/តោន
ថ្ម ប្រភេទ ទូទៅ (បាន ប្រមូល) ប្រភេទ ទូទៅ	0.00	ដុល្លារ អាមេរិក/តោន
ថ្ម ប្រភេទ ទូទៅ (មិន បាន ប្រមូល) ប្រភេទ ទូទៅ	0.00	ដុល្លារ អាមេរិក/តោន
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ថ្ម ប្រភេទ ទូទៅ (បាន ប្រមូល) ប្រភេទ ទូទៅ	0.00	ដុល្លារ អាមេរិក/តោន

The “Inter-ministerial Prakas” from March 2009 which sets fees for the registration, renewal and transfer of mining concession areas. The highlighted section states that the royalties payable for unprocessed sand are US\$1.50 per tonne.

xiv 796,000 tonnes at US\$1.50 royalty fees per tonne over 9 months (April to December 2009) are a total of US\$10.7 million.

3. DREDGING UP DIRT

The impact of Cambodia's unregulated sand sector

Evidence found by Global Witness suggests that those involved in Cambodia's sand sector are jeopardizing environmentally significant aquatic ecosystems in their attempt to meet Singapore's demand for sand. They also appear to be disregarding complaints that local fisheries are being destroyed. This is a continuation of the trend identified previously by Global Witness whereby Cambodia's developmentally significant natural resources have been captured by the country's elite and extracted with little regard for the environmental or social impacts.

Impact on globally significant habitats

Cambodia's 435km coastline contains globally significant habitats which provide vital ecosystem services and are relatively intact in comparison to those of its neighbours.⁸⁹ Three of these are in or near sand dredging operations - seagrass beds, mangroves and coral reefs.

Seagrass beds, once found along the entire coastline, are already under threat from intensive fishing and sand dredging will now significantly accelerate the process.⁹⁰ The seagrass beds in Kampot province are estimated to cover 25,240ha (more than ten times the size of any others in the South China Sea)⁹¹ and are home to a number of endangered marine species including the Irawaddy and spinner dolphins, dugongs and seahorses.⁹² xv Seagrass beds are also found in Chrouy Pros Bay between Koh Kong Island and the Cambodian mainland.⁹³ Despite their lack of recognition internationally as valuable habitats, seagrass beds provide crucial ecosystem services. Globally they contribute to 12% of oceanic carbon sequestration⁹⁴ and their nutrient-cycling function places seagrass beds amongst the highest per-hectare value of all global ecosystems from an ecological economics perspective.⁹⁵ Additionally, along Cambodia's coast they maintain water quality and protect against erosion.⁹⁶



Rutger Geering / FotoGrazer.nl

A dugong, one of the endangered species under threat from Cambodia's sand mining industry

xv In Latin – *Dugong dugong* (dugong); *Stenella longirostris* (spinner dolphin); *Hippocampus spp* (seahorses); and *Orcaella brevirostris* (Irawaddy dolphin).



Istock

A coral reef in the Gulf of Thailand. Coral is particularly sensitive to the impacts of dredging activities and international dredging best practice recognises a potential 70km range of impact on sensitive ecosystems from dredging operations.

Koh Kong's mangrove forests are considered to be wetlands of international importance and are protected under their status as the *Koh Kapik and Associated Islets Ramsar Site* and the *Peam Krasop Wildlife Sanctuary* (see map above). They are considered some of the most pristine mangrove forests in Asia and play a critical role in providing a nutrient source for coastal fisheries, as a nursery and feeding ground for invertebrate species and protect the estuary against erosion and storm damage.⁹⁷

Koh Kong's mangrove forests support a number of endangered species of birds and mammals, including the Irawaddy and spinner dolphins, and green turtles.^{98 xvi} This area is also the habitat of two rare and endangered species of otter - the smooth-coated and the hairy-nosed otters, the latter was until recently considered extinct.^{99 xvii} The Cambodian government estimates that coral reefs are distributed along Cambodia's coast, with a total area of 28km², but with average live coral cover low at 23% to 58%, they are considered to be in poor health.¹⁰⁰

As maps 1 and 2 show, sand mining is clearly occurring in close proximity to all three of these sensitive environmental habitats. Global Witness observed dredging taking place inside the Peam Krasop Wildlife Sanctuary and the Koh Kapik and Associated Islets Ramsar site, as was reported by the press in early 2009.¹⁰¹ A dredging concession has been allocated inside Ream National Park, in Preah Sihanouk province, and dredging has been observed in the seagrass beds along the coast of Kampot.¹⁰² Although dredging is taking place a further distance from Cambodia's coral reefs, these habitats are particularly sensitive to pollution from dredging which can kill coral.¹⁰³

The dynamics and sensitivities of these important ecosystems are poorly studied or understood,¹⁰⁴ and without this scientific baseline, it is very difficult to quantify the impact that the total dredging, loading and shipping operations will have. International dredging best practice guidelines, for example, apply environmental management for the impacts of

xvi In Latin – *Chelonia mydas*.

xvii In Latin – *Lutra sumatrana* (hairy-nosed otter) and *Lutrogale perspicillata* (smooth-coated otter).



Flicker / Zoe Tucker

Crab fishermen in Ream National Park, Preah Sihanouk Province, Cambodia where a company was given a licence to dredge sand by the Cambodian government in July 2009.

operations using a potential 70km range for direct impacts (see below for further details). In view of the acceptance of the “Precautionary Principle”¹⁰⁵ as an international basis for environmental management, dredging in these globally significant ecosystems appears gravely irresponsible.

Impact on coastal fisheries livelihoods

Dredging sand without adequate safeguards also risks damaging local livelihoods. Communities in Koh Kong and Kampot have reported that dredging and transportation of sand has reduced fish stocks and devastated harvests of swimming crabs.^{xviii106} They also reported that oil spills from dredging vessels have polluted the water and that fishing-boat navigation in the area has become hazardous.¹⁰⁷ In Koh Kong, Global Witness was told “*The fish catch has declined by 50%, the decline is so drastic. This started when the [dredging] ships arrived ... some days we get no fish at all.*”¹⁰⁸ Other fishermen explained that “*business here is only fishing*”, but that since the dredging began “*the crabs are finished, the people here relied upon them, but now they’re zero*”.¹⁰⁹ Communities explained that they had not benefited from the sand dredging in any way, in fact “*People are going to starve ... These days, the people of Koh Kong are crying*”.¹¹⁰ They had not been consulted by the companies before they began operations, nor had they been informed by local authorities that dredging licences had been issued.¹¹¹

In October 2009 approximately 300 community representatives from affected villages travelled to the Provincial Hall with a written complaint and a petition of over 1,000 signatures requesting that the dredging be halted. On 5 November members of the National Assembly wrote to H.E. Lim Kean Hour, Minister for Water Resources

and Meteorology on behalf of 1,229 households in this same area asking him to intervene to address the negative impacts of dredging.¹¹² Provincial authorities promised they would resolve these problems, but by mid-January 2010 media articles reported that nothing had improved.¹¹³

Again, without adequate baseline data, it is impossible to know the extent to which these drastic reductions in harvests have been caused by dredging operations, even though they occurred simultaneously. Nevertheless it is clear that the government is ignoring international norms, particularly the precautionary principle, by failing to comprehensively act on reports from coastal communities of continued problems since dredging began, despite the Sand Trafficking Decision supposedly being issued to address just such concerns.

“People are going to starve... These days, the people of Koh Kong are crying.”

Fishermen in Koh Kong complaining to Global Witness about the impact of dredging on their livelihoods

The core of the Precautionary Principle (Principle 15 of the 1992 Rio Declaration) states:

“In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”

Rio Declaration on Environment and Development, The United Nations Conference on Environment and Development, June 1992

This trend in which local people and Cambodia's environment are expected to pay the costs of economic development while a small and powerful elite gain the benefits, has been documented by Global Witness since 1995.

It also appears that government representatives themselves have contradictory information as to Cambodia's sand sector and its regulatory framework. A MoWRAM representative told the press in October 2009 that they were investigating the issue, but that the allegations from the communities were unfounded as dredging was taking place up to 17km off the coast in areas without spawning grounds, and that the community protests were sparked by an "instigator".¹¹⁴ Meanwhile, in a TV interview in October 2009, H.E. Lim Kean Hour, Minister for Water Resources and Meteorology said "Up to now the government has not allowed any company to pump sand in the sea" and described how dredging was only taking place in river areas, which require dredging to mitigate flooding.¹¹⁵ Following a visit to the area in late October 2009, H.E. Lim Kean Hour reported that oil spills were not occurring and that all dredging operators were operating following "full inspection" by the Committee.¹¹⁶ The Koh Kong Department of Industry, Mining and Energy



Amnesty International

Local fishermen in Koh Kong complained that their fish stocks and crab harvests were devastated after the dredging boats arrived

meanwhile said that local communities must face short-term losses, for the interests of the nation as a whole.¹¹⁷ This trend in which local people and Cambodia's environment are expected to pay the costs of the nation's economic development, while a small and powerful elite gain the benefits, has been documented by Global Witness since 1995.



iStock

A green turtle, one of the endangered species under threat from Cambodia's sand mining industry

4. SHIFTING SANDS

Failure of regulatory frameworks to govern Cambodia's sand sector

Given that existing environmental and social safeguards in Cambodia's national and international legal obligations have not been implemented, the promises from the government that a so-called sand ban (the Sand Trafficking Decision) will address these concerns are doubtful. Instead of regulating the sector, this Decision has potentially facilitated an expansion of sand dredging for export along Cambodia's coast. Global Witness believes this to be part of a broader trend of lawmaking in Cambodia, whereby parallel structures are created for governing developmentally significant resources, which give undue executive control to central government and undermine existing safeguards. From an industry perspective, international best practice guidelines for companies involved in sand dredging also appear to have been ignored.

Cambodian law requires that when projects risk significant environmental impacts, as would be expected from dredging in habitats of international significance, an Environmental Impact Assessment (EIA) must be completed prior to project approval.¹¹⁸ This assessment must include an Environmental Management Plan and encourage public participation.¹¹⁹ Specifically, the sub-decree on EIAs requires that dredging activities of more than

50,000m³ require initial and full environmental impact assessments.¹²⁰



The government of Cambodia's Subdecree on Environmental Impact Assessment Process, intended to prevent against damage to the environment

Since the passing of the Protected Areas Law in 2008 mining has been allowed inside certain parts of Protected Areas.¹²¹ The Protected Areas Law reaffirms the authority of the Ministry of Environment (MoE) to manage Protected Areas, including the “zoning” of existing protected areas.¹²² Of the four zones, development activities may only be conducted in the “sustainable use zones” of Protected Areas.

Development activities may only be permitted within these zones following consultation with relevant ministries, authorities and communities, and in accordance with a request from the MoE.¹²³ Any dredging within these zones must comply with all other legislation and must first be subject of an EIA.



Koh Kong's mangrove forests, protected by the Ramsar Convention for internationally significant wetlands, are under threat from dredging operations



Global Witness

A Winton boat photographed in November 2009 being loaded with sand inside the Peam Krasop Wildlife Sanctuary and the Koh Kapik Ramsar site, Koh Kong Province, Cambodia. Winton Enterprises was reported as having a partnership with L.Y.P. Group to export sand from Cambodia to Singapore.

Global Witness' investigations could not find any evidence that EIAs or any consultations had been conducted in the areas licensed for dredging in Koh Kong and fishermen interviewed said they had not been involved in any assessment prior to dredging activities beginning.¹²⁴ The list of documents referred to in the licences seen by Global Witness do not include EIAs or Environmental Management Plans, nor do they refer to approval being formally given by MoE for dredging to take place within a protected area. In fact, the requirements for environmental or fisheries assessments in the permit documents obtained by Global Witness for the L.Y.P. Group, Mong Reththy Group and Udom Seima sand dredging concessions are for reporting to be made two to six months *after* the contract is signed.¹²⁵ Global Witness wrote to the Cambodian government and the companies mentioned in this report asking about the status of EIAs. By the time of publication, only the Mong Reththy Group had responded, as described on page 13.

Protection could be given to Cambodia's sensitive marine habitats through the National Action Plan for Coral Reef and Seagrass Management in Cambodia (2006 - 2015) and the National Strategic Development Plan. Sadly, neither of these policies recognise sand dredging as a threat to marine habitats, nor do they specify mechanisms for resolving conflict with ministries involved in extractive industries.^{xix}

Global Witness believes that the granting of dredging permits within protected areas and in close

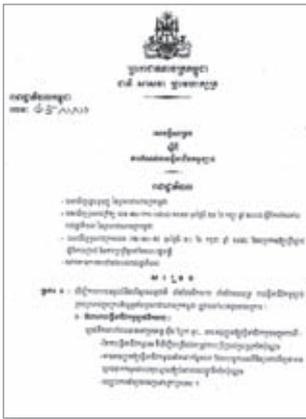
proximity to internationally significant ecosystems is evidence that the Cambodian government is also ignoring its obligations under international frameworks. Cambodia is a party to the Convention on Biological Diversity (CBD) and is a signatory to the UN Convention of the Law of the Seas (UNCLOS).^{xx} These make obligations on the parties to protect and preserve the marine environment and prevent environmental pollution.¹²⁶ Since 1992 the Precautionary Principle has been integrated into the UNCLOS framework, specifically in terms of how pollution is defined (Article 1) and obligations to undertake EIAs (Article 206).¹²⁷ Global Witness could not find evidence of either the CBD or UNCLOS being implemented through formal incorporation into Cambodian law. However, until this entry into force has occurred, the Cambodian government is still obliged to refrain from activities which would defeat the object of either treaty.¹²⁸

In 1999 Cambodia became a party to the Ramsar Convention on Wetlands and designated the Koh Kapik and Associated Islets as a Ramsar Site.^{xxi} Under this convention, Cambodia has committed to maintain the ecological character of wetlands and ensure their effective and sustainable management.¹²⁹ In addition, the deprivation of livelihoods resulting from decimated fish and crab harvests – if caused by the dredging – would violate Articles 1 (no-one should be deprived of a means of subsistence) and 11 (right to adequate standard of living) of the Convention on Economic, Social and Cultural Rights, which Cambodia ratified in 1992.

xix Global Witness has been monitoring the update of Cambodia's National Strategic Development Plan during 2009 and 2010. The most recent draft circulated (on 17 December 2009) did not include any reference to sand dredging in the section prescribing national objectives for the fisheries sector.

xx Cambodia acceded to the CBD in 1995; Cambodia is a signatory to the UNCLOS (1993), but has not yet ratified it.

xxi Koh Kapik and its Associated Islets became a Ramsar site in 1999 and Cambodia became a contracting party of the Ramsar Convention on Wetlands also in 1999.



The Decision Concerning the Limiting of Sand Trafficking, issued on 8 May 2009.

The Prime Minister's announcement: a failure to regulate the sand sector

On 8 May 2009, three months after *Country for Sale* was published, Prime Minister Hun Sen announced improvements to the governance of Cambodia's sand mining sector through the Decision Concerning the Limiting of Sand Trafficking.¹³⁰ This Sand Trafficking Decision was

proclaimed to be an “*end to sand dredging operations until an industry-wide environmental assessment and review of licensing process can be completed*”.¹³¹ This sand export ban, the Prime Minister and other senior officials explained, was issued in response to local protests and would ensure environmental protection; however, some companies would be allowed to continue if their activities did not affect people's interests.¹³² The media widely reported these actions as a complete ban on sand exports by the Cambodian government and at the time, Singapore's Building and Construction Authority responded by saying that given their diversification of sources, Cambodia's sand ban was unlikely to affect existing projects.¹³³

However, the Sand Trafficking Decision contains a number of discrepancies and is not a *de facto* ban on exports. Global Witness believes the confusion over the intent of the Sand Trafficking Decision may originate from its brevity; key terms are undefined making interpretation and enforcement problematic. Article 1.1 clearly bans the export of *river sand*, whereas, Article 1.2 allows for the continued exploitation of *sea sand* for an export market, if it is from shallow areas where the sand replenishes naturally.¹³⁴ Since the Sand Trafficking Decision was announced, sand dredging concessions to L.Y.P. Group, Udom Seima and Mong Reththy Group for *river* sand have been re-licensed in direct violation of Article 1.1, which indicates that regulatory authorities are not uniformly interpreting or enforcing this legislation. The contradiction in understanding of dredging regulations and operations from staff within MoWRAM highlighted on page 21 above is indicative of potential problems for application of the Sand Trafficking Decision.

The process outlined in the Sand Trafficking Decision is also unclear. It came into force on 8 May 2009

and tasks the “*Committee on the Management of Sand Resources*” with re-inspecting sand dredging operations and reporting to the Prime Minister for an executive decision on future re-licensing.^{xxii 135} This Sand Committee, established in 2006, is formed of representatives of the Ministries of Water Resources and Meteorology; Public Works and Transport; Industry, Mines and Energy; the Environment; and Land Management, Urban Planning and Construction.¹³⁶ It is the same committee as mentioned above as being responsible for re-issuing licences for sand exploitation. Notably missing is the Fisheries Administration which is responsible for implementing protection mechanisms for coral reefs and sea grass beds.

However, the Sand Trafficking Decision does not explain the process for implementing the Decision, nor the roles and responsibilities of implementing agencies, nor what companies with existing sand dredging licences should do during the re-inspection period. In addition, the Sand Trafficking Decision does not refer to, nor appear to be aligned with, existing laws governing sand exploitation and export licences, under MIME. If this Sand Trafficking Decision places the responsibility for reviewing dredging and export operations in the hands of the Sand Committee, and ultimately the Prime Minister, this raises questions regarding future oversight of MIME and other agencies such as the Ministry of Environment.

The Sand Trafficking Decision annuls any provisions contrary to it such as those contained in the Laws on Mining and the Environment.^{137 xxiii} Finally, the Decision institutes a Prime Ministerial ban on a specific activity. This is a potential departure from the principle of the separation of powers, and such a ban should require at least a Sub-Decree (subject to the oversight of members of Cambodia's Council of Ministers), or even an amendment to higher legislation (subject to the oversight of the National Assembly). Although this Decision could be issued as an interim measure until appropriate legislation is passed or amended, it does not appear that further legislation is forthcoming.

This Sand Trafficking Decision was proclaimed to be “an end to sand dredging operations until an industry-wide environmental assessment and review of licensing process can be completed”...

xxii The English language version of this decision calls the entity established a “Commission” whereas the word used in the English-language licences seen by Global Witness is “Committee”; the word Committee is used throughout this document.

xxiii Laws on Mineral Resource Management and Exploitation (2001) and Environmental Protection and Natural Resource Management (1996).

INTERNATIONAL ENVIRONMENTAL AND SOCIAL BEST PRACTICES FOR DREDGING

The impact that dredging is alleged to be having on local fisheries, communities and sensitive habitats in Cambodia is not unique. The damaging impacts dredging can have on sensitive ecosystems, fish stocks and the livelihoods of local people dependent upon them have been long recognised.¹³⁸ This is predominantly caused by declining water quality, for example through turbidity, but dredging close to the coast also alters hydrological processes.¹³⁹ These include disruption of natural sedimentary regimes such as increasing erosion of banks in dredged areas; increases in sea level in estuaries and expanded salinity throughout delta systems; and increased risk of flooding.¹⁴⁰

In recognition of these risks, standards have been developed by governments, international dredging industry associations^{xxiv} and regulatory bodies. The Netherlands only permits dredging in water depth of greater than 20m, whereas Italy only permits dredging in water depth of more than 50m and further than 3 miles from the coast.¹⁴¹ Environmental best practice guidelines have been developed by the dredging industry to mitigate impacts on environmentally sensitive habitats and can be summarised as:

1) Preparation phase

- Project development begins with a minimum 18 month evaluation period to assess all options, potential problems, mitigation strategies and consult with all stakeholders, especially local communities.¹⁴² Where baseline information is limited, the precautionary principle has attained acceptance as “best management practice” and assessments can depend more significantly on local knowledge.¹⁴³

2) During the Environmental Impact Assessment

- Conduct a comprehensive EIA prior to commencing, to identify impacts, evaluate alternative and design mitigation measures. Best practice includes full stakeholder engagement throughout the EIA process.¹⁴⁴
- Avoid dredging in and around shallow coastal areas or delicate ecosystems (for example coral reefs, seagrass beds and mangroves)¹⁴⁵; the extent of impacts depends on a multitude of factors and has been documented at 70km from operations.¹⁴⁶ No-dredging buffer zones can mitigate risks.¹⁴⁷

3) Developing a Management and Monitoring Plan

- Develop an Environmental Management Plan to monitor and manage impacts, in accordance with mitigation measures and plan for compensation where necessary.¹⁴⁸
- Mitigation measures recommended are silt curtains, production limits, restricting overflow of sand and sediment from dredging machinery and seasonally / environmentally sensitive dredging operation timing.¹⁴⁹

Global Witness was not able to find any assessments of the impact of dredging along Cambodia’s coast; therefore it remains to be seen if the experiences of other sensitive ecosystems will be repeated in Koh Kong, Preah Sihanouk and Kampot. However, when compared to these guidelines, sand dredging operations in Cambodia appear to be non-compliant. Dredging is occurring in extremely shallow waters, some inside protected areas, EIAs and Environmental Management Plans do not appear to have been done and representatives of Cambodia’s regulatory agencies appear unaware of the 70km potential range of impact from dredging operations.

xxiv Namely, the International Association of Dredging Companies (IADC), the Central Dredging Association (CEDA) and the World Association for Waterborne Transport Infrastructure (PIANC).

When presented with this case, international dredging expert Tim Deere-Jones, based in the UK, said: *“In light of the evidence disclosed by this report it seems inevitable that sustained and major damage will be caused to Cambodia’s seagrass, coral and coastal mangrove habitats and ecology. That such a massive programme of sand dredging has been launched without the benefit of EIAs and rigorous regulation carried out to internationally recognised standards, reflects very poorly on the dredging companies, the Cambodian government and, by implication, the end consumers of Cambodian sand.”*¹⁵⁰

It is of particular concern that the Cambodian government is allowing dredging to continue given the dearth of information on the status of the country’s marine habitats.¹⁵¹ It is of equal concern that Singaporean companies are continuing to source sand dredged under these conditions. Without baseline surveys it is not possible to understand past or present trends or predict the outcome of dredging operations. It is likely therefore that dredging along Cambodia’s coast will have begun without adequate understanding of the impacts and without strategies to mitigate against them. Although restoration of marine ecosystems is an option, it is frequently unsuccessful, costs significantly more than preserving original ecosystem functions, and is impossible to do without extensive baseline knowledge of the dynamics, multifunctionality and interconnectedness of the ecosystem in question.¹⁵² Studies of a European site where dredging has been taking place since the early 1980s recorded a 2-3 year time-lag between the impacts and effects of sand dredging, therefore Global Witness questions on what basis the Cambodian government can claim that dredging is not having an impact on local ecosystems.¹⁵³

“... it seems inevitable that sustained and major damage will be caused to Cambodia’s seagrass, coral and coastal mangrove habitats and ecology.”

International dredging expert, Tim Deere-Jones in 2010, when presented with this case

None of the companies active in Cambodia’s sand sector are listed as members of the International Association of Dredging Companies. Four companies based in Singapore are on the membership list, but Global Witness is not aware that they are involved in operations relating to Cambodia.¹⁵⁴ Indicative of the active companies’ attitude is an interview with a company representative in May 2009 in which he admitted that they had not done any surveys prior to starting and had no idea of the volume of sand which they were extracting *“... if this was an American project it would never function like this”*.¹⁵⁵ Global Witness wrote to all of the companies named in this report to ask them about their application of international best practice standards. By the time of publication, only Mong Reththy Group had responded, as described on page 13.

“... if this was an American project it would never function like this.”

A company representative, when interviewed by the press about dredging operations in Cambodia, May 2009



L.Y.P. Group boats loading sand onto two large barges, photographed on the Koh Por river in November 2009, Koh Kong Province, Cambodia. The L.Y.P. Group, owned by Senator Ly Yong Phat, has been identified by Global Witness as one of two companies controlling Koh Kong’s sand sector.

5. THE ROLE OF SINGAPORE

Importer of Cambodia's sand

Singapore's expansive construction and land reclamation programmes require that it sources sand from beyond its national boundaries. As a result in 2008 it was the largest global importer of sand. Following limitations placed on sand exports by Malaysia, Indonesia and Vietnam, Singapore now sources sand from Cambodia. Meanwhile, the country has positioned itself as regional leader for environmental sustainability.

The Singapore government told Global Witness that *"The import of sand to Singapore is done on a commercial basis. The Singapore government is not a party to any agreement or contract for the import of sand"*.¹⁵⁶ However, Global Witness found evidence that Statutory Boards under various Singapore government Ministries are procuring sand, allegedly from Cambodia. The environmental footprint of this consumption could be substantial. The government requires that companies operating overseas follow host country laws and some sand import regulations require mining concession contracts and environmental assessments. Singapore's continued purchase of sand from Cambodia raises questions about the extent to which regulatory agencies are ensuring companies comply with these requirements or broader international obligations recognised by the Singapore government.

Global Witness believes the evidence presented in this report provides Singapore with an opportunity to proactively explore options for sustainable sourcing of raw materials such as sand.



Marina South area, November 2009, Singapore. Marina South is built on reclaimed land, the towers to the right are part of the Marina Bay Sands integrated resorts project and the area being developed to the left will include entertainment and commercial centres.



An exhibition about the history and future plans for Singapore's urban development, at the offices of the Urban Redevelopment Authority, Singapore, November 2009

Singapore's construction and land reclamation programmes

Singapore's consumption of sand is driven by its construction and land reclamation programmes. The city-state of 4.9 million people has expanded from 581.5km² in the 1960s, to 710.2km² in 2008, an increase of 22%.¹⁵⁷ The government has impressive targets for using recycled materials in construction as well as developing technologies to build "up and down" to meet demand,¹⁵⁸ however, a further increase in landmass of 7% to a total 760km² is projected.¹⁵⁹

Singapore imports river sand for construction and sea sand for land reclamation.¹⁶⁰ The volumes required for land reclamation can be considerable and depend on the site specifics; one dredging company previously contracted by the Singapore government provided between 74,000m³ and 376,712m³ for each hectare of land reclaimed.¹⁶¹ Land reclamation not only meets the need for housing, but also for industrial and commercial developments. Current large-scale projects include port and petroleum industry developments, Marina Bay Sands (an integrated casino and entertainment resort owned by the Las Vegas Sands Corp) and Singapore's first permanent racing track being built on Changi East peninsula.¹⁶²

Where Singapore sources its sand

Having exhausted its own supplies of sand in the 1960s, Singapore has had to look elsewhere to meet construction and land reclamation needs. Singapore's demand for sand is such that in 2008 it was the largest global importer; at 14.2 million tonnes, at a value of US\$273 million, a leap from only 3.8 million tonnes in 2007.¹⁶³ Of this 2008 total, Cambodia was Singapore's third largest source of



sand (providing 3.8 million tones or 21.5%) after Vietnam at 45% and Malaysia at 22%.^{164 xxv}

However, this high demand for its neighbours' sand has proved problematic. Malaysia banned sand exports to Singapore in 1997; although limited exports have been permitted recently.¹⁶⁵ From then until January 2007, Indonesia was Singapore's main supplier of sand, however in that month the Indonesian government also imposed a blanket ban on all sand exports.¹⁶⁶ This ban was partly motivated by the serious damage the sand sector had wrought on Indonesia's coastal areas. In the Riau Islands, near to Singapore, as much as 250,000 to 300,000 tonnes of sand was being exported each month; some islands had disappeared and others had been severely degraded.¹⁶⁷

Following the Indonesian ban, Singapore moved to source sand from Vietnam and Cambodia. On 2 October 2008, the Vietnamese government placed limitations on sand exports. This was in order to secure domestic supply, limit environmental damage and address allegations of so-called "dubious activities" within the industry.¹⁶⁸ On 8 May 2009, the Cambodian government issued the Sand Trafficking Decision to ban river sand and limit sea sand exports, as described above.¹⁶⁹ Furthermore, on 16 November 2009 Vietnam issued a blanket ban on all sea sand exports from June 2010 onwards.¹⁷⁰ Since the beginning of 2010, sourcing is reported to have expanded to Myanmar, the Philippines and Bangladesh and the media has accused companies importing sand to Singapore of "stealing beaches" from Indonesia and Malaysia.¹⁷¹

Although total sand export figures from Cambodia are not publicly available, within Southeast Asia as a whole, only Thailand, Vietnam and Singapore reported importing sand from Cambodia; Singapore dominates this trade proportionally.¹⁷² China has not reported any imports of sand from Cambodia to UN Comtrade since 1992, despite sourcing this raw material from around the world.¹⁷³ Meanwhile according to UN Comtrade statistics Singapore does export sand annually, but only a small amount; in 2008 it exported 5,600 tonnes.¹⁷⁴

When Global Witness met with representatives of the Singaporean government in 2009, they expressed the view that Singapore was not a significant importer of sand in comparison to other countries in the region (for example China). At this meeting Global Witness requested statistics of Singapore's sand imports to clarify this from them, unfortunately by the time of publication, no information had been received. Based on the publicly available trade figures presented above however, Global Witness believes that Singapore is indeed the most significant importer of sand from Cambodia and therefore has the opportunity to set in place policies which can significantly improve governance of this raw material.

Role of the Singapore government in the country's import of sand

While it is evident that Singapore is an importer of Cambodian sand, the specific role of the Singaporean government in sand imports is unclear. The government told Global Witness by email in April 2010 that "*The import of sand to Singapore is done on*

xxv Readers will have noticed the difference between this figure from 2008 and the estimated value of sand exports from Koh Kong to Singapore for 2009, as given on page 16. The estimate by Global Witness is based on the best available information. Global Witness would welcome clarification from the governments of Cambodia and Singapore on actual trade statistics.

HOUSING & DEVELOPMENT BOARD	
SPECIFICATIONS	
SUPPLY OF CONCRETING SAND TO THE HDB (BATCH 02)	
SECTION 2 - SUPPLEMENTARY SPECIFICATIONS	
2.1 GENERAL	2.7.1 Source
2.2 MATERIALS	
2.3 TESTING	
2.4 TESTING PROCEDURES	
2.5 TIME OF COMPLETION	
2.6 TIME OF CONTRACT	

Housing and Development Board of the government of Singapore, Supplementary Specifications for the supply of concreting sand to the Housing and Development Board

*a commercial basis. The Singapore government is not a party to any agreement or contract for the import of sand.*¹⁷⁵ However, Global Witness has found three pieces of evidence which suggests the government does itself purchase sand.

Firstly, during parliamentary discussions on the need for the government to stockpile construction materials to stabilize domestic markets a government representative stated “... as a developer and an owner of projects, the government will help the contractors by co-sharing up to 75% of the price increases in sand and granite”.¹⁷⁶

Secondly, a Singapore government website details tenders issued by the Housing and Development Board (a government statutory board under the Ministry for National Development¹⁷⁷) for the procurement of sand for construction projects.¹⁷⁸

“The import of sand to Singapore is done on a commercial basis. The Singapore government is not a party to any agreement or contract for the import of sand.”

A written response from the Singaporean government in April 2010 to questions from Global Witness about the role of the government in the sand trade

These tenders state that contractors must be registered to supply basic building materials with the BCA and provide sand from an “approved source”; they must have documentary evidence of concession licences and location in the source country, export permits and any environmental impact assessments undertaken.¹⁷⁹

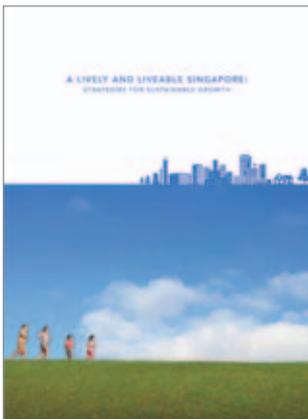
Thirdly, Global Witness has seen a contract between the JTC and a sand importing company to purchase sand, meanwhile industry sources in Singapore and Cambodia claimed that sand exported from Cambodia is purchased by JTC.¹⁸⁰ In its April 2010 email, the Singapore government wrote *“The Singapore government is not a party to any agreement or contract for the import of sand. JTC, a statutory board under the Ministry of Trade and Industry of the Singapore government, engages sand suppliers, which are private entities, on a commercial basis to supply sand for reclamation and other development works. These sand suppliers purchase sand from local sand concession holders in various source countries. These concession holders determine the source locations and undertake the extraction.”*¹⁸¹ The fact that the government stated that it is not party to any agreement for the



Aerial photo of some of the Riau Islands, Indonesia. Singapore imported as much as 250,000 - 300,000 tonnes of sand a month from these islands until 2007 when the trade was stopped, partially over concerns that the islands were disappearing

import of sand, and in the next sentence says that JTC engages sand suppliers, suggests the government considers statutory boards to be separate entities from the government. However, given that JTC, BCA and the Housing and Development Board are within the purview of specific government Ministries, Global Witness believes the government should bear ultimate responsibility for their activities.

Finally, two Cambodian sand exploitation and export licences bear the signature and stamp of a representative of the Singapore Embassy in Cambodia. Global Witness does not have a clear understanding of the significance of this stamp, as further discussed on page 13 above.



The Sustainable Development Blueprint of the government of Singapore, launched in 2009

Singapore: strategies for sustainable growth outlines the government's objective of providing a development model for sustainable resource use within its national boundaries, and responding to global resource scarcity.¹⁸² The government's introduction to this report states *"We want to develop Singapore in a sustainable way so that future generations of Singaporeans can also enjoy both economic growth and a good living environment. If we grow our city state in an efficient, clean and green way, and if each one of us is more environmentally conscious in the way we live, work, play and commute, we will all contribute our part to protecting the global environment"*.¹⁸³

Singapore's National Biodiversity Strategy and Action Plan, also launched in 2009, introduces itself as a master-plan to promote biodiversity conservation through "pragmatic approaches" and "unique solutions", in order to fulfil Singapore's regional and international commitments, primarily the Convention on Biological Diversity.¹⁸⁴ In June 2010, Singapore will host the biennial World Cities Summit with the theme of *"Liveable and Sustainable Cities for the Future"* focusing on leadership, governance and building liveable and sustainable communities.¹⁸⁵ Beyond environmental leadership, Singapore perceives a responsibility to use its own

Singapore's commitment to sustainability

The negative environmental and socio-economic impacts caused regionally by Singapore's imports of sand appear in stark contrast to its position as leader in the region for sustainable development.

Singapore's Sustainable Development Blueprint *"A Lively and Liveable*

development strengths to help other countries in the region; as one Minister said during a parliamentary debate *"That has always been our approach - to help neighbours because we believe that their prosperity is also good for us"*.¹⁸⁶ In its April 2010 email the Singapore government wrote *"Singapore is committed to the protection of the global environment ... Singapore plays an active role on sustainable development issues such as international cooperation in the protection of urban biodiversity, and tackling transboundary haze"*.¹⁸⁷

Singapore's commitment to sustainability undermined?

Closer examination of these environmental policies, however, reveals disturbing discrepancies between Singapore's aspirational response to global resource scarcity, and its regulatory reality. Neither the Sustainable Development Blueprint nor the National Biodiversity Strategy and Action Plan require environmental or social due diligence when sourcing raw materials (such as sand) from beyond Singapore's national boundaries. In its April 2010 email, the government wrote *"We have always insisted that the import of sand must be carried out in accordance with the law and relevant regulations and requirements, including environmental regulations, of the source country"*.¹⁸⁸ The email continued *"... our customs has put in place procedures to check and investigate the import of goods at the checkpoints. We also require suppliers of sand to reclamation projects to show various documents and licences from the source countries, and they shall be dealt with if there are discrepancies or irregularities"*. This echoes the only legislation which Global Witness could find governing sand sourcing and imports. Singapore's Regulation of Imports and Exports Act (2003) stipulates that *"goods are subject to the export control of the exporting country"*.¹⁸⁹



Email received by Global Witness from the Ministry of National Development, government of Singapore, 22 April 2010

In March 2009, due to the disruption of supplies of construction materials from Indonesia in 2007, an Amendment was passed to the Building and Construction Authority Bill giving BCA legislative authority over importers of construction materials. Under this licensing scheme, suppliers have to meet strict quality standards, apply for import permits for each consignment and be able to ensure “supply resilience” through business continuity plans.¹⁹⁰ Since this amendment, BCA, the agency responsible for regulating construction aggregate import standards, has applied a three-stage testing regime for quality assurance.¹⁹¹ In preparation for the initial test, the importing company must provide details of the mining site location and operator.¹⁹² However, unlike the Housing and Development Board procurement tenders described above, BCA test requirements do not expect companies to provide evidence of environmental assessments, nor export permits.¹⁹³

Global Witness was not able to clarify which government agency is responsible for regulating land reclamation sand imports, as opposed to those for construction. Sand procurement tenders for land reclamation are not listed on government websites and no equivalent regulatory legislation for these imports was found. However, in their April 2010 email the government wrote “*JTC requires all its sand suppliers to comply with local legal procedures to extract or transport sand from the sources without causing adverse impact to the environment and in compliance with the environmental impact regulation. JTC also regularly reminds its sand suppliers about the severe contractual implications if they do not comply with regulations and environmental concerns in the source countries.*”¹⁹⁴



Global Witness

Barge photographed arriving into Singapore port in November 2009. Jurong Island, one of Singapore’s largest land reclamation projects can be viewed in the background.

“States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment.”

Article 194(2) of the UN Convention on the Law of the Seas

Singapore’s international obligations

Because of the Singaporean government’s requirement that companies registered in Singapore must abide by the national laws of the host state, all Singaporean companies operating in Cambodia must comply with Cambodian laws. This is irrespective of whether or not they are operating under contract to a Singaporean government agency. Cambodia’s laws include the environmental and social safeguards outlined above in chapter 4 such as the Convention on Economic, Social and Cultural Rights, even though Singapore itself has not ratified this human rights convention.

Singapore has however ratified the Convention on Biological Diversity (CBD) and the UN Convention on the Law of the Seas (UNCLOS).^{xxvi} These give the Singapore government and its nationals the same responsibilities as Cambodia to protect marine ecosystems and prevent against environmental degradation in its national waters, as well as the wider marine environment - such as dredging in Cambodia’s waters.¹⁹⁵ Article 194 (2) of UNCLOS provides that “*States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment.*” Article 235(2) goes on to clarify that “*States shall ensure that recourse is available in accordance with their legal systems for prompt and adequate compensation or other relief in respect of damage caused by pollution of the marine environment by natural or juridical persons under their jurisdiction.*” These obligations include protection against all types of marine pollution (including sea-bed operations such as dredging) whereas Articles 198, 199, 204 and 206 of UNCLOS require EIAs, mitigation strategies and monitoring plans.¹⁹⁶

The need for Singapore to source its sand sustainably

Global Witness believes that Singapore must take responsibility for the regional impact of its consumption of sand. This report documents

xxvi Singapore ratified the CBD in 1995 and it was entered into force in Singapore in 1996, the UNCLOS was ratified and entered into force on the same day in 1994.

evidence that Singaporean companies are sourcing sand from dredging concessions which are located inside protected areas or in close proximity to internationally significant habitats, with disregard for local livelihoods. Such dredging operations do not appear to comply with Cambodia's environmental and socio-economic legal safeguards. They also appear non-compliant with Singapore's own obligations under UNCLOS and CBD. In addition, this report has highlighted the lack of transparency in Cambodia about where the revenue generated by the sand sector is going within the national treasury. As Vietnam is due to ban all sand exports from June 2010, Cambodia may become an even more significant source of sand for Singapore.

The evidence presented in this report raises questions about how effectively Singapore's regulatory agencies are ensuring that companies fulfil their requirements to comply with host country, in this case Cambodian, laws. This is particularly important given that failures of Cambodia's rule of law, especially with regard to natural resource governance reforms have been well documented, including by Global Witness. In such instances, a responsible government should require its companies to be extra diligent in ensuring the protection of environmental and social safeguards. If, as some evidence suggests, statutory boards under the Singapore government are themselves procuring sand exported from Cambodia then the Singaporean authorities would

also need to take swift action to investigate any apparent complicity in ongoing violations of these safeguards by companies they contract. Had environmental impact assessments been submitted to the Singaporean government, as is required by some procurement tenders, they might have shown that concessions did not comply with Cambodian law. This raises serious concerns about whether such procurement contracts should have been issued in the first place.

Questions about the sustainability of sourcing sand from the region have already been raised within the Singaporean government. In a parliamentary debate in 2007, following the Indonesian ban, it was suggested that a clause be added to sand supply tenders requiring it to be mined sustainably and suppliers to provide an Environmental Impact Assessment report to substantiate this. The debate concluded that the government "... *did not see the need, nor would it be appropriate, for us to prescribe requirements on the exporters in exporting countries. The exporters do not mine solely for export to Singapore*".¹⁹⁷ The recent amendments to the BCA's legal framework for sand imports in response to the need to ensure economic sustainability for the domestic construction sector, are evidence that the Singapore government can respond proactively to changing market circumstances. Likewise, through tackling transboundary haze, the Singapore government has proved it can successfully facilitate regional environmental policy change on issues beyond its national borders.



Dredging taking place inside the Peam Krasop Wildlife Sanctuary and the Koh Kapik Ramsar site, photographed in November 2009, Koh Kong Province, Cambodia. This habitat is recognised as an internationally significant wetland and is home to a number of endangered species.



Global Witness

Idle crab traps, November 2009, Koh Kong Province, Cambodia. Local fishermen told Global Witness that fish stocks and crab harvests had been devastated since the dredging began.

Singapore's reliance on the regional raw materials trade for its economic development provides the government with an opportunity to proactively explore options for sustainable sourcing. Such a stance would not only ensure that its regulatory authorities are fulfilling legal responsibilities in terms of the operations of Singaporean companies outside their national borders. But it would ensure that Singapore is fulfilling its own obligations under international law and meanwhile enable the government to prove its commitment to environmental sustainability. Simultaneously, Singapore can help its leadership in good governance in the region, by undertaking a financial transparency audit of all Singapore entities involved in Cambodia's sand sector.

Global Witness held a meeting with representatives of the Singaporean government in November 2009 at which we agreed to present the results of the investigation outlined in this report in the spring of 2010 for further discussion. Unfortunately, when Global Witness tried to arrange this follow-up meeting in March 2010 government representatives replied saying: *"Thank you for your interest in setting up a second meeting with us. We note that your main interest is in discussing the sand industry in Cambodia. Our import of sand is a purely commercial activity, for which we require contractors to abide by the laws*

of the source country. As we have previously met with Global Witness in November last year and provided information on this issue, we do not have new information to share. Hence, we think another meeting may not be necessary".¹⁹⁸ Global Witness also wrote to the Singapore government, BCA and JTC to ask for their response to the key findings presented in this report. A response was received on 22 April 2010 and the relevant sections can be seen in this report.



www.wildingsingapore.com / Ria Tan

Seagrass performs vital ecosystem services. Cambodia's seagrass meadows, once the largest in the South China Seas, are under threat from sand dredging.

6. HEADS IN THE SAND

Cambodia's donors – is this effective aid?

The Cambodian government has a long history of using international donor aid to provide important state services, such as infrastructure, healthcare and education. In the immediate aftermath of Cambodia's civil war, this was justifiable. Almost 20 years later, it is not. With the Cambodian population's basic needs supported by aid, Cambodia's political elite has been free to exploit the state's assets for personal profit and shoring up their own positions of power. The country's natural resources – its land, forests, minerals, petroleum, beaches, fisheries – have been sources for this off-budget income.

For those in power, there is no incentive to change. It suits their business model well to have donor aid propping up the basic functions of state, while they themselves engage in asset stripping. This is why all attempts by Cambodia's donors to reform the management of the country's natural resources in the interests of the wider population have failed.

Cambodia's donors have been slow – or unwilling – to recognise this reality. There is now an 15 year history of failed donor engagement in the spheres of natural resource management and anti-corruption efforts, characterised by a series of unfulfilled governance commitments towards accountability and transparency.



A mother and child walking through the wreckage where their house once stood following a forced eviction to make way for a hotel, Sihanoukville, 2008. While Cambodia has experienced rapid economic growth in recent years, the benefits of this have been captured by the country's business and political elite leaving the majority of the population poor.



AP/Press Association

H.E. Keat Chhon, Cambodian Finance Minister, at the end of the donor-government meeting in Phnom Penh, Cambodia, June 20, 2007.

Recent years have been no different. A month before the December 2008 Cambodian Development Cooperation Forum (CDCF), and shortly before the publication of *Country for Sale*, Global Witness contacted Cambodia's donors to warn them about risks of a corruption disaster in the country's emerging extractives industry. Given the obvious risks

associated with the potential financial windfall, Global Witness recommended that donors made aid disbursements conditional on measurable action by the government to eradicate corruption and promote good governance in these areas.

The result was negligible. At the meeting Cambodia's donors once again increased their amount of development aid to Cambodia. The official figure cited was nearly \$1 billion. This figure is nearly as large as Cambodia's entire domestic revenue through the national treasury for the same year.¹⁹⁹ The only reference to the country's extractive industries in the benchmarks set between then and the next meeting (June 2010) was to develop a publicly available database of mining concessions. Nearly 18 months later and as far as Global Witness can see, no database has been established.

The story of the loss of Koh Kong's sand is an indictment of this failure by the international community to adequately address the capture of a state's assets by a small group of well connected individuals. Those controlling the sector have done very well; Global Witness estimates the annual value of the sand trade in Koh Kong province alone at US\$28.7m. Meanwhile there is no way of tracking whether royalty fees from the sand sector due for 2009 are reaching the national treasury. As usual, it is Cambodia's poor who have borne the brunt of this elite capture, with the loss of their livelihoods and coastal environment.



Global Witness

Illegal logging in Aural Wildlife Sanctuary, 2004. For the past 15 years, Cambodia's donors have failed to hold the government to account for high-level corruption and policy failures relating to exploitation of the country's natural resources.

There is another story here too: that of donors' fiscal responsibilities to their own home populations. Donor country tax payers give their money to their government in the expectation that development funds are spent on poverty alleviation overseas. And in many countries with more benign governments, donor aid has broadly achieved such objectives. But the dynamic playing out in Cambodia is a horribly subverted one.

Instead of alleviating poverty, donor funds appear to be freeing up a corrupt elite to engage in a process of wholesale asset stripping. The country's donors do not appear to have the tools or the political will to respond to this. Given the limited pool of development funding available in the current economic climate, the provision of aid without concomitant requirements on the recipient government to effectively harness its own resources is very poor use of tax payers' money.

As the stakeholders in Cambodia's development prepare for the next CDCF in June 2010, indications suggest the international donors will yet again pledge increased figures of aid, and

that the government will yet again fail to meet key indicators for better governance. Global Witness is proposing a new model: one geared towards enabling Cambodia to harness its own resources for development, rather than continuing this cycle of corruption-fuelled aid dependency.

Instead of viewing this year as 'business as usual', the country's donors could implement aid-giving based on the principles of mutual accountability, state responsibility to protect its citizens and a shared commitment to use development aid effectively. Donors could focus on creating an enabling environment in which national-level civil society can begin to call their government to account by establishing robust, targeted and measurable indicators to ensure that the country's natural resource wealth is used for development. And in the following years, donor commitments to provide development assistance could follow, not lead, demonstrable progress in implementing these measures to achieve better governance in the sand sector, and natural resources as a whole.

7. RECOMMENDATIONS

The Royal Government of Cambodia should:

1. Immediately suspend all export-orientated sand exploitation activities. Review all licences in accordance with Cambodian law, through an independent working group representing involved ministries and affected communities.
2. Review the licensing system in order that re-issued licences for continued exploitation and export, and new licences, are only granted if companies can prove they:
 - Are operating in compliance with Cambodian national legislation, including regular, open and independent inspection by a public agency;
 - Have completed an Environmental Impact Assessment in accordance with the law, with public participation and developed an Environmental Management Plan, including measures to prevent against impacts to environmentally sensitive habitats and local people, in line with international best practice;
 - Publicly release information on their beneficial owners, their sources of funds, their track record in the industry, their proven technical and financial ability to exploit any dredging rights that are offered, their ability to mitigate against negative environmental and socio-economic impacts, and possession of funds to address any damage incurred.
3. Take immediate steps to ensure transparency in this re-issuing and future allocation of sand mining concessions:
 - Award sand exploration and export rights in open and competitive bidding, making the pre-qualification criteria available to the public;
 - Publish all contracts for sand exploration and export and the full details of successful and unsuccessful bids, before the contract comes into force.
4. Ensure full and continued disclosure of information concerning the exploitation of sand deposits as a public asset. Information available to the public should include:
 - Size, location and nature of deposits;
 - Name of the operator and any partners and/or subcontractors of each concession/licence;
 - Details of any commitments made in return for being awarded the rights.
5. Ensure transparent management of revenues generated from sand exploitation and export:
 - Publish information on signature bonuses and other one-off payments made by companies to the government of Cambodia, make these payments into a single government bank account which is independently audited;
 - Make regular payments relating to resource extraction (including royalties, taxes and tariffs) into bona fide government accounts which are independently audited;
 - The results of both audits must be made available to the public in a disaggregated form.
6. Conduct a full review of the legal framework governing the exploitation of sand, including environmental regulations. Adopt the *Precautionary Principle* as the basis for managing natural resource exploitation.
7. Replace the *Decision Concerning the Limiting of Sand Trafficking* with a Sub-decree which sets out the technical requirements of granting, reviewing and revoking licences for exploiting sand and is comprehensively aligned with the Mining, Environment and Water Resources Laws. Ensure this is done through inter-ministerial discussions, involving civil society consultation and that the final text includes:
 - Clarification of the circumstances in which dredging can take place in fresh-water, in marine waters and for export, specifying measures to protect environmentally sensitive habitats;
 - Technical and environmental requirements for all types of dredging, with all terms defined in a comprehensive glossary;
 - Responsibilities of various authorities, the procedures that must be followed in assessing the company's capacity to conduct

operations properly and whether or not the proposed activities are in line with the law, and penalties for violations;

- Procedures for re-inspection of existing contracts, including those for bringing operations in line with regulations.
8. Clarify the role of the Sand Trafficking Committee and its responsibilities in relation to other agencies involved in sand exploitation and export, and ensure that it can act as an independent agency to fulfil its objectives.
 9. Provide compensation to the local people affected by sand dredging activities, in accordance with Cambodian national law and international best practice.

The government of Singapore should:

1. Suspend all imports of sand from Cambodia and review all related contracts to address the concerns raised in this report.
2. Undertake an audit of all payments made by Singapore government entities or Singaporean companies for Cambodian sand imports. Ensure full transparency and disclosure of any future payments by Singaporean companies for Cambodian sand to ensure that the correct money reaches the Cambodian treasury.
3. Use its position as a regional leader in environmental management to make an example of the sand trade, demand that raw materials be internationally sustainably sourced, and explore how the Southeast Asian region can address sustainable raw material management.
4. Put in place guidelines for sustainable sourcing of raw materials from outside of its national boundaries, which are in compliance with international industry dredging best practice guidelines, as described on page 25.
5. Revise the Building and Construction Authority (Amendment) Bill (2009), the BCA Test Requirements for Imported Coarse and Fine Aggregates (June 2009), the Regulation of Imports and Exports Act (1995, revised) and other legal frameworks to stipulate that imports of aggregates are:
 - Extracted and exported within the laws of the source country;
 - Not sourced from companies in the host country which are alleged to have been involved in illegal activities, specifically

corrupt practices and violations of human rights;

- Subject to EIAs and comprehensive Environmental Management Plans, taking specific note of environmentally sensitive areas and local livelihoods, accordance with international best practice;
 - Subject to scrutiny through independent inspection to ensure company compliance with these regulations.
6. Make public the details of sand deals and payments made between agencies of the Singapore government and any other sovereign nations.

Cambodia's international donors should:

Immediately:

1. Require the government to undertake the recommendations for the sand sector outlined above within reform programmes agreed upon at the CDCF meeting in June 2010.
2. Integrate and coordinate the donor aid agenda for reform in the extractive industries sectors, focusing on sand. In particular, donors should ensure that the Public Financial Management Reform Programme takes account of the sand sector to ensure that royalties, taxes and other revenues generated from the sand dredging and export industries are reaching the national treasury.
3. Build the capacity of all government agencies and departments involved in Cambodia's sand sector to ensure that their mandates and responsibilities are aligned and they are able to fulfill their roles.
4. International donors who have programmes which are directly involved with or affected by the sand sector (such as the Natural Resource Management and Livelihoods Programme, funded by the governments of the UK, New Zealand and Denmark; the support of the FAO to fisheries livelihoods; and a programme to promote maritime trade and port building funded by the Japanese government²⁰⁰) must take steps to make the reforms outlined above a condition for future disbursements.

During 2010:

1. Commission joint political-economy analyses on Cambodia. Based on these findings, donors should jointly consult with civil society and the government to develop a shared set of specific, measurable and targeted benchmarks against

which to measure progress in the sand sector, natural resource sector and governance sectors more widely.

2. Coordinate to introduce a model of performance-based development assistance in Cambodia. The foundation of this should be a new mutual 'contract' agreement between donors and the Cambodian government. Aid disbursal should be contingent on meeting benchmarks for improved governance.
3. Acknowledge that donor aid is only one way in which donor governments can encourage development. Government policies outside of development agencies (such as trade, consular matters, and financial regulations) play a crucial role. This should be explicitly acknowledged and addressed to provide coherence in donor development policies. For example, donor governments should require their extractive companies to publish details of payments to host governments; should deny visas to foreign officials against whom there is credible evidence of corruption (as the U.S. currently does); and ensure that their anti-money laundering laws are rigorously enforced in order to prevent the banks they regulate facilitating corruption by accepting corruptly-acquired funds.

Companies operating in Cambodia's sand

sector should:

1. Review operations in collaboration with relevant Cambodian and Singaporean government agencies to ensure compliance with Cambodian and Singapore legislation, specifically to:
 - Investigate the concerns outlined in this report and take measures to address them accordingly;
 - Ensure plans for managing environmental and socio-economic negative impacts are consistent with international best practice and implemented;
 - Compensate local people negatively affected by sand dredging activities, in accordance with Cambodian national law and international best practice.
2. Ensure full and continued disclosure of information concerning existing and future management of sand as a public asset, including deposits, the operator and any partners of each concession / licence, its size and location, details of any commitments made in return for being awarded the rights, volumes extracted and sold, royalties and taxes paid, and profits generated.

ENDNOTES

- 1 CIA, 'The World Factbook', <https://www.cia.gov/library/publications/the-world-factbook/geos/sn.html> (last accessed 7 April 2010); US Census Bureau, 'Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2000 to July 1, 2009', <http://www.census.gov/popest/states/tables/NST-EST2009-01.xls>, (last accessed 7 April 2010).
- 2 This report is available at http://www.globalwitness.org/media_library_detail.php/713/en/country_for_sale.
- 3 Ministry of Economy and Finance, 'Tableau des Opérations Financières de l'Etat', non-tax revenue from mining concessions, 2006.
- 4 Interview with sand workers, 2008; MIME, Open pit and quarry licence for the L.Y.P. Group Co Ltd, 15 August 2008.
- 5 Interview with sand workers, 2008; government of Singapore, 'Yearbook of Statistics', 2008, p. 17, <http://www.singstat.gov.sg/pubn/reference/yos/statsT-prices.pdf> (last accessed 2 December 2008).
- 6 This peaked in 2008 with pledges to provide nearly US\$1 billion in aid, Royal Government of Cambodia, 'Development Cooperation Programs', http://www.cdc-crdb.gov.kh/cdc/Donor_Development_Cooperation_Programs/Australia/High_Level_Consultation_2009/APPR_en.pdf (last accessed 7 April 2010); Heng Reaksmeay, 'Cambodia Awarded Nearly \$1 Billion in Aid', VOA Khmer, 5 December 2008.
- 7 A table documenting this was provided on page 56 and 57 of *Country for Sale* and is available at http://www.globalwitness.org/media_library_detail.php/859/en/global_witness_submission_to_the_european_commisso.
- 8 Bethany Lindsay and Phorn Bopha, 'Dredging ban draws Global Witness support', Cambodia Weekly, 9 to 15 May 2009; Vong Sokheng 'Hun Sen again calls for sand export ban, study of impacts', Phnom Penh Post, 2 July 2009.
- 9 Interview with industry sources, 2009.
- 10 Full references for this are given in the relevant sections below.
- 11 MoWRAM, In-principle Approval Agreement for the L.Y.P. Group Co Ltd, 24 July 2009.
- 12 MIME, Open pit and quarry licence for the L.Y.P. Group Co Ltd, 15 August 2008.
- 13 MoWRAM, In-principle Approval Agreement for the L.Y.P. Group Co Ltd, 24 July 2009; H.E. Kim Lean Hour, Minister for Water Resources and Meteorology interview on Cambodian Television Network, October 2009.
- 14 Interview with representative of Koh Kong Provincial Authorities, 2009.
- 15 Interview with sand worker, 2009.
- 16 Royal Government of Cambodia, 2009, Decision Concerning the Limiting of Sand Trafficking, 9 May 2009 (No. 4SSR), unofficial English translation. This title and the analysis of the content of the Sand Trafficking Decision below is based on an unofficial English translation of the Khmer version.
- 17 Interview with industry source, 2009; Royal Government of Cambodia website 'Invest in Cambodia', <http://www.investincambodia.com/minerals.htm> (last accessed 9 April 2010); Credit Report on L.Y.P. Group Co Ltd from Commercial Intelligence S.E. Asia PTE Ltd, 29 January 2010; Sebastian Strangio and Vong Sokheng, 'Sand mining spikes in Koh Kong Estuaries', Phnom Penh Post, 10 March 2009.
- 18 Winton Enterprises Limited companies search on ICRIS CSC Companies Registry, The government of the Hong Kong Special Administrative Region, 8 January 2010.
- 19 People profile search on Singapore's Accounting and Corporate Regulatory Authority Bizfile, 20 January 2010; Camb Resources PTE Ltd registration details on Singapore's Building and Construction Authority website: <http://dir.bca.gov.sg/bca/CompanyDetail.asp?CoType=All&ID=200820696K> (last accessed 13 March 2010).
- 20 http://www.bca.gov.sg/AboutUs/about_bca.html (last accessed 21 April 2010) and <http://dir.bca.gov.sg/bca/overview.htm> (last accessed 24 February 2010).
- 21 Building and Construction Authority, June 2009, Registration Requirements for Supply Workheads, available at: http://www.bca.gov.sg/ContractorsRegistry/others/Registration_SY.pdf (last accessed 22 March 2010).
- 22 Interviews with industry sources, 2008 and 2009.
- 23 JTC and MTI Website, <http://app.mti.gov.sg/default.asp?id=100> (last accessed 22 March 2010); Interview with industry source, 2009.
- 24 Email to Global Witness received from the Ministry of National Development of the government of Singapore, 21 April 2010.
- 25 Riverton Group PTE Ltd registration details on Singapore's Building and Construction Authority website: <http://dir.bca.gov.sg/bca/CompanyDetail.asp?CoType=All&ID=200604751C> (last accessed 7 April 2010); Riverton Group PTE Ltd company profile on Singapore's Accounting and Corporate Regulatory Authority Bizfile, 8 January 2010.
- 26 Photographs taken by Global Witness in 2009.
- 27 Email correspondence with company representatives, 2010; Receipt of payment by Ta Chang Selindo Cambodia Co Ltd, 10 November 2009; Setsco sand quality test report for Cambodian Ta Tai river sand, 1 September 2009; Da Chang Construction Décor Co Ltd address registered in Cambodia's yellow pages: <http://www.yellowpages-cambodia.com/construction/construction-contractors-consultants-and-management/da-chang-construction-decor-co-ltd-19345.html> (last accessed 13 March 2010); Selindo Global (S) PTE Ltd company profile on Singapore's Accounting and Corporate Regulatory Authority Bizfile, 6 February 2010.
- 28 Email correspondence with company representatives 2010; Song and Song Resources PTE Ltd company profile on Singapore's Accounting and Corporate Regulatory Authority Bizfile, 4 March 2010; Song and Song Resources PTE Ltd registration details on Singapore's Building and Construction Authority website: <http://dir.bca.gov.sg/bca/CompanyDetail.asp?CoType=All&ID=200710432N> (last accessed 13 March 2010).
- 29 Email correspondence with company representatives 2010; Song and Song Resources PTE Ltd company profile on Singapore's Accounting and Corporate Regulatory Authority Bizfile, 4 March 2010; Song and Song Resources PTE Ltd registration details on Singapore's Building and Construction Authority website: <http://dir.bca.gov.sg/bca/CompanyDetail.asp?CoType=All&ID=200710432N> (last accessed 13 March 2010).
- 30 Figure obtained by adding up the total export amount in the following documents: Cargo Manifest 15 November 2009 between L.Y.P. Group and Teleek Management PTE Ltd for 3,200MT; Cargo Manifest 17 November 2009 between L.Y.P. Group and Wan Qi PTE Ltd for 3,200MT; Bill of Lading, 21 November 2009 between L.Y.P. Group and Wan Qi PTE Ltd for 8,036MT; Bill of Lading, 22 November 2009 between L.Y.P. Group and Wan Qi PTE Ltd for 6,600MT; and Bill of Lading, 17 November 2009 between L.Y.P. Group and Jui Zhou Shipping Ltd for 56,200MT.
- 31 Teleek Resource Management PTE Ltd company profile on

- Singapore's Accounting and Corporate Regulatory Authority Bizfile, 14 January 2010. There are no other companies in Singapore with the same name.
- 32 Wan Qi PTE Ltd registration details on Singapore's Building and Construction Authority website: <http://dir.bca.gov.sg/bca/CompanyDetail.asp?CoType=All&ID=200711368E> (last accessed 13 March 2010).
- 33 Cargo manifest between L.Y.P. Group Co Ltd and Wan Qi PTE Ltd dated 17 November 2009.
- 34 Photographs taken in November 2009.
- 35 Ship movements tracked on Lloyds List Intelligence Database (last accessed February 2010).
- 36 Photographs taken in November 2009.
- 37 Ship movements tracked on Lloyds List Intelligence Database (last accessed February 2010).
- 38 Receipt of payment by Ta Chang Selindo Cambodia Co Ltd, 10 November 2009; correspondence between Global Witness and companies in 2009 and 2010.
- 39 Ministry of Economics and Finance, Ministry of Industry, Mines and Energy 'Inter-Ministerial Prakas About Setting Fees of Registration, Application Form (Fee of License) Renewal, Transfer of Mineral Resource License, Annual Land Rental in Concession Areas for Mineral Exploration and / or Exploration and Royalty on Mineral Resources' 27 March 2009.
- 40 As documented in 18 reports written by Global Witness on Cambodia's failed governance of its natural resources, since 1995, available for download at: http://www.globalwitness.org/media_library.php
- 41 Economic land concessions: MAFF, profile of Koh Kong Plantation Company Ltd, <http://www.maff.gov.kh/elc/comprofiles/kkplantation.html> (last accessed 9 December 2008); MAFF, profile of Koh Kong Sugar Company Ltd, <http://www.maff.gov.kh/elc/comprofiles/kksugar.html> (accessed 9 December 2008); 'Cambodian military police mobilised to protect land concession of ruling party Senator', Licadho, 8 February 2007, <http://www.licadho.org/articles/20070208/51/index.html> (last accessed 1 December 2008); Kang Kallyan, 'Des familles de Koh Kong manifestent', *Cambodge Soir*, 8 March 2007. Permits to build and operate casinos: Personal communication with an official, 2007; Personal communication with a member of Cambodia's business community; Agence France Presse, 'Cambodia maps out plan to lure tourists to Khmer Rouge sites,' 13 April, 2005, <http://www.fourelphants.com/travel.php?sid=286> (last accessed 19 April 2010); Phnom Penh Hotel website, <http://www.phnompenhhotel.com/recreation.php> (last accessed 19 April 2010); Koh Kong International Resort Club website, <http://www.kohkonginter.com> (last accessed 19 April 2010); Permit to build and operate a port: Hun Sen, 'Inaugurating a Zoo in Koh Kong Province', *Cambodia New Vision*, Issue 60, January 2003, http://209.85.135.104/search?q=cache:X5MqLtCiV_MJ:www.cnv.org.kh/cnv_html_pdf/cnv_60.pdf+ly+yong+phat&hl=en&gl=uk&ct=clnk&cd=10; Personal communications with a researcher, 2006 and 2007; Contract to construct/renovate roads: DFDL 'Weekly Law Update', 18 February 2003, http://66.102.9.104/search?q=cache:1uy_LFIJ9QIJ:www.dfdl.com.kh/pdf/03Feb18sem1_weely_law_update.pdf+ports+cambodia+Ly+Yong+Phat&hl=en&ct=clnk&cd=8&gl=uk. Contract to construct a bridge: Ek Madra (Reuters), 'Cambodia's 'Wild West' poised on a bridge between two eras,' *The Philadelphia Inquirer*, 16 June 2002; Hun Sen, 'Address to the inauguration of Spien Koh Kong over the Koh Pao Canal in Koh Kong Province', 4 April 2002, www.cnv.org.kh/2002_releases/040402_kohkong_bridge_bot.htm; Contracts to generate/distribute electrical power: Electricity Authority of Cambodia, 'Generation Licence for providing electric power generation service at Phnom Penh', 31 May 2006, http://www.eac.gov.kh/pdf/licences/generation/LD_CEP_per cent20_08-6-06_en.pdf; Electricity Authority of Cambodia, 'Distribution licence for providing electric power distribution service at provincial town of Koh Kong and Osmarch town, Khum Osmarch, Samrong District, Oddor Meanchey Province - Duty Free Shop Co Ltd', 22 November 2002, http://www.eac.gov.kh/pdf/licences/distribute/dutyfreeshop_eng.pdf; Electricity Authority of Cambodia, 'Report on Power Sector of the Kingdom of Cambodia for the year 2003', October 2004, http://www.eac.gov.kh/pdf/report/Annual_per cent20Report_per cent202003_Eg.pdf; Sits on board of the Cambodian Red Cross: Cambodian Red Cross, 'CRC has a new governing board and a new Secretary General', August 2006, http://www.redcross.org.kh/english/event2006_4thGA.asp; Licadho, 'Cambodian military police mobilised to protect land concession of ruling party Senator', 8 February 2007, <http://www.licadho.org/articles/20070208/51/index.html>; Asian Human Rights Commission Hong Kong, Urgent appeal, 'Two villagers shot and several injured during the illegal forced eviction in Koh Kong', <http://www.ahrchk.net/ua/mainfile.php/2006/1998/> (all last accessed 10 December 2008); Licadho, 'Civil Society Condemn Judicial Tactics Used Against Community Representatives in Kompong Speu', 28 March 2010.
- 42 Phorn Bopha and Julia Wallace 'Businesses Tie Official Knot with Military' *Cambodia Daily*, 26 February 2010; James O'Toole and Lim Phalla 'Document shows ties among RCAF, Government and Private Sector', *Phnom Penh Post*, 4 March 2010.
- 43 'Global Witness urges Cambodia's donors to condemn sponsorship of military units by private businesses', *Global Witness*, 5 March 2010 available for download at: http://www.globalwitness.org/media_library_detail.php/935/en/global_witness_urges_cambodias_donors_to_condemn_s
- 44 Kuch Naren "Hundreds surround Kompong Speu Court as 2 protestors jailed", *Cambodia Daily*, 25 March 2010.
- 45 Photographs taken in November 2009.
- 46 MIME, Open pit and quarry licence for the Mong Reththy Group Co Ltd, 1 September 2009.
- 47 MoWRAM, In-principle Approval Agreement for the Mong Reththy Group Co Ltd, 28 August 2009.
- 48 Interviews during 2009.
- 49 http://www.mongreththy.com/index.php?page=mong_reththy_group (last accessed 7 April 2010).
- 50 This report is available here: http://www.globalwitness.org/media_library_detail.php/546/en/cambodias_family_trees
- 51 Ministry of Agriculture, Forestry and Fisheries, profile of Green Sea Agriculture Co Ltd, owned by Mr Mong Reththy: <http://www.elc.maff.gov.kh/comprofiles/stgsea.html> (last accessed 12 April 2011); Kay Kimsong, 'Tycoon, Thai Billionaire plan \$50 million sugar plantation', *Cambodia Daily*, 18 July 2006; Mong Reththy Group website, <http://www.mongreththy.com/mongreththy> and http://www.mongreththy.com/index.php?page=samnang_khmeng_wat (both last accessed on 12 April 2010); MAFF, profile of Mong Reththy Investment Oil Palm Cambodia Co, Ltd, <http://www.maff.gov.kh/elc/comprofiles/svillemr1.html> (last accessed 12 April 2010); MAFF, profile of Mong Reththy Investment Cassava Cambodia Co, Ltd, <http://www.maff.gov.kh/elc/comprofiles/svillemr2.html> (last accessed 12 April 2010); Miloon Kothari, 'Report of the Special Rapporteur on adequate housing as a component of the right to an adequate standard of living', UN Commission on Human Rights, Economic and Social Council, 21 March 2006, <http://www.unhcr.org/refworld/publisher,UNCHR,,KHM,45377b230,0.html> (last accessed 12 April 2010); Mong Reththy Group website, http://www.mongreththy.com/index.php?page=Oknha_Mong_Port (last accessed 12 April 2010); China-ASEAN business and investment summit, list of participants, <http://www.cabiforum.org/foreign.html> (last accessed 12 April 2010); Kheang Un, 'Politics, Power and Hybrid Democracy', *Asian Perspective*, Vol. 29, No. 2, 2005. p. 226.
- 52 Miloon Kothari, 'Report of the Special Rapporteur on adequate housing as a component of the right to an adequate standard of living', UN Commission on Human Rights, Economic and Social Council, 21 March 2006, <http://www.unhcr.org/refworld/publisher,UNCHR,,KHM,45377b230,0.html> (last accessed 12 April 2010).
- 53 MAFF, profile of Green Sea Agriculture Co Ltd, owned by Mr Mong Reththy: <http://www.elc.maff.gov.kh/comprofiles/stgsea.html> (last accessed 12 April 2010).

- 54 Phorn Bopha and Julia Wallace 'Businesses Tie Official Knot with Military' Cambodia Daily, 26 February 2010; James O'Toole and Lim Phalla 'Document shows ties among RCAF, Government and Private Sector', Phnom Penh Post 4 March 2010.
- 55 Interview with provincial authorities, 2009; Map of Mong Reththy concession site with arrow indicating transportation to Singapore.
- 56 MoWRAM, In-principle Approval Agreement for the Mong Reththy Group Co Ltd, 28 August 2009; MIME, Open pit and quarry licence for the Mong Reththy Group Co Ltd, 1 September 2009 downloaded from the following website: <http://www.quoqlong.com/en.htm> (last accessed 7 April 2010).
- 57 Email to Global Witness received from the Ministry of National Development of the Government of Singapore, 21 April 2010.
- 58 Email correspondence with company representatives, 2009 and 2010.
- 59 Admaterials Technologies PTE Ltd test report, 25 September 2009, Job Reference ADM/09/2187(A); CPG Laboratories test report 28 September 2009, Job Reference G/09/1839.
- 60 Power of Attorney agreement between L.Y.P Group to Nim Meng Import Export Co Ltd <http://www.quoqlong.com/site/license/att%201.jpg> (last accessed 7 April 2010) and Power of Attorney agreement between Nim Meng Import Export Co Ltd and Quoc Long Import Export and Contraction Co Ltd <http://www.quoqlong.com/site/images/attorney%20QL%20Eng.jpg> (last accessed 7 April 2010).
- 61 <http://www.chodansinh.net/index.php?page=viewspdt&scid=21997> (last accessed 7 April 2010).
- 62 Royal Government of Cambodia Sub-decree dated 11 February 2009; Interviews with a Brigade 70 officer, 2004 and 2005; Interviews with an associate of Hak Mao, a member of Brigade 70, 2005 and 2006; Interviews with workers at Okhna Mong Port and local residents, 2005; Interview with a local resident near to Okhna Mong Port, 2004; Okhna Mong Reththy is listed as being the Chairman of the executive Committee of the Okhna Mong Port Co. Ltd on the Mong Reththy Group's website: http://www.mongreththy.com/index.php?page=Okhna_Mong_Port (last accessed 15 April 2010).
- 63 Royal Decree No. 780 Po.Ro.Lo., 28 June 2008.
- 64 Email correspondence between Global Witness and the Mong Reththy Company, 2 April 2010 and 7 April 2010.
- 65 MIME Open pit and quarry licence for Udom Seima Peanikch Industry and Mine Co. Ltd, 28 April 2009; MIME Open pit and quarry licence for Udom Seima Peanikch Industry and Mine Co Ltd, 23 October 2009.
- 66 MoWRAM In-principle Approval Agreement for Udom Seima Peanikch Industry and Mine Co Ltd, 31 July 2009.
- 67 Ibid.
- 68 Field investigations, 2009.
- 69 Udom Seima Peanikch Industry and Mine PTE Ltd company profile on Singapore's Accounting and Corporate Regulatory Authority Bizfile, 28 January 2010.
- 70 Royal Decree No 381, appointment of Eat Bunthol and Eat Seima as "Okhna" by Prime Minister Hun Sen, 13 April 2009.
- 71 Cheang Sokha and Sebastian Strangio 'Govt rejects dredging claims', Phnom Penh Post, 27 October 2009.
- 72 MoWRAM In-principle Approval Agreement for Intertrans Co Ltd, 28 August 2009.
- 73 MoWRAM In-principle Approval Agreement for K.T.A. Import Export & Development Co Ltd, 15 September 2009.
- 74 Email communication with representatives of affiliated companies, 2009 and 2010.
- 75 Registration of Keo Tha Import Export & Development (K.T.A.) Co Ltd with the Ministry of Cambodia, Royal government of Cambodia, 7 February 2007; Vong Sokheng and Sebastian Strangio "Dredging Operations Descend on Kampot", Phnom Penh Post, 11 November 2009.
- 76 Field investigations, 2009; MoWRAM In-principle Approval Agreement for K.T.A. Import Export & Development Co Ltd, 15 September 2009.
- 77 Invest in Cambodia website, minerals sub-page. <http://www.investincambodia.com/minerals.htm> (last accessed 9 April 2010).
- 78 Ibid.
- 79 UN Statistics Division Commodity Trade Statistics Database, queried for import of commodity 2505 ('Natural sands of all kinds'), from Cambodia to Singapore in 2008. <http://comtrade.un.org/db/dqBasicQueryResults.aspx?px=HS&cc=2505&r=702&p=116&rg=1&y=2008&so=8> (last accessed 9 April 2010).
- 80 Field investigations, 2009.
- 81 Documents seen by Global Witness: Cargo Manifest 15 November 2009 between L.Y.P. Group and Teleek Management PTE Ltd for 3,200MT; Cargo Manifest 17 November 2009 between L.Y.P. Group and Wan Qi PTE Ltd for 3,200MT; Bill of Lading, 21 November 2009 between L.Y.P Group and Wan Qi PTE Ltd for 8,036MT; Bill of Lading, 22 November 2009 between L.Y.P Group and Wan Qi PTE Ltd for 6,600MT; and Bill of Lading, 17 November 2009 between L.Y.P. Group and Jui Zhou Shipping Ltd for 56,200MT.
- 82 Cambodian Ministry of Interior document concerning the Prek Thmor Rieng dredging area, Koh Kong Province, document date omitted.
- 83 Admaterials Technologies PTE Ltd test report, 25 September 2009, Job Reference ADM/09/2187(A).
- 84 Extraction licences issued by MIME to the Udom Seima Peanikch Industry and Mine Co Ltd, 28 April 2009 and 23 October 2009.
- 85 Cambodian Ministry of Interior document concerning the Prek Thmor Rieng dredging area, Koh Kong Province, document date omitted.
- 86 Interview with an industry source, 2009.
- 87 Email correspondence with sand sellers claiming to be able to guarantee 12 months steady supply of sand from Cambodia, 19 January 2010.
- 88 Inter-Ministerial Prakas About Setting of Fees Of Registration, Application Form (Fee of license) Renewal, Transfer of Mineral Resource License, Annual Land Rental in Concession Areas for Mineral Exploration and/or Exploitation and Royalty on Mineral Resources, dated 27th March 2009, between the offices of the Deputy Prime Minister, the Minister of Economy and Finance, and the Minister if Industry, Mines and Energy.
- 89 UNEP. 2008. National Reports on Seagrass in the South China Sea. UNEP/GEF/SCS Technical Publication No. 12, pages 1 and 2.
- 90 Ibid, pages 2 and 3.
- 91 UNEP. 2004. Seagrass in the South China Sea. UNEP/GEF/SCS Technical Publication No. 3, page 4.
- 92 Ibid, page 3; UNEP. 2008. National Reports on Seagrass in the South China Sea. UNEP/GEF/SCS Technical Publication No. 12, page 3.
- 93 Bock, J. 2006. "The Status of Seagrass Beds in Chrouy Pros Bay, Cambodia and their Relation to Declines in a Community Fishery", Masters of Resource and Environmental Studies, Dalhousie University, Canada.
- 94 UNEP. 2004. Seagrass in the South China Sea. UNEP/GEF/SCS Technical Publication No. 3, page 1.
- 95 Costanza, R., d'Arge, R., de Groot, R., Farber, S., Grasso, M., Hannon, B., Naem, S., Limburg, K., Paruelo, J., O'Neill, R.V., Raskin, R., Sutton, P., and van den Belt, M., 'The value of the world's ecosystem services and natural capital' Nature, 1997, pp. 253-260.
- 96 UNEP, 'Seagrass in the South China Sea', UNEP/GEF/SCS Technical Publication No. 3, 2004, p. 7.

- 97 Ramsar Secretariat, Information Sheet on Ramsar Wetlands: Koh Kapik and Associated Islets, page 2; Mangrove Action project 'Cambodian Mangroves' 18 June 2008, available for download at: http://mangroveactionproject.org/news/current_headlines/cambodian-mangroves/?searchterm=koh (last accessed on 8 April 2010).
- 98 UNEP, 'National Reports on Seagrass in the South China Sea', UNEP/GEF/SCS Technical Publication No. 12, 2008, p. 3; UNEP, 'Seagrass in the South China Sea', UNEP/GEF/SCS Technical Publication No. 3, 2004, pp. 2 to 6; B. Long, 'The Hairy-Nosed Otter (*Lutra sumatrana*) in Cambodia', IUCN Otter Spec. Group Bull, 17(2), 2000, p. 91.
- 99 B. Long, 'The Hairy-Nosed Otter (*Lutra sumatrana*) in Cambodia', IUCN Otter Spec. Group Bull, 17(2), 2000; J Daltry and C Traeholt, 'Biodiversity Assessment of the Southern Cardamoms and Botum Sakor Peninsula: Final report on surveys carried out during the 2002-2003 dry season', WildAid, 2003.
- 100 Ministry of Agriculture, Forestry and Fisheries, Fisheries Administration, 'National Action Plan for Coral Reef and Seagrass Management', 2006-2015, p. 1.
- 101 Field investigations, 2009.
- 102 MoWRAM In-principle Approval Agreement for Intertrans Co Ltd, 28 August 2009; Field investigations, November 2009; Vong Sokhen and Sebastian Strangio "Dredging Operations Descend on Kampot", 11 November 2009.
- 103 Supriharyono, 'Effects of Sand Mining on Coral Reefs in Riau Islands' Journal of Coastal Development, Volume 7, Number 2, February 2004, pp. 89-100; PIANC, 'Dredging and Port Construction Around Coral Reefs', Report of Working Group 15 of the Environmental Commission, Updated Draft Final, January 2010, p. 2.
- 104 Royal Government of Cambodia, 'National Action Plan for Seagrass and Coral Reefs', 2008, pp. 1, 2 & 8; K.Tun et al 'Status of Coral Reefs in SE Asia', 2004, pp. 242; I Beasley and P.J.A. Davidson, 'Conservation status of marine mammals in Cambodian waters, including seven new cetacean records of occurrence,' Aquatic Mammals, 2007, 33(3), pp. 368-279.
- 105 Philippe Sands, 2003 'Principles of international environmental law', 2nd Edition, p. 266.
- 106 Field investigations, 2009.
- 107 Field investigations, 2009; Phan Ana, 'Koh Kong fishermen demand end to sand dredging practice', Cambodia Daily, 22 October 2009; Cheang Sokha and Sebastian Strangio, 'Villagers call for dredging halt', Phnom Penh Post, 22 October 2009.
- 108 Field investigations, 2009.
- 109 Field investigations, 2009.
- 110 Field investigations, 2009.
- 111 Field investigations, 2009.
- 112 Letter from Dep. President of National Assembly Nguoen Nel, and MPs (To Vanchan, Khi Vandeth and Nuth Romduol), 5 November 2009, to Mr Lim Kean Hour, Minister of Water Resources & Meteorology, Re: Intervention to solve the problem for 1,229 families in Daun Tung commune, Koh Kong (unofficial translation).
- 113 Vong Sokheng and Sebastian Strangio 'Fishermen air fresh dredge fears', Phnom Penh Post, 6 January 2010.
- 114 Phan Ana, 'Koh Kong fishermen demand end to sand dredging practice', Cambodia Daily, 22 October 2009.
- 115 Interview with H.E. Lim Kean Hour, Minister for Water Resources & Meteorology on CTN in October 2009 (unofficial transcription).
- 116 Cheang Sokha and Sebastian Strangio 'Govt rejects dredging claims', Phnom Penh Post, 27 October 2009.
- 117 Cheang Sokha and Sebastian Strangio, 'Villagers call for dredging halt', Phnom Penh Post, 22 October 2009.
- 118 Royal Government of Cambodia (1996) Law on Environmental Protection and Natural Resource Management, Articles 6 and 7; Royal Government of Cambodia (1999) Sub-decree on Environmental Impact Assessment Processes, Articles 4, 6, 7 & 8.
- 119 Royal Government of Cambodia (1999) Sub-decree on Environmental Impact Assessment Processes, Articles 1 and 3(b).
- 120 Royal Government of Cambodia (1999) Sub-decree on Environmental Impact Assessment Processes, Articles 6&7 and Index.
- 121 Royal Government of Cambodia (2008) Protected Area Law, Article 11 and Annexes Lexicon, p. 17.
- 122 Ibid, Article 4.
- 123 Ibid, Article 11(3).
- 124 Field investigations, 2009.
- 125 MoWRAM, In-principle Approval Agreement for the L.Y.P. Group Co Ltd, 24 July 2009; MoWRAM, In-principle Approval Agreement for the Mong Reththy Group Do Ltd, 28 August 2009; Council of Ministers and Ministry of Environment In-principle Agreement for the Udom Seima Peanikch Industry and Mine Co Ltd, 3 September 2007.
- 126 A Boyle, 'The Law of the Sea and Protection of the Marine Environment' pp. 678 & 679, in A Boyle and P.W. Birnie, 'International Law and the Environment', 2009.
- 127 Ibid, pp. 666 & 679; United Nations Convention on the Law of the Sea, Articles 1 and 206, available for download at: http://www.un.org/Depts/los/convention_agreements/texts/unclos/closindx.htm (last accessed 8 April 2010).
- 128 Vienna Convention on the Law of the Treaties, 1969, Article 18(b), available for download: http://untreaty.un.org/ilc/texts/instruments/english/conventions/1_1_1969.pdf (last accessed 12 April 2010).
- 129 Party Commitments to the Ramsar Convention (updated on 10/08/2009) http://www.ramsar.org/cda/en/ramsar-about-faqs-what-are-parties/main/ramsar/1-36-37%5E7721_4000_0_ (last accessed 7 April 2010).
- 130 Royal Government of Cambodia, No. 49 So.So.Ro 'Decision Concerning the Limiting of Sand Trafficking', issued 8 May 2009. This title and the analysis of the content of the Sand Trafficking Decision are based on an unofficial English translation of the Khmer version.
- 131 Phorn Bopha, 'Gov't group to ensure dredge halt, officials say', Cambodia Weekly, May 9 to May 15, 2009.
- 132 Sam Rith, 'Hun Sen announces ban on sand exports', Phnom Penh Post, 11 May 2009.
- 133 <http://wildsingaporenews.blogspot.com/2009/05/no-sand-crisis-after-cambodia-bans.html> (last accessed, 7 April 2010)
- 134 Royal Government of Cambodia, No. 49 So.So.Ro. 'Decision Concerning the Limiting of Sand Trafficking', issued 8 May 2009.
- 135 Royal Government of Cambodia, 'Decision on the Establishment of Commission of Sand Resource Management', 2006 unofficial English translation, Article 2.
- 136 Ibid, Article 1.
- 137 Royal Government of Cambodia, No. 49 So.So.Ro. 'Decision Concerning the Limiting of Sand Trafficking', issued 8 May 2009, Article 3.
- 138 P.L.A. Ertemeijer, et al., 'Environmental Impacts of dredging on Seagrasses: A Review', Marine Pollution Bulletin, Vol 52, Issue12, December 2006, pp. 1553-1572; I.M. Al-Madany, et al, 'Coastal Zone Management in Bahrain: an analysis of Social, economic and environmental impacts of dredging and reclamation', Journal of Environmental Management', Vol 32, Issue 4, June 1991, pp. 335-348.
- 139 P.L.A. Ertemeijer, et al., 'Environmental Impacts of dredging on Seagrasses: A Review', Marine Pollution Bulletin, Vol 52, Issue12, December 2006, pp. 1553-1572.

- 140 PIANC, 'Dredging and Port Construction Around Coral Reefs', Report of Working Group 15 of the Environmental Commission, Updated Draft Final, January 2010, pp. 25, 35 - 40; Y.D. Chen et al, 'Behaviours of extreme water level in the Pearl River Delta', *Hydrology and Earth Science Systems Discussions*, 4, 4, 2007, pp. 361-387.
- 141 http://sandpit.wldelft.nl/workpage/right/wp2/dredging_regulation_table.htm (last accessed 3 March 2010); Sand extraction Maasvlakte 2 Project: License, Environmental Impact Assessment and Monitoring. Ad Stolk and Chris Dijkshoorn, Ministry of Transport, 'Public Works and Water Management, Rijkswaterstaat North Sea', p. 3, paragraph 3.
- 142 PIANC, 'Dredging and Port Construction Around Coral Reefs', Report of Working Group 15 of the Environmental Commission, Updated Draft Final, January 2010, pp. 47-48.
- 143 P. B. L. Tamuno, M. D. Smith, G. Howard, 2008, 'Good Dredging Practices: The Place of Traditional Eco-livelihood Knowledge', *Water Resource Manage*, 23, pp.1367-1385; A. Netzband and C. Adnitt, 'Dredging Management Practices for the Environment: a structured selection approach', *Terra et Aqua*, Number 114, 2009, available for download at: http://www.terra-et-aqua.com/dmdocuments/terra114_1.pdf (last accessed 12 April 2010).
- 144 PIANC, 'Dredging and Port Construction Around Coral Reefs', Report of Working Group 15 of the Environmental Commission, Updated Draft Final, January 2010, pages 51 - 53.
- 145 Ronald W. van Oostrum, 'The top 10 mitigating measures for Environmental Friendly Sand Mining, Environmental & Dredging Consultancy', (undated), p. 2.
- 146 PIANC, 'Dredging and Port Construction Around Coral Reefs', Report of Working Group 15 of the Environmental Commission, Updated Draft Final, January 2010, p. 28.
- 147 Ronald W. van Oostrum, 'The top 10 mitigating measures for Environmental Friendly Sand Mining, Environmental & Dredging Consultancy', (undated), p. 2.
- 148 PIANC, 'Dredging and Port Construction Around Coral Reefs', Report of Working Group 15 of the Environmental Commission, Updated Draft Final, January 2010, p.63; Ronald W. van Oostrum, 'The top 10 mitigating measures for Environmental Friendly Sand Mining, Environmental & Dredging Consultancy', (undated).
- 149 PIANC, 'Dredging and Port Construction Around Coral Reefs', Report of Working Group 15 of the Environmental Commission, Updated Draft Final, January 2010 pp. 63 - 69; Ronald W. van Oostrum, 'The top 10 mitigating measures for Environmental Friendly Sand Mining, Environmental & Dredging Consultancy', (undated), p. 3.
- 150 Correspondence between Global Witness and Mr Tim Deere-Jones, March 2010.
- 151 Royal Government of Cambodia, 'National Action Plan for Seagrass and Coral Reefs', 2008, pp. 1, 2 & 8; K. Tun et al., 'Status of Coral Reefs in SE Asia', 2004, p. 242; I Beasley and P.J.A. Davidson, 'Conservation status of marine mammals in Cambodian waters, including seven new cetacean records of occurrence,' *Aquatic Mammals*, 2007, 33(3), pp. 368-279.
- 152 F Moberg and P Ronnback, 'Ecosystem services of the tropical seascape: interactions, substitutions and restoration. Ocean and Coastal Management', 46, 2003, pp. 27-46.
- 153 Tim Deere-Jones, 'A Review of Environmental Assessments and Coastal Impact Studies for the Aggregate and Extraction Proposals at the Hellwick and Nash', April / May 2001, Marine Environment and Pollution Consultant.
- 154 http://www.iadc-dredging.com/index.php?option=com_content&task=view&id=71&Itemid=253 (last accessed 1 April 2010).
- 155 Neou Vannarin and Simon Marks 'River dredging still seen as threat despite ban on exports' *Cambodia Weekly*, 16 to 21 May 2009.
- 156 Email to Global Witness received from the Ministry of National Development of the government of Singapore, 21 April 2010.
- 157 Singapore government, 'Yearbook of Statistics Singapore, 2009, p. 5, available for download at: <http://www.singstat.gov.sg/pubn/reference/yos09/yos2009.pdf> (last accessed 7 April 2010); and 'Land reclamation in Singapore: reasons for land reclamation' available for download at: <http://library.thinkquest.org/C006891/reclamation.html> (last accessed 7 April 2010).
- 158 Meeting between Global Witness and representatives of the Ministry of National Development and the Building and Construction Authority, Singapore government, 19 November 2009.
- 159 Ministry of National Development, 'Final Report on Land Allocation, Concept Plan Review Focus Group Consultations', 2000, p. 5.
- 160 Mr Mah Bow Tan, Minister for National Development, Parliamentary Debate, Official Report, Eleventh Parliament, Sitting Date, 12 February 2007. Available for download at: http://www.parliament.gov.sg/reports/public/hansard/full/20070212/20070212_HR.html (last accessed 8 April 2010).
- 161 Dredging International Land Reclamation Projects in Singapore, Jurong Island Phase 1A (10million m3 sand for 135ha); Jurong Island Phase 2 and Tuas View (102million m3 sand for 812ha); Jurong Island Phase 3B (220million m3 sand for 980ha); Jurong Island Phase 4 and Tuas View Extension (550million m3 sand for 1460ha). Available for download at: <http://www.dredging.com/html/projects.asp?iID=3> (last accessed 8April 2010).
- 162 Industry source 2009; Changi racetrack <http://www.channelnewsasia.com/stories/singaporelocalnews/view/1046079/1.html> (last accessed 8Apr2010); and <http://www.wildsingapore.com/news/20070910/071027-3.htm> (last accessed 8 April 2010); general land reclamation <http://library.thinkquest.org/C006891/reclamation.html> (last accessed 1Apr2010) and 'Concept Plan for Singapore, Exhibition at Urban Redevelopment Authority', November 2009; Marina Bay Sands http://files.shareholder.com/downloads/ABEA-242MDE/853513906x0x352323/ab7c9ad0-c05b-4658-bb79-81a4cb019923/LVS_News_2010_2_23_General_Releases.pdf (last accessed 8 April 2010).
- 163 United Nations Commodity Trade Statistics Database, Singapore imports of sand (code 2505) for 2007 and 2008; World imports of sand for 2008.
- 164 Ibid.
- 165 'Singapore's sand shortage: the hourglass effect', *The Economist*, 8 October 2009.
- 166 Singapore Ministry of National Development/Building Construction Authority Media Release, 'Indonesian Sand Export Ban is Unlikely to Slow Construction in Singapore', 24 January 2007, <http://www.bca.gov.sg/newsroom/others/pr240107.pdf> (last accessed 16 September 2008); Indonesian government, Ministry of Trade to the Republic of Indonesia, 'Regulation number 02/M-DAG/PER/1/2007 about prohibition of export of sand, land and top soil', 22nd January 2007.
- 167 WALHI, 'The Sand's Dredged, the Country's in the Dirt', 27 March 2007, http://www.eng.walhi.or.id/kampanye/tambang/galianc/070327_sand_mining_cu/ (last accessed 16 September 2008); Conversations with Indonesian civil society, 2009.
- 168 Socialist Republic of Vietnam, No. 29/2008/CT-TTG, HL.305b, 'Directive on the enhancement of state management for survey, exploitation, transportation and consumption activities of gravel and sand in the river bed', Hanoi 2 October 2008.
- 169 Royal Government of Cambodia, No. 49 So.So.Ro. 'Decision Concerning the Limiting of Sand Trafficking', issued 8 May 2009.
- 170 Letter from the Government's Office of the Socialist Republic of Vietnam to the Ministry of Construction, Ministry of Finance, Ministry of Resources and Environment, Ministry of Agriculture and Rural Development, and Ministry of Industry and Commerce, 16 November 2009.
- 171 Interview with industry source, 2009; Barney Henderson 'Singapore accused of launching "Sand Wars"', *Telegraph*, 12 February 2010.

- 172 United National Commodity Trade Statistics Database searches.
- 173 United Nations Commodity Trade Statistics Database, China's imports of sand from the world during 2007 and 2008.
- 174 United Nations Commodity Trade Statistics Database, Singapore exports of sand (code 2505) for 2008.
- 175 Email to Global Witness received from the Ministry of National Development of the government of Singapore, 21 April 2010.
- 176 Debated in Parliament on 9 April 2007: http://www.parliament.gov.sg/reports/public/hansard/full/20070409/20070409_HR.html (last accessed 1 Apr 2010); additional debates on general stockpiling of sand are also available: http://www.parliament.gov.sg/reports/public/hansard/full/20070716/20070716_HR.html (last accessed 1 April 2010); http://www.parliament.gov.sg/reports/public/hansard/full/20070521/20070521_HR.html (last accessed 1 April 2010); and http://www.parliament.gov.sg/reports/public/hansard/full/20070212/20070212_HR.html (last accessed 1 April 2010).
- 177 The Housing and Development Board describes itself as 'Singapore's public housing authority and a statutory board under the Ministry of National Development', <http://www.hdb.gov.sg/fi10/fi10320p.nsf/w/AboutUsOurRole?OpenDocument> (last accessed on 12 April 2010).
- 178 Past Tenders and Quotations granted by the Housing and Development Board of the government of Singapore for supplying Basic Building Materials, available for download at: <http://www.gebiz.gov.sg/scripts/main.do?wlsessionid=2hQDDL1BJ2FjCFC901v1rhRxw25kz9Nf9hLgv51sMXID2Npzlr8MD!151825899!2071861805?select=pasttenderId> (last accessed 9 April 2010).
- 179 Housing and Development Board 'Evaluation Criteria' Critical Criteria 1(a) and 1(d), available for download at: http://www.gebiz.gov.sg/scripts/itt_tt/HDB000ETT09000382/05_CS35_EvaluationCriteria.pdf?Area=OPEN&docType=TT&docCode=262135291265211251230209348379218300198302153251311377229231358173304149 (last accessed 1 April 2010); Housing and Development Board 'Specifications: supply of concreting sand to the HDB (Batch 35)' Section 2 - supplementary specifications 2.7.1, available for download at: http://www.gebiz.gov.sg/scripts/itt_tt/HDB000ETT09000382/08_CS35_SupplementarySpec.pdf?Area=OPEN&docType=TT&docCode=262135291265211251230209348379218300198302153251311377229231358173304149 (last accessed 1 April 2010).
- 180 Interviews with industry sources, 2009 and 2010; Contract between JTC and a Singaporean company for supplying sand from May 2008 seen by Global Witness.
- 181 Email to Global Witness received from the Ministry of National Development of the government of Singapore, 21 April 2010.
- 182 Report of the Inter-Ministerial Committee on Sustainable Development to the Singaporean Prime Minister, 8 April 2009, available for download at: <http://app.mewr.gov.sg/data/ImgCont/1299/Letter%20to%20PM.pdf> (last accessed 9 April 2010) which is located on the Ministry of National Development's homepage to the Sustainable Development Blueprint: <http://app.mewr.gov.sg/web/contents/ContentsSSS.aspx?ContId=1299> (last accessed 9 April 2010).
- 183 The introduction to the Sustainable Development Blueprint on the Ministry of National Development's website: <http://app.mewr.gov.sg/web/contents/ContentsSSS.aspx?ContId=1291> (last accessed 9 April 2009).
- 184 National Parks Singapore (2009) 'Conserving our Biodiversity: Singapore's National Biodiversity Strategy and Action Plan', Introduction, Page 3, available for download at: <http://www.nparks.gov.sg/cms/docs/nbc/NPark-booklet-final-4sep.pdf> (last accessed 9 April 2010).
- 185 Website of the World Cities Summit 2010: <http://www.worldcities.com.sg/programme.php> (last accessed 9 April 2010).
- 186 As quoted during a Parliamentary Debate on 12 February 2007: http://www.parliament.gov.sg/reports/public/hansard/full/20070212/20070212_HR.html (last accessed 1 April 2010).
- 187 Email to Global Witness received from the Ministry of National Development of the government of Singapore, 21 April 2010.
- 188 Ibid.
- 189 Regulation of Imports and Exports Act, Chapter 272A, Section 3, Part IV Article 28.1.d(i), 12th February 2010: http://statutes.agc.gov.sg/non_version/cgi-bin/cgi_retrieve.pl?actno=REVED-272A&doctype=REGULATION%20OF%20IMPORTS%20AND%20EXPORTS%20ACT%0A&date=latest&method=part&sl=1 (last accessed 9 April 2010).
- 190 The Building and Construction Authority (Amendment) Bill, Bill 2/2009, available for download at: <http://www.parliament.gov.sg/Publications/090002.pdf> (last accessed 9 April 2010); a press release from the Ministry of National Development announcing the second reading of this Bill, 23 March 2009: <http://www.mnd.gov.sg/newsroom/newsreleases/2009/news23032009.htm> (last accessed 9 April 2010) and http://www.parliament.gov.sg/parlweb/get_highlighted_content.jsp?docID=556904&hlLevel=Terms&links=BUILD,AMEND&hlWords=%20Building%20Amendment%20&hlTitle=&queryOption=1&ref=http://www.parliament.gov.sg:80/reports/public/hansard/full/20090323/20090323_HR.html#1 (last accessed 1 April 2010).
- 191 BCA Test Requirements for Imported Coarse and Fine Aggregates, 8 September 2009, available for download at: www.bca.gov.sg/AggregatesImport/others/test_requirements.pdf (last accessed 8 April 2010).
- 192 Ibid, page 1.
- 193 Ibid, page 1.
- 194 Email to Global Witness received from the Ministry of National Development of the government of Singapore, 21 April 2010.
- 195 Boyle, A 'The Law of the Sea and Protection of the Marine Environment' pages 678 and 679, in Boyle A. and Birnie P.W. (2009) *International Law and the Environment*, 3rd Edition, Oxford University Press, page 678; United Nations Convention on the Law of the Sea, Articles 1, 194, 206 and 235(2), available for download at: http://www.un.org/Depts/los/convention_agreements/texts/unclos/closindx.htm (last accessed 8 April 2010).
- 196 Ibid.
- 197 As reported in the Parliamentary Report of the 16 July 2007: http://www.parliament.gov.sg/reports/public/hansard/section/20070716/20070716_S0007.html (last accessed 9 April 2010).
- 198 Email received from the Ministry of National Development, government of Singapore, 19 March 2010.
- 199 Ministry of Economy and Finance, '2010 Budget Law'; Ministry of Economy and Finance, 'Tableau des Opérations Financières de l'Etat', http://www.mef.gov.kh/documents/shares/publication/tofe/tofe_200909.pdf; CIA, 'The World Factbook Cambodia', <https://www.cia.gov/library/publications/the-world-factbook/geos/cb.html> (both last accessed 7th April 2009).
- 200 Council for the Development of Cambodia ODA Database for projects operating in Koh Kong in 2009: http://cdc.khmer.biz/Reports/reports_by_location_list.asp?initPage=1&OtherProvince=9&status=0 (last accessed 12 April 2010); NZ aid website, <http://www.nzaid.govt.nz/programmes/c-cambodia.html> (last accessed 12 April 2010); DFID website, <http://projects.dfid.gov.uk/ProjectDetails.asp?projcode=107652-101&RecordsPerPage=10&countrySelect=CD-Cambodia&PageNo=3&jsEnabled=true> (last accessed 12 April 2010); JICA website, <https://libportal.jica.go.jp/fmi/xsl/library/Data/PlanInOperation-e/AseanIndochina/Cambodia-e.pdf> (last accessed 12 April 2010).



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References to 'Global Witness' in the report are to Global Witness Limited, a company limited by guarantee and incorporated in England (Company No. 2871809).

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ISBN 978-0-9564574-6-2

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