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State Building, Infrastructure Development and Chinese Energy Projects in Myanmar

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State Building, Infrastructure Development and Chinese Energy Projects in Myanmar

James O'Connor

Introduction

The modern Burmese State¹ has never exerted total and uncontested sovereignty within all its demarcated states. Since independence in 1948, Burma has attempted to extend its control and assert its authority over the whole of a territory bequeathed by the British colonial rulers. Yet, it was only after the 1988 takeover by a new generation of military officers, in response to widespread popular demonstrations, that Myanmar State building projects moved forward substantially, and thus started to assert more State power in the peripheral regions.

The conclusion of ceasefire agreements after 1988 between the newly installed junta and numerous long standing armed groups organized along ethnic lines as well as the growth of diplomatic and economic relations with neighbouring countries contributed to the Myanmar State gaining administrative and military control over a larger portion of its territory, especially peripheral areas characterized by mountainous landscapes, and a low density of non Bamar populations where insurgents had been active for decades.² These regions were not only well

¹ In 1989, one year after coming to power, the new military regime reformed the ancient English designation of the country and toponyms into English. *Burma* and *Burmese* were replaced by *Myanmar*, which can function both as a substantive and an adjective, while *Rangoon* was changed to *Yangon*, *Moulmein* to *Mawlamyine*, etc. The junta stated its desire to "nationalize" names inherited from the colonial period. The regime also asserted that as *Burma* stems from the name of the ethnic majority group (the Bamar), its replacement by *Myanmar* might symbolize its efforts toward ethnic inclusiveness. The United States and the United Kingdom rejected the reforms on the basis since they did not recognize the legality of the current government. The choice between *Burma* and *Myanmar* has thus become politicized, opponents of the junta opting for the former. Interestingly, the country is called *Burma/Myanmar* by the European Union. In French, it is still called *Birmanie* as the Académie Française ruled that French appellation overrules the local one (Japan is called *Japon* and not *Nihon*, for example). In this paper, we use *Myanmar* as this is the designation used in the dominant local language since the country regained its sovereignty.

² According to the 1983 Population Census, the latest one (whose methodology can be contested), the Bamar form the largest ethnic group in Myanmar with 68 per cent of the total population, followed by the Shan (9 per cent) and the

endowed with natural resources – especially precious woods, minerals and gems – they also were situated on or close to the country's borders with China, Thailand and India. Beyond the willingness to extend its outreach and assert its authority, the Myanmar State intended to use these peripheral regions to promote economic development in the country through the exploitation of resources and the opening of border trade in a context of a transition from a socialist to a market-oriented economy that started after 1988. Economic control over these areas was thus a strategic objective within the Myanmar State building project.

Simultaneously, the junta initiated country wide infrastructure development works with a strong focus on transportation (roads, bridges, etc.), sometimes with the support of neighbouring countries. Transportation of goods and people within Myanmar and with Thailand, China and India as well as access to remote areas all improved. Yet, the social consequences of infrastructure works were strongly negative for populations with land confiscation and forced labour being common while little or no attention was paid to environmental considerations.

This paper presents two large scale infrastructure projects in the energy sector currently in their preliminary construction phase in Myanmar; the Myitsone Hydropower Dam project on the Ayeyarwady River in Kachin state and the Oil and Gas Pipelines project that will cross the Myanmar territory from the Gulf of Bengal to the Sino-Myanmar border. These two projects are funded and carried out by Chinese State owned companies and they are the result of official negotiations and agreements between Myanmar and China, whose diplomatic, military and economic relations have developed tremendously over the last 20 years. These two projects epitomize the mutual benefits that cooperation in the infrastructure sector bring about for the two States involved; energy security for China and economic State building projects for the Myanmar regime. These projects also illustrate the social and environmental risks faced to local Myanmar populations.

1 - Infrastructure development in peripheral areas

State penetration within peripheral areas since 1988 has resulted in the limited development of infrastructure with the official objective of bringing “progress and advancement to the national races” that live in these regions under the supervision of a specially created Central Committee for the Progress of the National Races and Border Areas headed by Senior General Than Shwe, head of the ruling junta. According to the Deputy Minister of Foreign Affairs in 2004:

“This is the first time that so much attention has been accorded to the welfare of the national races. In this regard, during the time of the present Government, it has spent more than 500 million dollars to improve the economic, basic infrastructure, education and health conditions. A growing transport network connects the border areas with other parts of the nation. The Government constructed 2812 miles of earthen roads, 1683 miles of gravel roads and 309 miles of tarred roads and upgraded 3030 miles of roads in border areas spending over 27 billion kyats. In addition, a total of 43 large bridges, 661 small bridges and 16 suspension bridges were built in the border areas. [...] Improvement of economic conditions has also generated greater income for the people. Indeed, some of the localities in the border regions even enjoy better facilities than their counterparts in the central parts of the country. Subsequently, the national races today enjoy higher standards of living and better quality of life than ever before”.³

Kayin (7 per cent). *Burma, 1983 Population Census* (Rangoon: Socialist Republic of the Union of Burma, Ministry of Home and Religious Affairs, Immigration and Manpower Dept., 1986).

³ U Khin Maung Win, “Myanmar Roadmap to Democracy: The Way Forward”, paper presented at a seminar on Understanding Myanmar organized by the Myanmar Institute of Strategic and International Studies in Yangon, 27-28 January, 2004, <http://www.burmalibrary.org/docs/KMWroadmap104.htm> [Last accessed summer 2010].

Regarding the military regime's border development policies specifically, Curtis Lambrecht argues that their achievements are grossly overstated and that they contributed little to the welfare of their intended beneficiaries.⁴ Christina Fink writes about the paradoxical increased presence of military forces in ethnic areas since 1988, and the subsequent abuses that, in spite of ceasefires, resulted in extortion, forced displacement and forced labour, notably in relation to the implementation of infrastructure projects.⁵ These abuses have not only been documented by international research and advocacy groups,⁶ but also by local groups made up of various ethnic Myanmar citizens. For instance, the Kachin Development Networking Group (KDNG) found out that between 1992 and 2006, battalions of Tatmadaw - the Myanmar Armed Forces - stationed in Kachin State increased from 26 to 41, resulting in noticeable large-scale land confiscation.⁷ The Kayan Women's Union also recorded the negative impact on the environment and populations as a consequence of the construction of the Upper Paunglaung Dam, a hydropower project funded by Chinese investors aimed at providing the new capital Naypyidaw with electricity.⁸ Still, there are dividends to the "not-quite-peace" that reigns in most peripheral areas, especially if compared with zones where conflict is still ongoing and populations are not only subject to abuses by Tatmadaw forces, but also by ethnic armed groups too.⁹ The development of transport infrastructure that coincided with the legalization of border trade, for instance, offers economic opportunities to a wide range of actors. Some roads leading to border posts with China, Thailand and India have been renovated, often with foreign financial assistance. This, combined with the relative security that reigns on these routes since implementation of ceasefire agreements as well as improved travel conditions, has benefited small and large scale traders engaged in the commerce of various commodities between Myanmar and neighbouring countries.

State building and infrastructure development are not just added benefits for the Myanmar population; they are a required necessity to reach their basic needs. Myanmar has been embroiled in civil war for more than sixty years, and as the military and the State have become indistinguishable, it has refused to address the legitimate concerns of ethnic and political groups that subsequently challenged its claim for supreme authority. Basic infrastructure such as roads and electricity are utterly absent and pose an enormous obstacle to the economic development of a country whose population is gravely impoverished. Part of the problem is the approach adopted by the Myanmar military as well as its foreign partners, primarily China, in the field of infrastructure development.

2 - The Myitsone Dam: Powering Hydroelectricity for China

A series of hydropower dams are currently being constructed on the upper part of the Ayeyarwady River, which crosses the whole Myanmar from the Himalaya Mountains in the north to the fertile Ayeyarwady Delta in the South. Funded by Chinese companies, these dams will be built in Kachin state, a region of Myanmar located between China and India and inhabited partly

⁴ Lambrecht, Curtis W., "Oxymoronic Development: The Military as Benefactor in the Border Regions of Burma", in *Civilizing the Margins. Southeast Asian Government Policies for the Development of Minorities*, Duncan, Christopher R. (ed.), (Singapore: National University of Singapore Press, 2008), pp. 150-181.

⁵ Fink, Christina, "Militarization in Burma's Ethnic States: Causes and Consequences", *Contemporary Politics*, Vol. 14, No. 4, December 2008, pp. 447-462.

⁶ See for instance: Amnesty International, "The Rakhine, Shan and Kachin: Development and Infrastructure Projects", in *The Repression of Ethnic Minority Activists in Myanmar*, February 2010, pp. 47-51.

⁷ Kachin Development Network Group, *Valley of Darkness. Gold Mining and Militarization in Burma's Hugawng Valley*, 2007.

⁸ Kayan's Women Union, *Drowning the Green Ghosts of Kayanland - Impacts of the Upper Paunglaung Dam in Burma*, 2008.

⁹ For information on the situation in conflict areas but also on protection strategies adopted by local populations, see Ashley South, with Martin Perhult and Nils Cartensen, "Self Protection and Survival in southeast Burma", *Humanitarian Exchange*, issue 46, March 2010.

by the Kachin ethnic minority.¹⁰ The Kachin Independence Organization (KIO) fought against the central government from the early 1960s until a ceasefire agreement was reached with the SPDC in 1994. Since then, the Myanmar State has increased its control over Kachin State though the KIO and other ceasefire groups still have authority over a number of "Special Regions".¹¹ One clear objective is to provide hydro powered electricity to China. Moreover, the series of dams, with the Myitsone Dam as a symbolic model, should also contribute to the extension of State control in Kachin state. Consequently, these dams will negatively affect the residing population and push villagers out their land.

2.1 - The Ayeyarwady Myitsone Dam as a Confluence of Chinese Policy Directives

Large-scale infrastructure projects such as the Gas and Oil Pipelines, and the Myitsone Hydropower project, follow the Chinese central government's strategy of building influence through assisting with infrastructure projects in foreign countries where it hopes to build good relations with ruling regimes.¹² Over the past 20 years, China has constructed dams in over 59 countries.¹³ On account of the Chinese diplomatic principle of non-interference in the internal affairs of foreign countries, the Chinese government, through State and joint private-State Chinese enterprises, are ideal investment partners for countries whose democratic credentials are limited as the impact of Chinese Foreign Direct Investments (FDI) are rarely considered on the domestic political stage, unless they somehow impact China. This also means Chinese foreign investors have substantial room to manoeuvre in setting the terms of these investments, such as demanding the sole use of Chinese project engineers and the employment of Chinese labour in the construction of the projects.¹⁴

Countries that receive Chinese hydropower investments often appear to be ideal targets; countries that possess exploitable rivers, an unmet demand for electricity and lacking the capability to exploit existing hydropower opportunities themselves. In many cases, what has kept other countries and companies from investing in these eligible countries are stricter Corporate Social Responsibility (CSR) standards.¹⁵ While Western countries restrict trade with and investment in Myanmar through regimes of sanctions, Chinese companies' investments (including both realized and planned) in hydropower projects alone in Myanmar total over US\$16 billion as of April 2010.¹⁶ However, this does not mean that Chinese CSR standards are non-existent. Recently, enterprises owned by the State Council of the People's Republic of China have been taking into consideration CSR measures in their domestic activities, although it does not appear they are changing their international investment tactics and practices significantly. China's policy

¹⁰ The Kachin represent about 1 per cent of the total population of Myanmar (see *Burma, 1983 Population Census*). Regarding the Kachin ethnic group, see Mandy Sadan, "Decolonizing Kachin: Ethnic Diversity and the Making of an Ethnic Category", in Gravers, Mikael (ed.), *Exploring Ethnic Diversity in Burma* (Copenhagen: NIAS Press, 2007), pp. 34-76.

¹¹ See, for instance, Kachin Development Network Group, *Valley of Darkness. Gold Mining and Militarization in Burma's Hugawng Valley*, 2007.

¹² Kurtlantzick, Joshua, *Charm Offensive: How China's Soft Power is Transforming the World* (New Haven: Yale University Press, 2007), p. 51, pp. 101-102, p. 149; Lancaster, Carol, "The Chinese Aid System", in *Center for Global Development Essays* (Washington, DC: Center for Global Development, 2007), p. 1, pp. 3-4.

¹³ International Rivers, "Dams Building Overseas by Chinese Companies and Financiers", www.internationalrivers.org/files/ChinaOverseasDams_Public.xls [Last accessed summer 2010].

¹⁴ Corkin, Lucy, Christopher Burke & Martyn Davies, "China's Role in the Development of Africa's Infrastructure", *SAIS Working Papers in African Studies* (SAIS, April 2008), pp. 8-9; Bates Gill & James Reilly, "The Tenuous Hold of China Inc. in Africa", *The Washington Quarterly*, Vol. 30, issue 3, pp. 37-52.

¹⁵ Nicole Brewer, *The New Great Walls: A Guide to China's Overseas Dam Industry* (Berkeley: International Rivers, July 2008), p. 2; US Department of Treasury Office of Foreign Assets Control, *An Overview of the Burmese Sanctions Regulations: Title 31 Part 537 of the U.S. Code of Federal Regulations - What You Need to Know About U.S. Sanctions Against Burma (Myanmar)* (Washington, DC: Office of Foreign Assets Control, May 2008).

¹⁶ International Rivers, "Dams Building Overseas by Chinese Companies and Financiers" (see note 13).

approach seems increasingly dualistic as it expands its interests outside of its borders, while enterprises operating within China are being forced to take CSR standards more seriously. Chinese companies working internationally are not held to the same stringent standards as their domestic counterparts.¹⁷

The Ayeyarwady Myitsone hydropower project dovetails with China's "West (to) East Power Transmission" policy directive. Since the late 1970's, when exploration in China's sparsely populated and remote western provinces uncovered significant reserves of coal and hydropower-exploitable rivers, there have been a series of massive projects meant to convert these far-flung provinces' potential into growth-driving electricity for the industrialized and globally connected eastern provinces.¹⁸ The most visible result of this policy directive to date has been the world's largest hydroelectric power station, the Three Gorges Dam in Sichuan Province. It has become a major supplier of power to China's western cities, Shanghai in particular.¹⁹ With dam projects expanding within Chinese borders at their present rate (five new dams are planned in Tibet, and eight dams either in place or to be constructed on the section of the Mekong River that runs through China's southwestern Yunnan Province), it is no surprise that China is looking outwards to both bolster its grid capacity and accrue dam constructing experience in neighbouring Laos, Vietnam, Nepal, Kazakhstan, Kyrgyzstan and Myanmar.²⁰

The Myitsone hydropower project is not the only Chinese hydropower project underway in Myanmar.²¹ It is one of nine projects in Kachin state; China Power Investment Corporation (CPIC) is investing in a total of seven projects along the upper confluents of the Ayeyarwady River (see map 1 below); and two additional projects are being carried out on the Ta Hkaw Hka, also known as the Dapein River, in Bhamo district by the China Datang Corporation (CDT).²² Additionally, hydropower projects are not limited to Kachin state. Projects are underway or completed on six other rivers throughout Myanmar: the Mone, Salween, Sittang, Pawn, Shweli, and Dokhtawady rivers. Often Chinese State owned companies take responsibility for supplying construction equipment and engineering expertise, such as Sinohydro or China Southern Power Grid in Myanmar's case, while both State owned and private institutions are responsible for financing the projects. Notable State owned financing institutions funding hydropower projects in Myanmar include China International Trust and Investment Company (CITIC - 中国中信集团公司) and The Export-Import Bank of China (China EXIM Bank - 中国进出口银行), while privately owned Hanergy (formerly Farsighted Investment Group) has also invested in dam construction in Myanmar.²³

¹⁷ Shen Sibao & Cheng Huaer, "Economic Globalization and the Construction of China's Corporate Social Responsibility", from *International Journal of Law and Management*, Vol. 51, issue 3 (London: Emerald Group Publishing Limited, 2009), pp. 134-138.

¹⁸ "Overview of China's West-East Power Transmission Project", *Market Avenue*, May 6, 2008 http://www.marketavenue.cn/upload/articles/ARTICLES_1444.htm [Last accessed summer 2010].

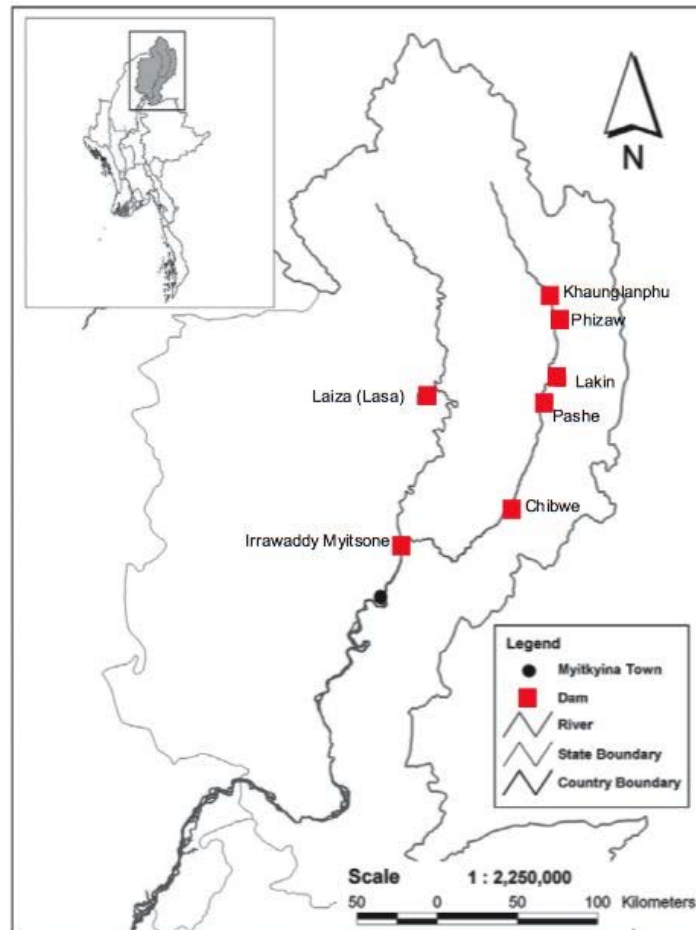
¹⁹ 中国国民党、亲民党、新党访问团相继参观三峡工程 [Chinese Kuomintang, People's First Party, and New Party delegation were the first to visit the Three Gorges Project], August 2008, <http://news.sina.com.cn/c/2006-10-23/113410303856s.shtml> [Last accessed summer 2010].

²⁰ "China Building Dams on Brahmaputra, Worry for India" *PRLog*, May 25, 2010, <http://www.prllog.org/10696830-china-building-dams-on-brahmaputra-worry-for-india.html> [Last accessed summer 2010]. Mekong River Commission, "Mekong Commission Visits China Dams and Will Discuss Future Cooperation", June 7, 2010. http://www.mrcmekong.org/MRC_news/press10/Mekong-Commission-visits-China-dams.htm [Last accessed summer 2010].

²¹ International Rivers, "Dams Building Overseas by Chinese Companies and Financiers" (see note 13).

²² "Kachins anxious Wen's visit will boost Irrawaddy dam construction", *Kachin News Group*, June 3, 2010, <http://www.bnionline.net/news/kng/8698-kachins-anxious-wens-visit-will-boost-irrawaddy-dam-construction.html> [Last accessed summer 2010].

²³ 中国进出口银行 [China Export-Import Bank], 中国进出口银行2009年年度报告 [2009 Annual Report of The Export-Import Bank of China]; Chinese Investor/Company Profiles, <http://www.burmariversnetwork.org/investors/chinese.html#14> [Last accessed summer 2010]; 中国中信集团公司 - 集团要闻 [CITIC - Important News], <http://www.citic.com/wps/portal/newcitic/jtyw/2009> [Last accessed summer 2010].



Map 1. Dams planned on and up the Ayeyarwady confluence (Myitsone)²⁴

2.2 - “Meet the Myitsone”

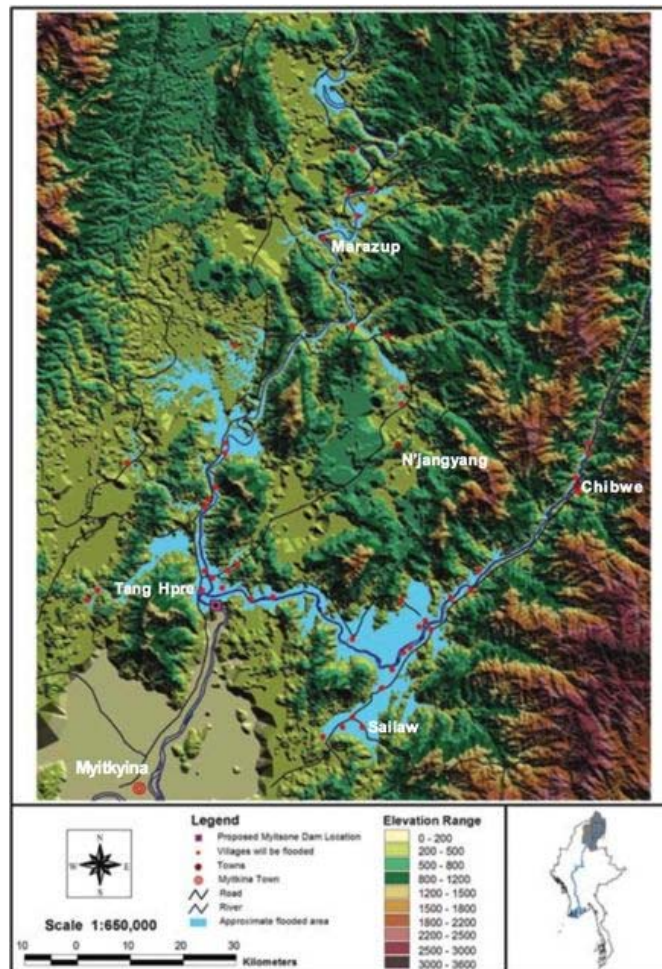
This section focuses upon the Myitsone hydropower project in particular – the infrastructure updates underway to accommodate its construction, future housing allocation for those that the flooding of the reservoir will displace, major players in the planning and execution of the project, potential electrical generation capabilities, and the potential social, economic and environmental impacts that the project will have upon the confluence area as well as downstream.

The Myitsone, translated into English as “confluence” or “river intersection”, is where the Mali (also known as Malikha) and N’mai (Maykha) rivers, fed by the melt of the Himalaya glaciers, meet to become the Ayeyarwady River. This area has great cultural significance for the local inhabitants because of the crucial role it plays in the Kachin creation myth. The legendary progenitors of the Kachin people, Hkai Naw and Hkrai Gam, are said to have both settled at the confluence after descending from the Himalayas.²⁵ The scenic nature of the site makes it a natural draw for tourists, who are an important income source for the local restaurants and boat pilots based around the confluence area, as well as for the hotels and guesthouses in Myitkyina, the capital of Kachin state. Besides occupying a sacred role in Kachin culture as the site of the Mother of Peace Shrine – a focal point for the New Year prayers of mostly Christian Kachin people – the intersection point of the river is also visited by numerous newly married couples each year seeking fertility and magic power in the area (particularly within the flat, disc-shaped rocks that litter the sandy banks of the rivers).

²⁴ Map credit: Kachin Development Networking Group, *Resisting the Flood*, October 2009.

²⁵ Paquette, David, “Before the Deluge. Kachin Villagers and Exiles Hope They Can Stop Plans to Build a Dam that Will Flood an Area They Consider Their Ancestral Homeland”, *The Irrawaddy*, Vol. 18, No. 4, April 2010.

Planning for the construction of the Ayeyarwady Myitsone Dam has been underway for the past 8 years.²⁶ The initial proposal for the Myitsone dam was compiled in 2002 by the joint efforts of the Myanmar Electrical Power Enterprise and the Ministry of Agriculture and Irrigation.²⁷ In December 2006, the Ministry of Electric Power 1²⁸ and China Power Investment Corporation (CPIC) signed a Memorandum of Understanding [MoU] to construct two dams, one of them the Ayeyarwady Myitsone Dam and the other the Chibwe Dam located on the river of the same name.²⁹ There are estimates that the project could cost as much as \$3.6 billion.³⁰ The dam itself is projected to reach a height of 152 meters, and its reservoir is projected to flood an area of 766 square kilometres.³¹



Map 2. Projected area flooded by the Myitsone Dam³²

²⁶ Kachin Development Networking Group, *Damming the Irrawaddy*, October 2007, p. 11.

²⁷ Ibid.

²⁸ The Ministry of Electric Power 1 has responsibility for electricity generation, while the Ministry of Electric Power 2 has responsibility for electricity distribution.

²⁹ "Myanmar encourages private companies to implement hydropower projects", 新华网 [Xinhua Net], http://news.xinhuanet.com/english/2010-01/05/content_12757356.htm published in January 2010 [Last accessed summer 2010]; 中国电力投资集团公司 — 集团新闻 - 石成梁出席南方分公司与南方电网国际公司合作协议签署仪式 [China Power Investment Corporation - Company News - Dan Chengliang attends China Southern Power Grid International MOU signature ceremony], http://www.cpicorp.com.cn/jtyw/200712/t20071225_70865.htm published May 2007 [Last accessed summer 2010].

³⁰ As there are no official acknowledgements even of the roles that various companies will be playing in the construction of the dam, estimations of the cost of the project are correspondingly scarce; Kachin Development Networking Group, *Resisting the Flood: Communities Taking a Stand Against the Imminent Construction of Irrawaddy Dams*, October 2009, p. 4.

³¹ For reference, this is an area larger than metropolitan Singapore or metropolitan New York City; Kachin Development Networking Group, *Damming the Irrawaddy*, October 2007, p. 27; Libre, Ryan, "Proposed dam to flood Burma, while powering China", *The Global Post*, January 31, 2010, <http://www.globalpost.com/dispatch/global-green/100127/burma-dam> [Last accessed summer 2010].

³² Map credit: Kachin Development Networking Group, *Damming the Irrawaddy*, October 2007.



Picture 1. Aerial view of the Myitsone³³



Picture 2. Panoramic view of the Myitsone³⁴



Map 3. Painted projection of the site after construction of the dam³⁵

³³ Credit: unknown (picture sold by shops at the Myitsone site). Written in Myanmar on the upper left, Malikha; upper right, Maykha; below, Malikhanu (Ayeyarwady).

³⁴ Credit: unknown (picture sold by shops at the Myitsone site).

Electricity Generation

Estimates of the Myitsone dam's capacity range from 3,200 to 4,100 megawatts of electricity.³⁶ To put that in perspective, according to the Ministry of Electric Power 1, at present the entire of Myanmar's electrical demand is approximately 1,555 megawatts – meaning that at full operational capacity the Myitsone could power the entire country of Myanmar twice over. At the moment the entire electrical generation capacity of Myanmar is 856 megawatts, although this is misleading since the country's reliance on hydropower means that seasonal variations in rainfall lead to corresponding variations in available electricity.³⁷ The present assumption is that the majority of the generated electricity will be sold to China, specifically to the Yunnan Power Grid Company, a subsidiary of China Southern Power Grid Company.³⁸

Main actors in the Myitsone Dam project

China Power Investment Corporation (CPIC) manages the "Confluence Region Hydropower Projects".³⁹ CPIC is a member of the group of five State-owned holding companies responsible for generating approximately half of China's electricity, and its assets are extensive. Its role in the Myitsone hydropower project seems to be supplying Chinese labourers who have been reported to be working in the area, partial funding for the dam as well as the engineering expertise required to design the dam.⁴⁰ CPIC appears to be quite aware of international CSR Standards, based on the announcements on its website. Under its "Social Responsibility" section it is noted how CPIC "attaches great importance to eco-environment protection and resource conservation in implementing hydropower development [projects]".⁴¹

The Myanmar company Asia World Co. Ltd also plays a variety of roles in the Myitsone project. Its background in construction has positioned the company to take the lead role in building the resettlement communities that will house the populations of the villages to be submerged by Myitsone's reservoir. Based upon the observed proliferation of Asia World machinery throughout the length of the 43 kilometre-long road leading to the project site from Myitkyina, it can be safely assumed that the company is also in charge of the extensive road renovation that is underway.⁴²

Yunnan Machinery Import & Export Co. (YMEC) is the primary supplier of Myanmar's passenger railway system.⁴³ It has also exported electrical grid management equipment for Yangon city.⁴⁴ Its involvement in multiple smaller (less than 4 megawatt capacity) hydropower projects in

³⁵ Idem.

³⁶ "Myanmar encourages private companies to implement hydropower projects", *Xinhua*, January 5, 2010; Kachin Development Networking Group, "Damming the Irrawaddy", October 2007, pp. 29-31.

³⁷ "Myanmar encourages private companies to implement hydropower projects", *Xinhua*; There are numerous conflicting sources about Myanmar's actual electrical generation capacity and the degree to which it changes seasonally, see also *Myanmar Statistical Yearbook 2008* (Naypyidaw: Ministry of National Planning and Economic Development, 2009); "Myanmar speeds up hydropower projects in cooperation with neighbors", *The Financial Express*, July 23, 2010, http://www.thefinancialexpress-bd.com/more.php?news_id=7096 [Last accessed summer 2010].

³⁸ 云南电网公司 [Yunnan Power Grid Company Introductory Page], <http://www.yn.csg.cn/> [Last accessed summer 2010].

³⁹ China Investor / Company Profiles, <http://www.burmariversnetwork.org/investors/chinese.html#8> [Last accessed summer 2010].

⁴⁰ "Fresh batch of 300 Chinese dam workers arrive in Myitkyina", *Kachin News Group*, May 20, 2010.

<http://www.bnionline.net/news/kng/8607-fresh-batch-of-300-chinese-dam-workers-arrive-in-myitkyina.html> [Last accessed July 15, 2010].

⁴¹ China Power Investment Corporation, "Eco-Environment Protection", http://eng.cpicorp.com.cn/SocialResponsibility/EcoenvironmentProtection/201001/t20100122_109473.htm [Last accessed July 15, 2010].

⁴² Field research, summer 2010.

⁴³ 我公司出口缅甸的20台机车在大连港启运 Yunnan Machinery & Equipment Import & Export Co. News Update, "Company exports 20 locomotives to Myanmar from Dalian Port", October 2008 http://www.ymec.com.cn/cn/news/news_24.htm [Last accessed summer 2010].

⁴⁴ 缅甸叶潘松变电站及132kV彬永线路项目正式签订合同 [Yunnan Machinery & Equipment Import & Export Co. News Update], "Myanmar Electrical Substation Project Running Smoothly", February 2010, http://www.ymec.com.cn/cn/news/news_31.htm [Last accessed summer 2010].

the early 1990s developed into participation in much larger projects, such as the Shweli I, II, and III dams more recently.⁴⁵ The company has extensive experience in constructing hydropower projects, having completed a total of 18 hydropower projects in Myanmar to date.⁴⁶ Based upon YMEC's past role in Myanmar hydropower projects, its role in the Myitsone project will most likely be one of importing the hardware needed for electricity-conduction and other technology that Myanmar does not have the industrial capacity to manufacture domestically.⁴⁷

Potential Impacts

The economic fallout of the Myitsone project will affect both the area immediately surrounding the dam and significant areas downstream from the project. The Kachin Development Networking Group underlines the negative aspects of this project. According to this indigenous activist group, one notable consequence will be the submerging of fertile farmland lining the banks of the N'Mai and Mali rivers north of the project site – an important source of both food and income to farmers in the area. Just as the banks of the N'mai and Mali rivers will be negatively affected by flooding, cultivation on the banks of the Ayeyarwady south of the confluence will also be adversely affected by the change in water flow patterns caused by the dam. The local fishing industry will also be negatively impacted when the dam blocks the path of fish's annual upriver migration, preventing them from spawning and reproducing, drastically cutting their population levels and making fishing no longer a tenable livelihood for locals.⁴⁸ Downstream there would be similar consequences, but increasingly more severe. The fertility of the productive fields along the banks of the Ayeyarwady would be highly negatively impacted. Land that makes up the Ayeyarwady's floodplains enjoys the benefit of nutrient-rich sediment that washes over it with each annual rainy season.⁴⁹ The Myitsone Dam would trap a massive amount of sediment that usually flows the length of the Ayeyarwady, depriving downstream floodplains of productivity-enhancing nutrients, thus lowering yields and the income of riparian cultivators and communities. Similarly, the downstream decrease in fish populations would be of equal or greater severity than in areas around the confluence.⁵⁰ Finally, there are potential negative impacts resulting from the flow of the Ayeyarwady no longer being contingent upon the usual seasonal rains. Upon completion of the Myitsone dam, the primary determinant for the water levels and flooding patterns of the Ayeyarwady would be neighbouring China's demands for electricity at any given moment. If the Myitsone dam's generating capacity is needed, then the gates would be opened, the turbines run, and the generated electricity sent to China. It would be unlikely that the situation of downstream inhabitants whose livelihoods depend upon the timely seasonal variations of the river would be taken into consideration.⁵¹ The level of dissatisfaction felt by local populations towards the dam project is challenging to measure as a whole, but it is clearly substantial as seen from the activities carried out by various civil society organizations regarding the issue. In May 2007, respected elders and leaders from Kachin state sent a letter to General Than Shwe calling for a halt to the project. Christian and Buddhist prayer services have been organized and information pamphlets distributed.⁵²

⁴⁵ For a continuously updated compendium of all of YMEC's international projects see:

云南机械设备进出口有限公司 - 历年成套设备出口及境内外承包工程 [Yunnan Machinery & Equipment Import & Export Co. Overview of Activities/Projects], http://www.ymec.com.cn/cn/about_yj.htm [Last accessed summer 2010].

⁴⁶ 云南机械设备进出口有限公司 [Yunnan Machinery & Equipment Import & Export Co. Overview of Electrical Engineering Activities] http://www.ymec.com.cn/cn/project_ele.htm [Last accessed summer 2010].

⁴⁷ 云南机械设备进出口有限公司 - 公司新闻 [Yunnan Machinery & Equipment Import & Export Co. Introductory Page - Company News], <http://www.ymec.com.cn/cn/index.htm> [Last accessed summer 2010].

⁴⁸ Kachin Development Networking Group, *Damming the Irrawaddy*, October 2007, pp. 29-31.

⁴⁹ *Ibid.*, pp. 31-33.

⁵⁰ *Ibid.*

⁵¹ Interviews, summer 2010.

⁵² Kachin Development Networking Group, *Resisting the Flood*, pp. 14-20.

Furthermore, four bombs went off on April 17 2010 in the middle of the night, "three at the worksite and one at the migrant residential area [and] more unexploded bombs were also found".⁵³ Up to now no suspects have been formally charged, although there have been "hundreds" of interrogations of locals.⁵⁴ Information about casualties was obscured. One estimate is that four were killed and twelve more injured, with most of the casualties being Chinese workers.⁵⁵ Yet, a Chinese hydropower engineer working in Myanmar stated that only one person was slightly injured,⁵⁶ confirming a report from the Chinese press agency Xinhua.⁵⁷ Rather than the disputed toll of the bombs, the significance of this attack lies within the context of several violent expressions of dissatisfaction towards the Myanmar regime. In April 2010, a series of explosions hit targets across the country, in peripheral areas⁵⁸ but also in the former capital Yangon.⁵⁹ "After another two decades of military rule, [Myanmar] remains in a state of conflict",⁶⁰ and the manner in which Chinese infrastructure projects, such as the Myitsone Dam or the Oil and Gas pipelines, are carried out is fuelling grievances rather than being conducive to popular support.

Road Renovation

As of today there has not been any formal acknowledgement or visual sign that construction has begun on the wall of the dam itself, although there is very extensive renovation work underway on the road that runs approximately 43 kilometres from Myitkyina to the future site of the Myitsone Dam.

The road will be made of rebar-reinforced concrete and span over seven meters wide. In the meantime, however, to accommodate the heavy machinery that will be needed to prepare the dam site (and subsequently build the dam itself), the dirt road is being widened. In 2008, the roads leading north out of Myitkyina were paved and upgraded to tarmac from the simple dirt tracks that existed prior. Ten smaller bridges on the Myitkyina-Myitsone road are being completely redone – widened to allow two passing lanes of traffic as well as being reinforced with additional steel bars and thick concrete pilings to accommodate the heavy machinery that will be driven across them. The numerous large trucks observed travelling south away from the dam and into Myitkyina were transporting loads of dirt and rocks, while trucks travelling out of Myitkyina towards the project site were filled with boards of sawn wood – presumably for the construction of the relocation settlement, described in greater detail below. Another notable cargo travelling south from the vicinity of the dam site and into Myitkyina in the back of Asia World Co. Ltd's trucks was logs cut in the areas that will be flooded that have apparently been granted as logging concessions to the project's main subcontractor.

Relocation Settlement

Located approximately 18 miles outside of Myitkyina along the road to the Myitsone project site lays the future settlement for villagers who will be moved from their homes within the

⁵³ "Bomb Blasts Hit Hydropower Plant Project Site in Myanmar", *Xinhua*, April 18, 2010.

⁵⁴ "Hundreds of Kachins Being Interrogated in Bomb Blast Investigations", *Kachin News Group*, April 28, 2010, www.kachinnews.com/.../April-28-2010-Hundreds-being-interrogated-in-bomb-blast-investigations.html [Last summer 2010].

⁵⁵ "Four Killed, 12 Injured in Bomb Blasts in Irrawaddy-Myitsone Dam Site", *Kachin News Group*, April 17, 2010.

⁵⁶ Interview, summer 2010.

⁵⁷ "Bomb Blasts Hit Hydropower Plant Project Site in Myanmar", *Xinhua*.

⁵⁸ Naw Noreen, "Karen Army Takes Blame for Grenade Attack", *Democratic Voice of Burma*, April 28, 2010, <http://www.dvb.no/news/karen-army-takes-blame-for-grenade-attack/8808> [Last accessed summer 2010] (i.e. attack by the Karen National Liberation Army on the Thaukyegat hydropower dam under construction by Asia World Co. Ltd in Kayah State); "Suicide Bomber Targets Burmese Police", *Agence France Presse*, April 28, 2010, (i.e. the first suicide bombing in Myanmar whose circumstances remain unclear).

⁵⁹ "Casualties rise to 178 in Myanmar Water Festival Bomb Blasts", *Xinhua*, April 16, 2010 (10 death and almost 170 persons injured after several unclaimed bombs exploded in the crowd celebrating the Myanmar New Year on April 15, 2010).

⁶⁰ Transnational Institute and Burma Centrum Nederland, *Burma in 2010: A Critical Year in Ethnic Politics*, p. 10

766 square kilometre reservoir area.⁶¹ A large field is in the process of being clear-cut to accommodate all the houses that will be built there. At present there are plans to construct a total of 400 elevated wooden houses in the resettlement community. Soil there is rocky and unsuitable for cultivation – unlike the fertile riverbank soil that many of the relocated villagers are leaving behind.⁶²



Picture 3. Resettlement area for villagers to be displaced by the project (summer 2010)

Although the Myanmar and Chinese States have a vested interest in the Myitsone Hydropower project, such as State building through the development of infrastructure and to meet electricity demand, respectively, it is not clear whether local populations will benefit from the project. Dissatisfaction with the project is likely to grow as its implementation moves forward unless appropriate measures are taken by the Chinese and Myanmar governments, and the private companies involved to reduce economic, social and environmental risks.

3 - The Shwe Gas Project and the Myanmar-China Oil Pipeline Project: Building An Energy Corridor for China

Myanmar is well endowed in natural resources, a situation that has not escaped its neighbours whose economic growth has resulted in an increasing need for energy. In the 2000s, competition over the purchase of natural gas reserves found in the Shwe Gas fields off the Rakhine Coast in western Myanmar was finally won in 2008 by State owned China National Petroleum Company (CNPC) whose bid planned for the construction of a pipeline from the Gulf of Bengal to

⁶¹ "Relocated Myitsone villagers face health problem in new place", *Kachin News Group*, June 14, 2010. <http://www.burmariversnetwork.org/news/11-news/411--relocated-myitsone-villagers-face-health-problems-in-new-place.html> published [Last accessed summer 2010].

⁶², "Relocated Myitsone villagers face health problem in new place", *Kachin News Group*, June 14, 2010 <http://www.burmariversnetwork.org/news/11-news/411--relocated-myitsone-villagers-face-health-problems-in-new-place.html> [Last accessed summer 2010].

Kunming (see Map 4). The next year, Myanmar and China agreed that a crude oil pipeline would be laid next to it. These two pipelines will form an energy corridor of great strategic importance for both Myanmar and China who will both share the benefits created by this large infrastructure project. In Myanmar, though, the project presents a potentially serious nuisance for the populations residing in its vicinity, especially in the State's peripheral areas, based on the consequences of similar projects. As for the construction of dams on the upper Ayeyarwady river, those involved in the projects, both State and private enterprises, have an obligation to ensure that the provision of energy to China and extension of territorial control by the Myanmar State does not endanger the viability of this 30 year project and does not lead to abuses against Myanmar citizens.

3.1 - Disputed gas and the triumph of China

In late 2003, a consortium of South Korean and Indian companies led by Daewoo International⁶³ discovered substantial reserves of natural gas in three gas fields – Shwe, Shwe Phyu and Mya - located off the Myanmar city of Sittwe in the Gulf of Bengal. Given the development of cordial relationships between Delhi and the SPDC since the mid 1990s, the proximity of the fields to West Bengal and the involvement of State controlled Indian firms in the project, it was thought that India would be granted exclusive buying rights over the Shwe gas fields.⁶⁴ And in January 2005, a trilateral meeting between India, Bangladesh and Myanmar resulted in a joint press statement where “the three sides agreed to transport natural gas from Myanmar to India by pipeline transiting through Bangladesh”.⁶⁵ However, “certain bilateral issues” led to a deadlock in the Myanmar-Bangladesh-India gas pipeline project⁶⁶ and others options were studied, including an “on land pipeline route from Myanmar to India through North-Eastern Indian States, bypassing Bangladesh territory”.⁶⁷ Although South Korean Daewoo and the Petroleum Authority of Thailand Exploration & Production (PTT-EP) also entered the competition, it was China that posed the main challenge to India's intent to purchase the Shwe gas. In late 2005, the listed subsidiary of State owned CNPC, PetroChina, signed a Memorandum of Understanding (MoU) with State owned Myanmar Oil and Gas Enterprise (MOGE) granting purchasing rights of gas from the Shwe fields on the basis that it would be exported to Yunnan Province through a pipeline. India responded with various proposals that were taken into consideration by a junta willing to diversify its foreign partners.⁶⁸ Yet, following the signature of a preliminary MoU in Naypyidaw in June 2008,⁶⁹ the consortium led by Daewoo finally agreed in December 2008 to grant exclusive purchasing rights of the Shwe gas to CNPC, marking a substantial victory for China over India in their competitive race for access to energy resources in Asia.⁷⁰

There are several explanations as to why China won the deal. It seems that “the uncomfortable relationship between the various [Indian ministries], their differing visions with

⁶³ Daewoo International owns 51 per cent of the equity stakes in the A-1 and A-3 Blocks (or mining zones) where the three gas fields were discovered. India's State owned Oil and Natural Gas Corporation Videsh Limited (OVL) holds 20 per cent, Myanmar Oil and Gas Enterprise (MOGE) 15 per cent and the Gas Authority of India (GAIL) and the Korean Gas Corporation (KoGas) 8,5 per cent each of stakes in what has become known as the Shwe Gas Project. John Seaman, *Energy Security, Transnational Pipelines and China's Role in Asia*, Institut Français des Relations Internationales (IFRI), *Asie Visions* 27, April 2010, p. 37.

⁶⁴ Renaud Egretreau, *Wooing the Generals – India's New Burma Policy* (New Delhi: Authorpress, 2003).

⁶⁵ Ministry of Petroleum and Natural Gas, Government of India, “Import of Natural Gas to India Through Transnational Gas Pipelines”, <http://petroleum.nic.in/ng.htm> [Last accessed summer 2010].

⁶⁶ Sreeradha Datta, “Bangladesh Factor in the Indo-Myanmarese Gas Deal”, *Strategic Analysis*, Vol. 32, No. 1, January 2008, pp. 103-122.

⁶⁷ Ministry of Petroleum and Natural Gas, Government of India, “Import of Natural Gas to India Through Transnational Gas Pipelines”.

⁶⁸ John Seaman, *Energy Security, Transnational Pipelines and China's Role in Asia*, pp. 31-34.

⁶⁹ China National Petroleum Company, “CNPC, Myanmar Government and Daewoo Combo Sign Natural Gas MoU”, June 25, 2008, <http://www.cnpc.com.cn/en/press/newsreleases/2008/6-25.htm> [Last accessed summer 2010].

⁷⁰ “Daewoo Seals Myanmar-China Gas Export Deal – Xinhua”, *Reuters*, December 25, 2008.

regard to Myanmar and China and the ensuing lack of drive led to major delays" that displeased a Myanmar regime eager to quickly earn currencies from the exploitation of newly found natural gas.⁷¹ Also, larger political considerations such as China's diplomatic support to Myanmar – best exemplified by the January 2007 use of its veto in the United Nations Security Council to reject a western draft resolution critical of the junta – were also taken into account in Naypyidaw.⁷² The Most important factor seems to have been the high degree of support given to CNPC's proposal by a Chinese State which was not only interested in the purchase of gas.⁷³ In contrast to the fragmented approach of the Indian bureaucracy, the Chinese offer was all the more appealing. Indeed, in June 2009, a MoU between CNPC and MOGE on the construction of the Myanmar-China Oil Pipeline to be laid next to the gas pipeline was signed in Beijing during the official visit of General Maung Aye, the Myanmar junta's second in command.⁷⁴ The creation of such a strategic energy corridor for China, a plan presented during negotiations over the granting of purchasing rights for Shwe gas, ensured the Myanmar regime of the viability and prompt execution of this State backed project.

3.2 - Strategic pipelines and shared benefits

The gas and oil pipelines will fill different roles in the larger energy security agenda pursued by China. They will also contribute to the creation of a transport corridor between the landlocked southwestern provinces of China and the Indian Ocean through the construction of a road across Myanmar territory and reaching a new deep sea port in Rakhine state. The financial benefits will be substantial for the Myanmar regime, and in conjunction with the development of infrastructure, foreign investment will support plans to extend the territorial control of the Myanmar State into peripheral areas controlled by ethnic non-state actors.

According to the operator Daewoo International, the Shwe gas fields located in A-1 and A-3 Blocks possess 4.5 trillion cubic feet (tcf) of recoverable reserves.⁷⁵ CNPC has acquired purchasing rights over this natural gas for a period of 30 years. Daewoo International is in the process of building offshore production facilities (drilling rigs) and underwater pipelines from the production area to the island of Kyaukphyu in Rakhine State where a gas terminal will be installed, with the goal of starting gas production by May 2013.⁷⁶ The pipeline will link Kyaukphyu to Kunming, and there are now plans to build links to provide gas to Yunnan's neighbouring provinces of Sichuan, Chongqing and Guizhou.⁷⁷ Distribution rights in China are owned by CNPC's listed subsidiary PetroChina. CNPC is the operator of the gas pipeline and responsible for its construction, it owns 51 per cent equity in the project. The ownership of the pipeline is currently divided between the following organizations: Daewoo (25 per cent), Indian OVL (9 per cent), GAIL (4 per cent), South Korean KoGas (4 per cent) and MOGE (7 per cent).⁷⁸ All the members of the Shwe Gas consortium, including State controlled Indian firms, now own stakes in the pipeline that will provide southwestern China with Myanmar gas. This project participates

⁷¹ Marie Lall, *India-Myanmar Relations – Geopolitics and Energy in Light of the New Balance of Power in Asia*, Institute of Southeast Asian Studies Working Paper No. 29, January 2008, pp. 22-23.

⁷² "Myanmar's Pipeline Politics. China is the Probable Recipient of a Big Supply of Natural Gas", *Economist Intelligence Briefing Unit*, March 23, 2007.

⁷³ John Seaman, *Energy Security, Transnational Pipelines and China's Role in Asia*, p. 35.

⁷⁴ China National Petroleum Company, "MoU Signed of Myanmar-China Oil Pipeline", June 19, 2009, http://www.cnpc.com.cn/en/press/newsreleases/MOU_signed_of_Myanmar_per_centEF_per_centBC_per_cent8DChina_Oil_Pipeline.htm [Last accessed summer 2010].

⁷⁵ Daewoo International E&P Operation Division, "Business Activity", http://www.daewoo.com/english/business/enp.jsp?nav=2_5_3 [Last accessed summer 2010].

⁷⁶ Ibid.

⁷⁷ John Seaman, *Energy Security, Transnational Pipelines and China's Role in Asia*, p. 35.

⁷⁸ "India Allows ONGC, GAIL to Buy Stake in China Gas Pipeline", *Moneylife India*, February 18, 2010 <http://www.moneylife.in/article/8/3765.html> [Last accessed on July 15, 2010].

in China's strategy of diversifying and increasing energy supply to secure provision and help meet rising domestic demand for energy in a context of economic growth. "Given [the International Energy Agency] demand projections, the [gas and oil] pipelines could be able to deliver 3 per cent of China's oil imports and 9 per cent of gas imports in 2030".⁷⁹

The Myanmar-China oil pipeline that will be laid parallel to the Shwe Gas pipeline from Kyaukphyu to Kunming aims to open a new and faster supply route for crude oil coming from the Middle East and Africa. A deep sea port and an oil terminal being built on Maday Island, next to Kyaukphyu, will receive oil tankers whose crude load will be sent to southwestern China through the oil pipeline; an alternative supply route to the congested and dangerous Strait of Malacca where most oil tankers pass on their way to Chinese coastal regions. Following the June 2009 MoU, an agreement was signed between CNPC and MOGE in December 2009 during a visit of China's Vice President to Naypyidaw. CNPC's subsidiary South East Asia Crude Pipeline Company Limited was granted exclusive rights to build and operate the pipeline. Differing from ownership division of the Shwe Gas pipeline, stakes in the oil pipeline project are solely divided between CNPC (50.9 per cent) and MOGE (49.1 per cent).⁸⁰

It is unclear how long the joint pipelines will be. Figures regarding budget costs that have been found in academic literature and the press have varied. According to an official statement by CNPC, the oil pipeline should run 1,100 km from Kyaukphyu to Kunming.⁸¹ However, the pipelines' route is about 800 km between Kyaukphyu in Rakhine State and Namhkan a Northern Shan State, where the pipelines will reach the Sino-Myanmar border, and approximately a further 700 km between Namhkan and Kunming, meaning that the pipelines would run about 1,500 km to Kunming.⁸² On Myanmar territory, the pipelines will cross 22 Townships located in Rakhine State, Magwe Division, Mandalay Division and Shan State.⁸³

The pipelines will be mostly built next to main roads, notably between Pyin Oo Lwin and Hsipaw (also known as Thibaw) in Shan state, where it will be run adjacent to the renovated "Burma Road" that runs between Mandalay and the main Sino-Myanmar trade border post, Muse. This should limit the amount of roads needed to be built to permit access of machinery and materials for the construction of the pipelines. Still, the roads' construction and renovation will be undertaken by CNPC (or subcontractors), thus providing "free" infrastructure development to Myanmar. In the long term, a road in good condition from the Sino-Myanmar border to the deep sea port of Kyaukphyu could also offer an export outlet for goods produced in landlocked the Southwestern provinces of China. The development of such roads should of particular importance in areas where minority groups live. For instance, in Rakhine state (see Map 5), the Datkon - Ann - Dattaw road crossing more than 2,000 meters in the Rakhine mountain range, is in a poor condition. The Rakhine Mountains have long been a natural obstacle between central Myanmar and an independent Rakhine kingdom, allowing it to remain independent from the Myanmar court until 1784. Until today, Myanmar economic and cultural penetration of Rakhine State has been limited and improved road conditions across the range would surely lead to increased integration of Rakhine with the rest of Myanmar. In addition to road construction and eased penetration of ethnic areas, Myanmar might benefit from the use of some of the energy transported in the pipelines. There will be ten stations on the Shwe gas pipeline and it could be possible that gas, or crude oil, be diverted to existing or future electricity production facilities, especially in Yenangaung and Mandalay where there are a number of industries.

⁷⁹ John Seaman, *Energy Security, Transnational Pipelines and China's Role in Asia*, p. 36

⁸⁰ "CNPC Gets Pipeline Exclusive", *Pipelines International*, December 22, 2009,

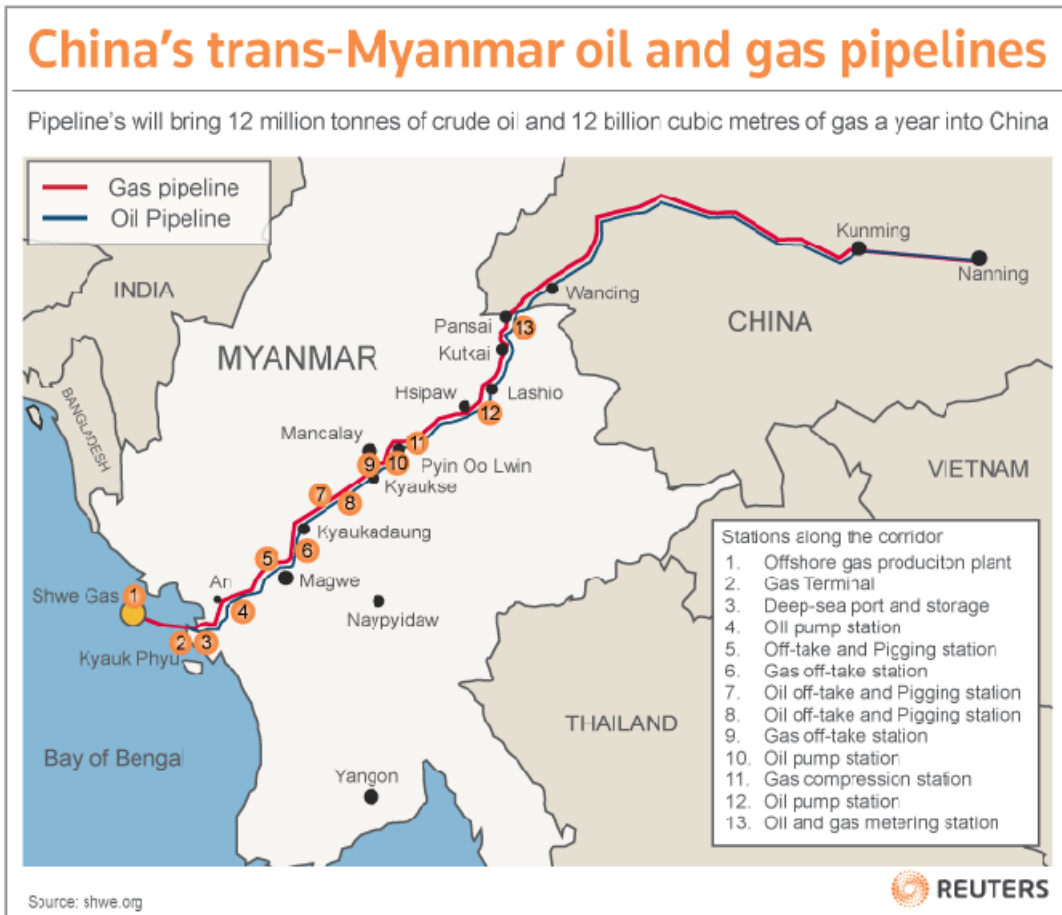
http://pipelinesinternational.com/news/cnpc_gets_pipeline_exclusive/009293/; "China-Burma Pipeline Agreement Signed", *Oil Voice*, December 22, 2009,

http://www.oilvoice.com/n/ChinaBurma_Pipeline_Agreement_Signed/2358edec9.aspx [Last accessed summer 2010].

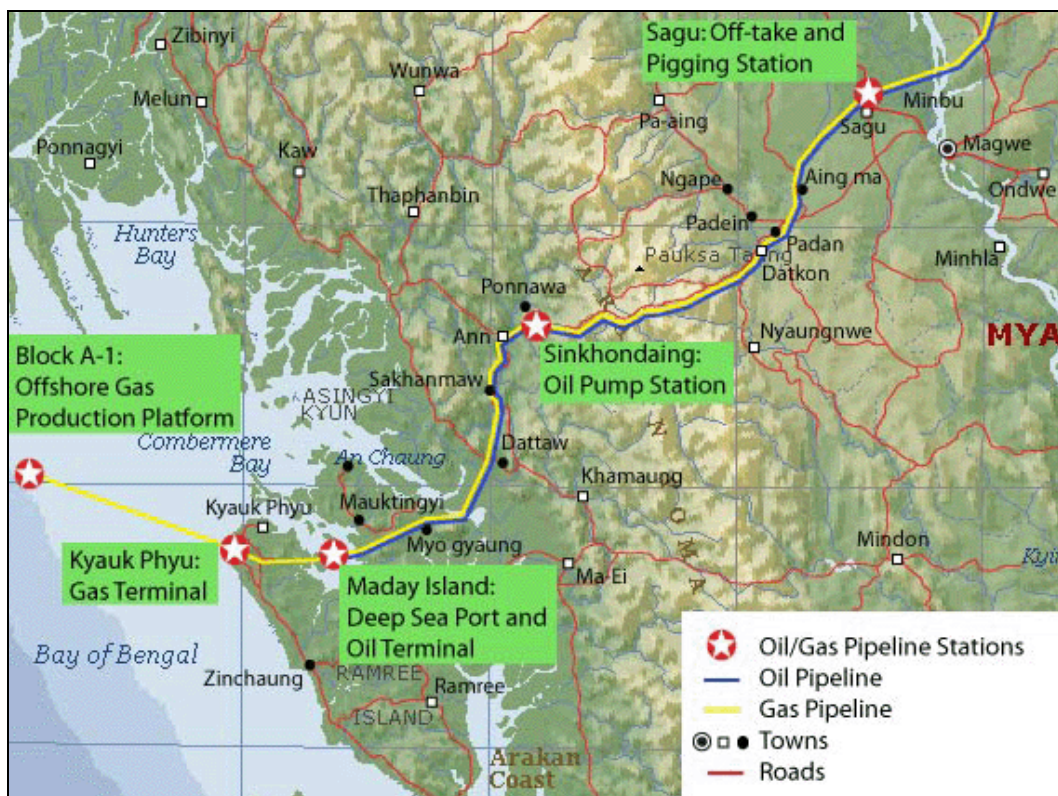
⁸¹ China National Petroleum Company, "MoU Signed of Myanmar-China Oil Pipeline".

⁸² Calculations of the author based on interviews and Google Maps.

⁸³ Shwe Gas Movement, *Corridor of Power. China's Trans-Burma Oil and Gas Pipelines*, September 2009, p. 36.

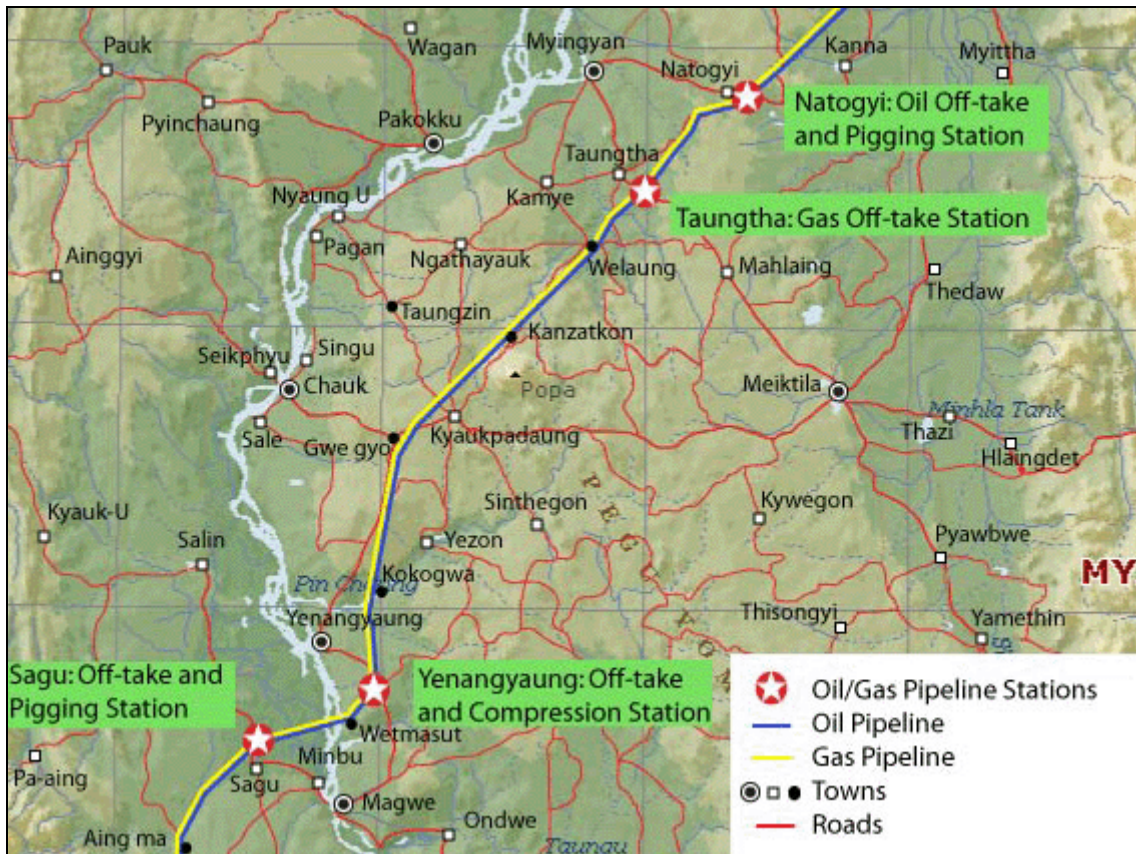


Map 4. General Map of the joint pipelines' project⁸⁴

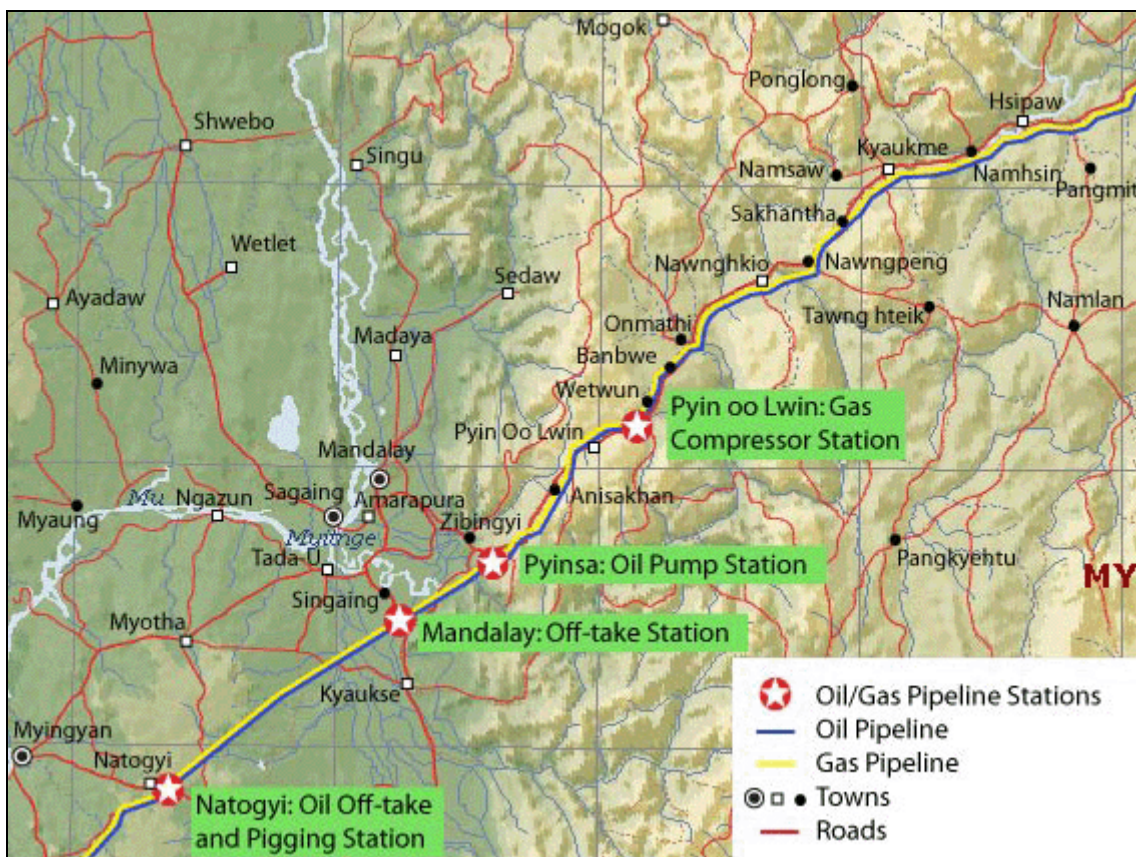


Map 5. Kyaukphyu to Sagu

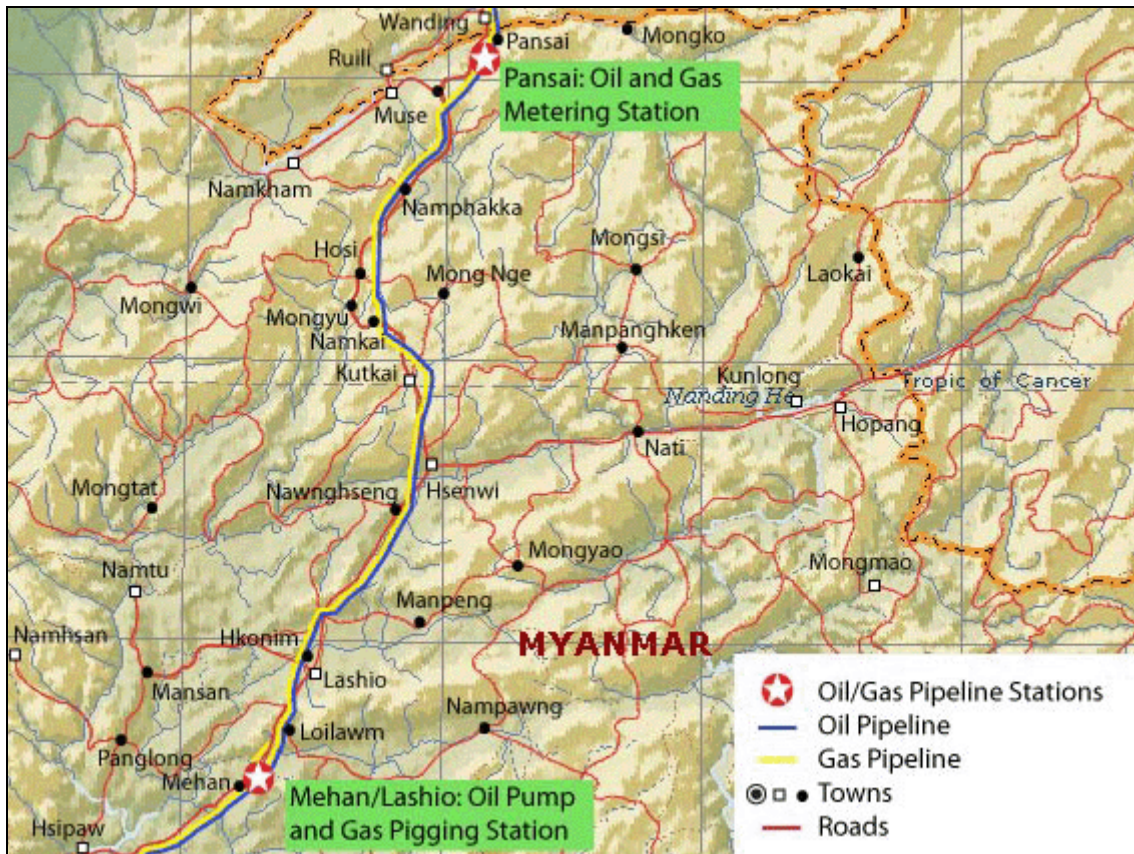
⁸⁴ General maps' credits: Reuters and Shwe Gas Movement, <http://www.shwe.org/> [Last accessed summer 2010].



Map 6. Sagu to Natogyi



Map 7. Natogyi to Hsipaw



Map 8. Hsipaw to Pansai⁸⁵

In any case, the main benefit of the energy corridor for Myanmar will be foreign earnings. No official figures on the topic have been released for the moment. According to calculations by the advocacy group Shwe Gas Movement, Myanmar would earn about US\$29 billion over 30 years.⁸⁶ This estimate is based on available gas reserves of 9.1 trillion cubic feet (tcf). If one uses the 4.5 tcf of recoverable reserves declared by Daewoo International,⁸⁷ revenues for the Myanmar regime would still amount roughly to half a billion dollars a year over three decades.

3.3 - A potentially serious nuisance

During the 60th anniversary of the establishment of diplomatic relations between the two countries in June 2010, the ambassador of China to Myanmar wrote: “Oil and gas pipeline projects between China and Myanmar have also been started [...]. It is mutually beneficial for both sides”.⁸⁸ This is true for both States involved in the project, but much less so for the populations that will be affected by its implementation in Myanmar.

The Yadana pipeline project, implemented in the early 1990s, set a precedent for international consortiums engaged in the off-shore production of natural gas and the building and operating of a pipeline in Myanmar. It could give us an insight into what could happen with the others projects in process. French oil company Total, with a 31.2 per cent stake in the Yadana pipeline project is the operator that provides Thailand with 15 to 20 per cent of its demand in

⁸⁵ Detailed maps' credit : Shwe Gas Movement, <http://www.shwe.org/> [Last accessed summer 2010].

⁸⁶ Shwe Gas Movement, *Corridor of Power. China's Trans-Burma Oil and Gas Pipelines*, p. 38.

⁸⁷ Daewoo International E&P Operation Division, “Business Activity”, http://www.daewoo.com/english/business/enp.jsp?nav=2_5_3 [Last accessed summer 2010].

⁸⁸ Ye Dabo, “Heralding a New Era. China-Myanmar Relations Forge Ahead Six Decade On”, *Beijing Review*, No. 22, June 3, 2010.

natural gas.⁸⁹ A 346 kilometre subsea pipeline and a 63 kilometre onshore pipeline carries gas to the Thailand-Myanmar border through the Tanintharyi Division in southeastern Myanmar. Between 1995 and 2007, US\$15.87 million was spent on a socio-economic program in the region crossed by the pipeline.⁹⁰

Since 1994, the advocacy group Earth Rights International (ERI) has been pursuing research on abuses committed in connection with the construction and operation of the Yadana pipeline. In various reports, it has documented abuses “committed by pipeline security forces [the Myanmar military]”.⁹¹ These abuses seem to have substantially diminished over the years as Total exerted pressure on the Myanmar government to prevent misconduct in the area where it operates.⁹² Since 2009, ERI stressed the Yadana project's revenue greatly contributed to “high level corruption” and “heightened authoritarianism” in Myanmar. ERI estimates that the Myanmar regime has earned about US\$ 4.83 billion since commercial production began in 2000, of which only a fraction has been included in the national budget through manipulation of exchange rates while the rest sits in private accounts at two leading Singaporean banks.⁹³ Revenues will increase as the new gas and oil pipelines come into operation in 2013, and it is unclear whether they will be recorded properly in the national accounts by then.

Populations in the townships affected by the pipeline projects are worried that they will be submitted to forced labour or lose their land without proper compensation. Reportedly, there have already been cases of land confiscation and forced relocation on Maday Island next to Kyaukphyu where the construction of a deep sea port and oil terminal started in October 2009.⁹⁴ Other common fears are environmental degradation and in Rakhine State and Shan State, the arrival of Bamar construction workers – rather than Chinese ones – is seen as posing a threat to the culture, health and security of local communities.⁹⁵

There are two actors most likely to pose a potential nuisance for those populations affected by the pipeline. First, as is the case for the Yadana pipeline, the Myanmar regime will be responsible for providing security to the pipelines.⁹⁶ This means that there will be an increased presence of military troops potentially resulting in abuses in townships connected with the projects as seen in previous security operations run by the military, especially in northeastern Myanmar between Thibaw and Namhkan, where State control is contested.⁹⁷ Second, foreign subcontractors such as CNPC and Daewoo, are construction firms likely to be closely associated with the regime that are known to disregard social and environmental principles, especially in peripheral areas where standards of operation are even lower than in the central plain. Asia World Co. Ltd, one of the largest and well connected conglomerates in Myanmar, is already involved in the construction of the deep sea port and other infrastructures on Maday and Kyaukphyu Islands

⁸⁹ Other stakeholders are Chevron (previously Unocal) with 28.3 per cent, PTT-EP with 25.5 per cent and MOGE with 15 per cent.

⁹⁰ Total, *Total in Myanmar. A Sustained Commitment*, 2008. Downloaded from Total, “Total in Burma: The Yadana Pipeline”, http://birmanie.total.com/index_en.htm [Last accessed summer 2010].

⁹¹ Earth Rights International, “The Yadana Pipeline”, <http://www.earthrights.org/campaigns/yadana-pipeline> [Last accessed summer 2010].

⁹² Interviews, summer 2010.

⁹³ For domestic purposes, gas revenues are being recorded at the official exchange rate of US\$1 to 6 Myanmar kyat but revenues of Yadana gas exports are actually received in US dollars worth about 1,000 kyat at the market rate. About US\$4.80 billion are thought to be deposited in off shore bank accounts. Earth Rights International, *Total Impact. The Human Rights, Environmental, and Financial Impacts of Total and Chevron's Yadana Gas Project in Military Ruled Burma (Myanmar)*, September 2009, pp. 42-46.

⁹⁴ “Construction of Gas and Oil Pipelines in Arakan Underway”, *Narinjara News*, March 26, 2010.

⁹⁵ Interviews, summer 2010.

⁹⁶ “China-Burma Pipeline Agreement Signed”, *Oil Voice*.

⁹⁷ Christina Fink, “Militarization in Burma's Ethnic States: Causes and Consequences”, pp. 450-451.

in Rakhine state.⁹⁸ These two actors, the Myanmar regime and local subcontractors closely associated with it, are quite impervious to domestic and foreign pressure, differing from international firms engaged in the construction of the energy corridor that generally abide by international conventions. Daewoo International has tried to show its commitment to Corporate Social Responsibility (CSR) principles by adopting a Code of Corporate Conduct and Ethics and implementing a socio-economic program in Myanmar.⁹⁹ CNPC also states that it abides by CSR principles.¹⁰⁰ To varying degrees, these firms are under legal and social pressure at home to respect a number of environmental and social safeguards when implementing projects abroad. Those engaged in the 30 year Shwe Gas pipeline and Myanmar-China oil pipeline projects risk their reputation and security in doing harm to local populations during the construction and operation phases. Serious abuses could lead to international campaigns against them and a loss in financial investors interested in ethics as much as rates of return. Also, radical factions of armed groups disgruntled with the regime could turn to firms that are seen supporting its actions and target the energy corridor. Countries and companies that have stakes in the project should bear these considerations in mind and relay them effectively to their Myanmar counterparts.

Conclusion

Since 1988, control of the Myanmar State over peripheral areas of its territory has greatly increased. Yet, the underlying grievances of ethnic groups that led to the development of insurgencies after independence have not been adequately addressed over the last two decades. The Constitution that came into legislative force after elections in November 2010 did not properly resolve issues related to the degree of autonomy, and the adequate representation in the central government, that minority ethnic groups in the Union of Myanmar seek. Moreover, extended State control over peripheral areas has resulted in the intensive exploitation of natural resources with little regard to the development of infrastructures that are highly needed by the whole country. Foreign countries, China especially, have become involved in large scale infrastructure projects in Myanmar to meet their energy needs; such projects benefit the State building agenda of the current regime but negatively affect local populations. This can be clearly seen through the construction of the Myitsone Dam and the Oil and Gas pipelines, for example. In this context, China's approach towards Myanmar is plagued by a paradox that poses serious dangers to its interests in this country. On one hand, Beijing is interested in stability in Myanmar, an impoverished country with which it has a common border of more than 2,210 km and where it is currently carrying out strategic investments in the energy sector. On the other hand, the modalities of these investments fuel grievances that prevent the settlement of conflict prone situations.

⁹⁸ Shwe Gas Movement, *Corridor of Power. China's Trans-Burma Oil and Gas Pipelines*, 7; Construction of Gas and Oil Pipelines in Arakan Underway", *Narinjara News*.

⁹⁹ Daewoo International, "Social Contributions in Myanmar", http://www.daewoo.com/english/introduce/myanmar.jsp?nav=1_6_0 [Last accessed summer 2010].

¹⁰⁰ CNPC, "Environment and Society", <http://www.cnpc.com.cn/en/environmentsociety/default.htm> [Last accessed July 15, 2010].