

# **The Potential Impacts of Lignite Mining on the Environment and Local Livelihoods in Hongsa District, Sayabouli Province, Lao PDR.**

## **Introduction**

Laos has a plan to transform itself to “the battery of ASEAN” by 2020 and by doing so removing itself from the list of *least developed countries*. After Laos PDR changed from a central planning economy to a market economy, a large amount of money was needed to develop the country. Of its many resource generating industries, forestry and mining are the main industries concerned. Forestry provides income in the short run but leaves behind long-term damage to the environment. Mining is another alternative for the Lao government to gain income and inflow of capital. The number of investors has increased, signing contracts with the Lao government to develop mining in Laos PDR<sup>1</sup>.

The Laos government has plans to build several dams and mining coal power plants from which to sell electricity to its Asian neighbors. The construction of coal-fired power plants has become a controversial issue of critical importance in Laos. The government approved plans to construct coal-fired power plant in the Hongsa District of Sayabouli Province. This is being developed by two Thai energy firms: Banpu and Ratchaburi Electricity Generating Holding which cooperate with Laotian government. The Electricity produced will be sold to EGAT (Electricity Generating Authority of Thailand).

The main focuses of this research are the impacts of lignite mining on the environment and, local livelihoods, and how the local communities access information and their response to this project.

## **Background of Hongsa Lignite Coal-fired Power Plant**

In 1996, Thai Lao Power Co. Ltd. (TLL) initiated the proposed development at HongSa District, Laos PDR. The project features comprised of the mine, the power plant, and the transmission line. TEAM Consulting Engineering and Management Co. Ltd. was engaged as the environmental consultant to conduct the Environmental Impact Assessment (EIA) for HongSa Mining and Power Plant, Initial Environmental Examination (IEE) for the Transmission Line and Resettlement Action Plan for the development. However, the project was suspended prior to completion and official submission of the environmental studies. In 2005, BANPU Public Company Ltd., was considered to continue the Hongsa development,

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<sup>1</sup> <http://library.utcc.ac.th/onlinethesis/onlinethesis/M0195590.pdf> August 15, 2010.

therefore, it is essential to update all of the concerned baseline environmental data and complete the EIA for every relevant project component<sup>2</sup>.

In November 2007, Managing Director of Ratchaburi Electricity Generating Holding PCL revealed that the Board of Directors had approved the investment in Hongsa Thermal Power Plant project in Laos by signing the Joint Development Agreement (JDA) with the other two major investors. The Company would hold a 40% stake jointly with Banpu Power Company Limited (Banpu Power) who would hold 40% and the Laos government who would own 20%<sup>3</sup>.

The project comprises a large open pit lignite mine which will supply fuel for a power plant consisting of three (3) 626 MW (gross) generating units. Water supply for the power plant will be from 2 reservoirs on Nam Louak (upstream of Muang Hongsa) and Nam Kene (downstream of Muang Hongsa). A double circuit 500 kV transmission line will be built over a length of approx. 67 kilometres to the Thai/Laos border to deliver power to the EGAT power grid<sup>4</sup>.



Hongsa Coal-fired power plant

<sup>2</sup> Hong Sa Power Plant, Mining Development and Transmission Line Project. April-December 2005. <http://www.team.co.th/en/project/p3-11.htm>. August 12, 2010.

<sup>3</sup> RATCH Jointly Invests 40% in Hongsa Power Project in Laos. November 20, 2007. <http://www.thaipr.net/nc/readnews.aspx?newsid=A53813E120CB4F2D70DFE80CFC1547DC>. August 8, 2010

<sup>4</sup> Hongsa Power Plant, Mining Development and Transmission Line. <http://www.ceat.or.th/2010/index.php/energy/385-hongsa-power-plant-mining-development-and-transmission-line-.html>. August 15, 2010.



Hongsa Coal-fired power plant image

In February 2009, Mr. Thawat Vimolsarawong, Deputy Managing Director of Business Development of Ratchaburi Electricity Generating Holding Public Company Limited signed the Shareholders Agreement in the establishment of Hongsa Power Company Limited and Phu Fai Mining Company Limited for Hongsa Power Plant's project development in Laos PDR. For the signing of shareholders agreement, Dr. Somboune Manolom, General Director of Lao Holding State Enterprise, Mr Rawi Corsiri, Managing Director of Banpu Power Company Limited and Mr. Chanchai Jivacate, Director of Banpu Power Company Limited represented the joint-ventures companies at the signing ceremony<sup>5</sup>.

An agreement relating to the construction and management of the Hongsa lignite coal-fired power plant was signed between the Hongsa Power Co Ltd and the Electricity Generating Authority of Thailand (EGAT) on September 14, 2010 in Vientiane. Construction of the plant in Hongsa District, Sayabouli Province, will start in March of, 2011 and be completed by the end of 2015.

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<sup>5</sup> Ratchaburi Holding Signed Shareholders Agreement Setting Two Companies for Hongsa Power Plant's Project Development. <http://www.ryt9.com/travel/tag/power/2009-02-11-13:46:16/>. August 8, 2010.





Hongsa Coal-fired power plant Model

The construction of the lignite coal-fired power plant will cost about 30.2 trillion kip (US\$3.7 billion) with 70 percent financed by loans and the remaining 30 percent provided by the company.

**“Last month we borrowed US \$2.783 from nine banks in Thailand (Bangkok Bank, Bank of Ayudhya, Government Savings Bank, Kasikorn Bank, Krung Thai Bank, Siam City Bank, Siam Commercial Bank, Thai Export Import Bank and TMB Bank<sup>6</sup>) for the project.” Mr. Noppol Millinthangoon<sup>7</sup> said.**

Hongsa will be the largest power plant and lignite mine in Laos. It will have an installed capacity of 1.878 MW. Most of the generated electricity will be exported to Thailand with the rest sold to Electricity of Laos for local consumption<sup>8</sup>. The concession period began with the signing of the agreement and ends 25 years after the commercial operation date of the project, according to the accession agreement.

<sup>6</sup> Hongsa to light up Laos, PFI, Jul 30, 2010.

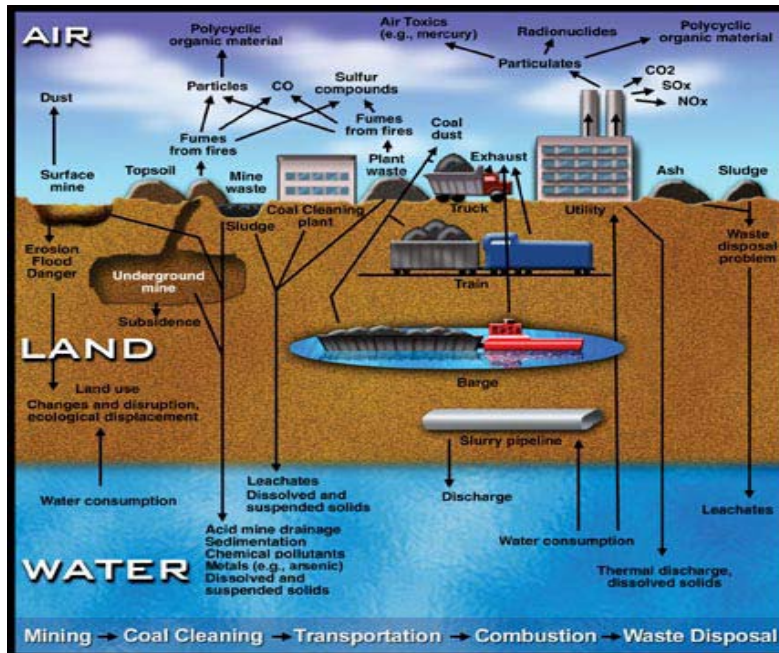
[http://groups.google.com/group/laofab/browse\\_thread/thread/d4686984f9f5412a/7ea8f829ba856904?lnk=gst&q=lignite+mining#7ea8f829ba856904](http://groups.google.com/group/laofab/browse_thread/thread/d4686984f9f5412a/7ea8f829ba856904?lnk=gst&q=lignite+mining#7ea8f829ba856904), August 18, 2010.

<sup>7</sup> Hongsa power Co Chairman.

<sup>8</sup> Development of hongsa power plant takes another step forward, Vientiane time. Wednesday September 15, 2010. Page B

The government believes a project of this scale will yield high revenue while providing Lao people with jobs and income, one of the main factors in helping them to shake off poverty<sup>9</sup>.

## Coal-fired Power Plant Impacts



There are many coal-fired power plants in the world that are a continuing source of problems for the environment and health.

The pollutants spewed from smokestacks threaten public health and the environment. Fine dust particles are a major cause of the lung disease; mercury harms brain development in children and unborn. Coal-fired power plants are the biggest single source of pollution to climate change and causing acid rain<sup>10</sup>.

One such case is Mae Moh coal-fired plant in Thailand. Estimates suggest that 300 villagers died as a direct result of pollution from the plant. Thousands suffer from lung disease and over 30,000 people have to be relocated from their hometowns. The problem in Mae Moh will very likely happen in Hongsa community.

In summary, there is nothing clean about coal. Everything related to mining, combustion, waste disposal, and each activity in between, adversely affects public health and the environment.

<sup>9</sup> Vientiane Times, 02 Dec 2009.

[http://groups.google.com/group/laofab/browse\\_thread/thread/443e627692d883aa/e52711f5af62c25e?lnk=gst&q=lignite+mining#e52711f5af62c25e](http://groups.google.com/group/laofab/browse_thread/thread/443e627692d883aa/e52711f5af62c25e?lnk=gst&q=lignite+mining#e52711f5af62c25e). August 18, 2010

<sup>10</sup> Cradle to Grave: The Environmental Impacts from Coal. *Clean Air Task force*, 77 Summer Street, Boston, MA 02110. June, 2001. (pages, 1-2, 8-9)

## **Public participation and Access to Information**

From my research in Hongsa district and also the villages around which will be affected by the project, it was obvious that the local people don't know about the impacts of mining from company or local government. They have no information on coal-fired power plants and received only positive information from the company.

**“I don't know much about the project and what they are doing. I know only they come here for mining. Thai company comes here for survey in 2002 and there are many people from Thailand come here this year. I think the project will construct soon.” Male villager, aged 45.**

The company and local government are spreading a good image and getting local people to work with them to support manufacture and infrastructure.

**“I think it is good for local people. When the company comes, we have work and get more income. If they build coal-fired factory here so many villagers around here will get a job from company. They donate to build a new public health care and primary school.” Male villager, aged 35.**

The company tries to block information from the project-site. They also release positive information in the newspapers. For example, during my survey in Hongsa area I met a company worker at the nursery tree garden and asked them about their work. While one man answered my questions, a one woman in their group interrupted him to say:

**“Did you remember, what the boss commands us? If have stranger asked about our work. How should we answer?” Female worker, age 25.**

After she said this, the room went quiet for a few minutes. Then another man answered me as if from a script:

**“We are take care the nursery plant to substitute deforestation and to return some forest will be destroying by project-site.” Male worker, age 32.**





Nursery tree garden of Hongsa Power Company united.

Other information the company discloses to public communities in Hongsa. For example, before they construct or relocate households from the project area, they organize a meeting with villagers and explain the reasons why some villager have to move and lose farmland.

**“Head of villages organize some meeting with the company. And they explain why we have relocated from project area. They gave some reason so when they burn coal to generate electricity. It will release smoke and the weather will be hot. Therefore we have to move and they are provided the new houses and fair compensation for who have to relocate and lose their farm lands.” Female villager, age 38.**

Propaganda is dispersed to the public area in Hongsa by activity boards. The boards show how the company supported and participated in developing the Hongsa district.



The Public information board of the company in Hongsa district

Most information on positive development activities is disclosed, but the company fails to mention about impacts of coal-fired power plants

## Communities concern

Most of villagers are being forced to relocate. Even though they do not wish to, the government and corporation force them off their lands if they fail to cooperate.

**“I lost farmland and my house, however I don’t want to move to the new place. But I can’t refuse government, they said: our lands belong to government. When they want it, we have to give it back. Because they are wanted to develop our country, and the residents should cooperate.”**  
Female farmer, age 45.

**“I lost my farmland because the project site covers my farm. They will give me some compensation for my land. It looks fair, but I don’t want it. My farmland is the heritage from my forefathers and I want to keep it for my descendants too. If I don’t have farmland anymore, where will I get rice from?”** Male farmer, age 29.

Before the Lao government approved the coal-fired power plant project in Hongsa district, Sayabouli province, they promoted the area for ecotourism, especially during the Elephant Festival last year in 2009, as reported by Asia Times Online. “The wildly successful Sayabouli Elephant Festival, held in the village of Hongsa, attracted more than 80,000 visitors, some elegantly attired, some dreadlocked ganja-inspired, despite the event's remote location in northwestern Laos. The 70 or so jumbos were by turns applauded, photographed and simply adored as they dipped like divas.”<sup>11</sup>

The Elephant festival helps local people earn more income directly in to their hands more and more every year. So local people wonder why the authorities recently gave the final go-ahead to a Thailand-invested lignite mine and power station to be built only five to seven kilometers from the festival village of Hongsa District. Local people do not understand and are also concerned about the government’s methods of development. The contract for this project is for at least 25 years, which means there will be lasting danger to the environment and elephant species in this area.

## Resettlement

The company is currently constructing houses and facilities to relocate over 400 families away from the project area.

**“We must complete the resettlement before construction work can start.”**  
Mr. Noppol said <sup>12</sup>.

The reality of the situation is that the local people don’t know how many people or villages will have to be relocated from the project area.

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<sup>11</sup> Laos power plant misses jumbo payout. Asia Times Online, 9 Sep 2009.

[http://groups.google.com/group/laofab/browse\\_thread/thread/274148c7986a6538/51057a2821d6357a?lnk=gst&q=lignite+mining#51057a2821d6357a](http://groups.google.com/group/laofab/browse_thread/thread/274148c7986a6538/51057a2821d6357a?lnk=gst&q=lignite+mining#51057a2821d6357a). August 18, 2010.

<sup>12</sup> Development of Hongsa power plant takes another step forward, Vientiane time. Wednesday September 15, 2010. Page B



**“There are some household in the 6 villages that have to be resettled. But I don’t know how many households must relocate because they relocate only some part of the villages that are covered by project area.” Male villager, age 49.**

Nowadays the company is working to fulfill the resettlement action plan. They have already relocated 13 households from Ban Mai, a village in the project area. The resettled households were not moved to a permanent place because the resettlement area is under construction. The company is currently renting rooms or houses in Ban Han for the 13 households. The 13 households in Ban Mai were the first to be relocated because the houses were in the project area.

**“My family moved from Ban Mai, and now we are staying with my relative in Ban Han. The company told me after they build the new house already. We will be moved to live there.” Male villager, age 52.**

## **Compensation**

The company is working to ensure that the people the project affects will be satisfied with their compensation. They have planned to use a lot of money for houses, farmlands, and other productive compensation. While this seems like a fair plan, in reality the majority of local inhabitants are indigenous (Lao, Lue, Khmu, Prai, Hmong, Myan) people whose livelihoods are tied to the natural resources of the land. Since the company wants to use the lands that the indigenous people live and depend on, they are attempting to persuade them through a large monetary compensation. The indigenous people do not want the money being offered, but they have no choice but to accept it.

**“About 14 households already moved to Ban Han. The company prepared accommodation and gave them 2,000,000 kip (\$250) per household every month until they move to a new place.” Male villager, age 40.**

**“The company is paying everything for local people who have to relocate. Such as they find a new land, build a house and pay for your old land 45,000 kip per square meter. Pay for your production up to market price. About your farmland they are separate in two grades A and B. Farmland grade A that mean can grow 2 time per year, the price is 90,000,000 kip per hectare. Grade B mean can grow only one time per year, the price is 45,000,000 kip per hectare.” Male company driver, age 35.**

**“When the resettlement completely 6 years The Company will be pay all compensation for local people. During that period they will provide jobs, new house and take care about accommodation. The accommodation depends on members of each family. If one family has more than 8 members, they will get 2 houses and more than 15 people they will get 3 houses from the company.” Male company driver, age 30.**

This information about compensation is from villagers and sub-company’s worker in Hongsa District. Many local people believe and are happy with this information, but some people are still uncertain about it, because they are worried about food security in the future.

**“I will get a lot of money from my small farmland. But in the next 10 or 20 years that money will disappear by spend. How can I earn income for my family? Now I have farmland, every year I can grow rice enough for my family. Remain of consume I can sell in the market. And I can find some food from the forest such as bamboo shoot, mushroom, insect and wildlife.” Male, Villager age 45.**

## **Environmental Impacts**

At this time the project is beginning to be implemented, so the scale of environment impact is just starting and cannot be seen clearly. It's normal that the local people don't focus on this issue, because they are unaware of the long term effect. During my research fieldwork I found the first problem when project started: the local people will lack clean water resources, because the company are planning to block the three main streams to build reservoirs to supply the power plant. The three streams are the Nam Louak (upstream of Muang Hongsa), Nam Kene (downstream of Muang Hongsa) and Nam Hoy Kong Kold Mai. The first complete reservoir they have built blocks the Nam Hoy Kong Kold Mai and the nearby mine is less than 1 kilometer away. The three main streams' water is used to irrigate the villagers' rice fields and plantations. When the company starts open surface mining, the forest around there will be destroyed, including the food the villagers get from the forest and its wildlife.



Nam Hoy Kong Kold Mai reservoir.



Open surface mine in Hongsa Coal-fired power plant.



Local Farmland (rice field) and an old woman weaving traditional cloth

## **Land confiscation and livelihood impacts**

The government cooperates with businessman from Thailand to open coal mining in Hongsa District. They are contracted to provide land for this project, but while the most of land is forest area, some of it is farmland, rice fields, and indigenous village areas. This means that the government must persuade the local people to surrender their land without force. Most local people in these areas are illiterate and lack access to information from outside sources. The only information they have access to is provided by the government. Therefore it's very simple for the government to confiscate the land from local people without using force.



The local people's livelihood is based on natural resources. They grow rice in the rainy seasons and collect other food and material in the forest when needed. It has been their way of life for generations. If they have to relocate to new lands, that means their livelihood, will disappear.

Today nothing is happening in this area, but when the project starts there will be impacts from project operation on the people living in communities in the project vicinity. Many outsiders will move into this area while the local traditional culture and habits are destroyed. The influx of migrant workers will bring social change and health problems including migrant sex workers who will spread STIs and HIV.

## **Conclusion**

With this research I have tried to show the participation and access to information the effected communities have and potential impact of lignite mining it will be happen in this area.

The local people who live here have not been informed about the negative impacts of lignite coal-fired power plants. The plant has not been constructed yet, but the project has begun. By this time, the company has established the company building and cleared the project area to in preparation of the construction of the coal-fire factory. They have already released a strong campaign on the local people in this area, controlling the information that the people receive about the company and the project in the area

## **Recommendations**

To NGOs and INGOs, monitor development of this project. INGOs must first request the EIA of the project from the company. If the company does not release the EIA to the public before they start the project, the company violates Lao Mining Law. NGOS and INGOs should also put pressure on the Lao government to ask the company to disclose the EIA because it is the government's duty to prevent harm to Lao people and loss of natural resources of the country. Thai NGOs in particular should campaign to stop the plant development and put pressure on the banks who have invested in the project.

To the Lao government, protect the health of your people and natural resources of the land. Hold the company accountable to the mining laws of Lao PDR. Think beyond the GDP or benefit from this mega project and consider the negative impacts. Promote transparency in the project's development process.

To the local people, participate and find impact information related to the project. Be brave enough to speak out to protect your hometown. Have a network of local communities by connecting to the areas outside of your village.

To the company, keep your promises to the people and follow the mining law of Lao PDR, such as Article 5 Environmental Protection: "Any person or entity licensed to develop mineral resources shall utilize procedures to limit adverse environmental impacts and to limit the destruction of natural resources". And article 32 Environmental Impact Assessment

(EIA): “Along with the feasibility study, the investor shall submit an environmental impact assessment which shall contain an elaboration on the following. An estimation of the projected environmental impacts and proposed alternatives and measures to avoid or reduce the adverse impacts on the environment, ecology and communities; and An evaluation of the loss to be incurred and the proposed rehabilitation, including the methods proposed to avoid economic hardship to those people who will be affected by the mineral development project, including plans providing for resettlement and the means of livelihood.”<sup>13</sup> Companies that want to start mining projects in Lao must complete the EIA and disclose it to the Lao government and general public.

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<sup>13</sup> MINING LAW of the LAO People's Democratic Republic, Vientiane, 12/04/1997, <http://freelao.tripod.com/id54.htm>. 10 November 2010.