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Jatropha: Jobs for farmers or fuel for foreigners?

In February 2008, the company Enviroenergy Developments Australia signed a contract with the Timor-Leste government to develop a multi-million dollar jatropha biodiesel processing facility in Baucau district. The proposed facility could become the largest non-oil private investment in Timor-Leste, with the government claiming that it will create 30,000 rural jobs. *La'ο Hamutuk* decided to find out more about the facts and future implications of the project.

What is Jatropha?

Of the approximately 175 types of jatropha plants, shrubs and trees, two grow across Timor-Leste: *Jatropha curcas*, (known as 'ai oan mutin' in Tetum), and *jatropha gossypifolia* ('ai oan metan'). They are poisonous and cannot be eaten by animals or humans, although *jatropha curcas* is used in medicines. Jatropha seeds contain a lot of oil, which can be released by crushing them.

Jatropha probably comes from Central America and Mexico, and the Portuguese introduced *jatropha curcas* to Timor-Leste to use in oil lamps. Jatropha is rarely used as firewood as it burns rapidly, and in Timor-Leste it is mainly used in 'living fences' to keep animals out. Both these types of jatropha are considered weeds in many countries; some governments, including Australia's Northern Territory, ban planting or importing jatropha seeds.

Jatropha as Fuel

Petroleum is being used up worldwide, and burning other non-renewable fuels releases harmful carbon into the air, causing climate change. Therefore, the world needs to supply and use energy more sustainably (see *La'ο Hamutuk Bulletin* Vol. 9 No. 2 August 2008). Some suggest using agriculture to grow fuel which would replace petroleum, which is called 'agrofuels,' a form of 'biofuels' (see page 6).

Oil from jatropha seeds can be used directly (such as in lamps), or processed to make a motor fuel called biodiesel. Jatropha oil can be processed in large centralized factories, or in small community-level presses. Although factories can extract more oil from each seed than small presses, they use more energy in transport, construction and maintenance. Jatropha biodiesel burns best at high temperatures and is often used in electric generators or automobile engines. Biodiesel is usually mixed with petroleum diesel (5-10% biodiesel), although engines and generators can be adjusted to take larger portions of biodiesel. When jatropha biodiesel is produced, byproducts can be made into pellets which can be burned to create electricity or used as a fertilizer. These pellets are poisonous to livestock, but the toxins can be extracted so that it can be used to feed livestock; it is unclear if this can be done profitably. The process also produces glycerine, which

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Jatropha curcas
(white jatropha or ai oan mutin), left



Jatropha Gossypifolia
(black jatropha or ai oan metan), right

can be used to make soap. *Jatropha curcas* plants begin producing seeds of good oil quality after 3-5 years, and will produce seeds for agrofuel for 35-40 years.

EDA plans to produce biodiesel from *jatropha curcas* in Timor-Leste, mostly with seeds imported from South-East Asia, they will then export the biodiesel overseas. Large-scale growing of jatropha is new, and it remains unclear if this cash crop is a positive development for poor countries.

Plans for a Jatropha Processing Plant

On 13 February 2008, the RDTL Government and EDA signed a contract for EDA to develop a jatropha processing plant at Carabela, between Vemasse and Baucau, approximately 120km east of Dili. This plant would convert jatropha seeds imported from overseas or grown in Timor-Leste into biodiesel and produce pellets from byproducts.

The Government agreed to issue relevant licenses and sell or rent land to EDA at the Government Industrial Land Zone at Carabela. It also agreed to provide tax concessions. However, the 2008 “tax reform” law slashed taxes and import duties for all businesses, (see Editorial, *LH Bulletin* Vol. 9,

Enviroenergy Developments Australia

Enviroenergy Developments Australia Pty. Ltd. (EDA) is owned by the MPI Group, an Australian engineering firm. Before signing a contract with the RDTL Government in 2008, EDA had worked with Timorese company Daba Loqui to promote jatropha in Timor-Leste. EDA declined to tell *La'o Hamutuk* about their other biodiesel projects, but the MPI Group website, www.mpigroup.com.au, emphasizes the company's work in designing and constructing projects, but not in operating them.

No. 2), so that there are few taxes left to concede to EDA. In addition to the Industrial Land Zone, the government also agreed to provide access to other land – such as the port at Carabela on the north side of the Dili-Baucau road. They also offered to mediate between the company and private land owners if EDA wishes to buy land.

EDA promised to start construction by mid-2009. While EDA estimated it would invest \$550 million over ten years, it did not commit to spend any minimum amount of money. This is different from agrofuel projects in countries such as Mauritius, where government incentives are calculated each year based on how much money a company has invested.

Processing Plant

The processing plant at Carabela will be on 59 hectares (about 120 football fields in area) of ‘Industrial Land’ bordering the eastern side of the Vemasse River south of the Baucau-Dili Rd. According to the contract, it includes pri-

Why grow jatropha for fuel?	Why not?
Jatropha can grow on lands where food cannot be farmed, such as areas with poor soil or little access to water. It therefore does not take land away from food production.	These lands have other food-related uses including windbreaks, animal grazing, wild-foods, firewood, stopping erosion and building materials. The most vulnerable people are often dependent on these lands. Some agricultural scientists believe that anywhere jatropha can grow other tropical fruits and root crops will also.
Since you cannot eat jatropha, you do not have to choose whether to use it for fuel or food.	If you cannot sell your jatropha you have nothing to live on.
Jatropha is drought resistant.	Growing jatropha with little water in poor soils will produce poor quality seeds, if any, resulting in very low income.
Jatropha curcas has no known predators and does not require pesticides.	Planting jatropha curcas in commercial monocultures (large areas where only one crop is planted) is a new and risky practice. Monocultures make it easier for pests or viruses to travel from tree to tree.
Jatropha can help stop erosion.	Land is better rehabilitated with a variety of types of trees, not just one.
Jatropha is a renewable energy source.	Agrofuels require large amounts of land. They will replace food crops, food-related lands or scarce remaining natural environments with cash-oriented agriculture.

The jatropha processing plant would be built on land north and south of the Dili-Baucau Rd, on the east side of the Vermasse River.



vately owned land. (The Chefe de Suco of Carabela told *La' o Hamutuk* that nine hectares of this land was previously rice paddy, with the owners given tractors as compensation.) EDA would also use land north of the road along the shore; this would include EDA adapting the Carabela Port to the company's needs.

The currently unused port was built during the Indonesian occupation by the Timor Cement company, which closed after 1999. According to the Chefe de Suco, the port land was owned by the community before Indonesia invaded.

As of August 2008 the Carabela community had not received any information about the processing plant or development. The EDA-RDTL contract says that land was to have been rented or purchased by 1 June 2008.

'Development Standards'

The contract requires EDA to apply the same 'development standards' as if the plant were built in the Northern Territory, Australia. It refers to environmental and safety requirements, oil storage, seed and general storage, emission standards, fire protection and building standards. This attempts to address the currently confusing legal framework in Timor-Leste, where Indonesian, UNTAET and/or RDTL laws can apply. However, Timor-Leste does not yet have the capacity to enforce rigorous standards and lacks the appropriate licensing agencies, codes of practice, inspectors and, functioning legal systems. As Timor-Leste continues to enact its own laws, a contract referring to Australian laws will be increasingly uncertain and illegal.

Biodiesel processing plants bring various serious health and safety concerns, as they involve transport and storage of methanol and other dangerous and toxic chemicals which can easily catch fire or poison people. Workers will work with hazardous chemicals and waste products from water desalination and sewage, which must be carefully managed to safeguard people living near the Industrial Land Zone and the Carabela port. In other countries, people are not allowed to live in heavily industrial areas because of concerns of noise, pollution and possible accidents such as chemical spills. Water pollution could also affect marine life (and the people who eat it).

The contract does not define who will pay for environmental, social or safety management of the processing plant. The Government might have to pay for monitoring and managing health and safety operations and protecting the local marine environment, as well as containing emergencies such as

chemical spills. Until public servants develop the necessary skills, the government may have to hire contractors. If the government does not fulfill these functions, there could be negative consequences for local health, tourism, travel and the communities. In order to deliver jatropha from local farmers, the Government may have to upgrade roads and other infrastructure.

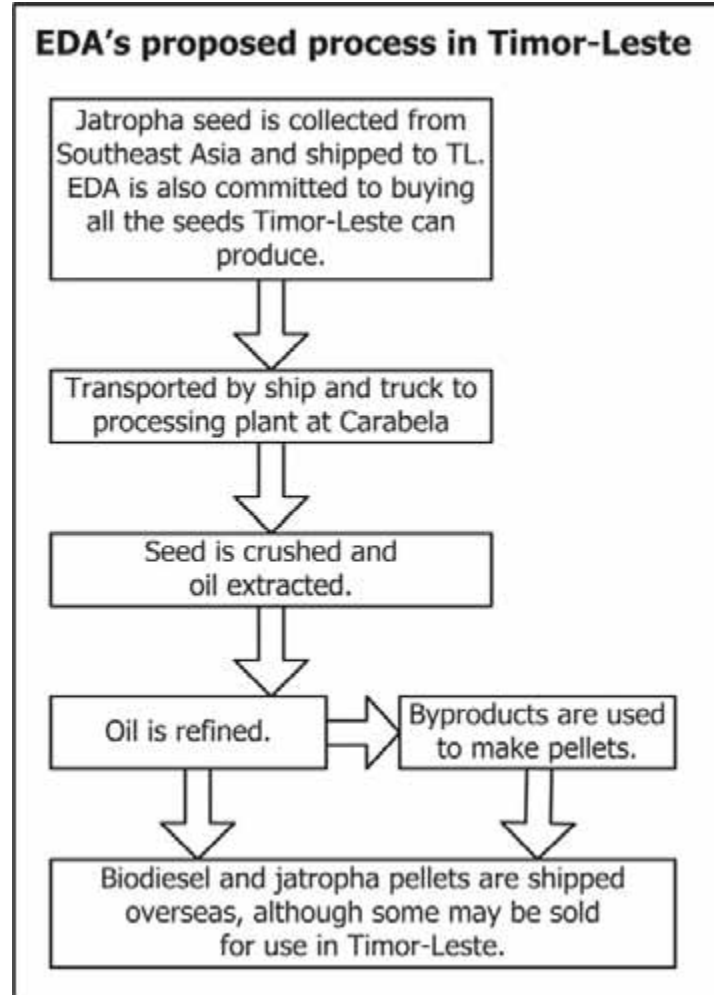
EDA is not required to manage or rehabilitate the quarry they will use, or to make the industrial site clean, safe and suitable for other uses when the company leaves. Waste products would also have to be managed – through landfill, recycling, isolating waste from the environment, or other mechanisms. It is possible the government could inherit all these costs.

Even if the government can monitor and manage impacts adequately, it has little capacity to enforce standards. Either EDA or the Government can cancel the contract if the other party does not meet its obligations, but the Government cannot cancel it because EDA fails to meet health, safety or environmental standards. If the contract is cancelled, Timor-Leste will be left to clean up the mess.

How much will farmers get?

Under the 2008 contract, EDA agrees to buy seeds from farmers on the same terms as a previous 2005 agreement. The earlier agreement was to buy unrefined jatropha oil (not seeds), with the price linked to the international price of crude oil – if the price of crude oil goes up, the price for jatropha oil also increases. However even with oil prices much higher today than in 2005, the price offered is still very low.

La' o Hamutuk has tried to estimate the amount farmers will receive for growing jatropha, but exact calculations are



Components of the proposed EDA jatropha processing plant



Industrial Land Zone

EDA will use and develop 59 hectares of industrial land at Carabela



Quarry

EDA will quarry construction materials from the adjacent Vemasse River or 'other suitable locations'.



Port Facility

EDA will develop and use the Carabela Port and shorefront land. Bio-diesel will be shipped overseas from here.

Water Desalination Plant

Seawater will be processed into potable (drinkable) water for use in the plant.

Biomass Power Plant

Some of the jatropha pellets will be burned to create electricity to power the plant.

Water Treatment Plant

Where waste water from the plant and desalination processes is treated.

Bulk Storage Facility

To store oil, seeds, pellets, byproducts and raw materials.



Natural Fuels Australia Ltd biodiesel processing plant in Darwin

impossible. International information on the cost of processing and the yield of jatropha seeds per tree or hectare varies widely. Companies which sell seeds have an interest in claiming high yields, and there is little independent research to confirm their figures. Fertilizer, irrigation and pruning can also increase yields, while growing jatropha on poor quality soil with little water will yield fewer, poorer quality seeds.

As *jatropha curcas* has never been domesticated in Timor-Leste nobody knows how many seeds it will yield or how vulnerable it will be to viruses or pests which emerge in monoculture plantations. In other countries, rain-fed jatropha produces approximately 1000 kg of seeds per hectare – although this varies from place to place based on soil quality, inputs and local rainfall.

Creating unrefined jatropha oil requires the following processes which would be costed in the EDA price – providing seeds and cuttings to farmers; waiting 3 – 5 years to establish seeds with a good oil content; harvesting jatropha pods; washing and hulling pods to reach the seeds; transport to an oil extraction facility and extracting the oil. In the 2005 contract the cost, labor and other resources required for this process was shared between farmers and the processor, Timorese company Daba Loqui. However, to what extent this process still applies is unknown as EDA no longer partners with Daba Loqui and now plans to use byproducts in its operations.

Under the current contract EDA would pay for a metric ton of unrefined jatropha oil 2.22 times the world market price of a barrel of crude oil. If the crude oil price is \$100, this is 20¢ per liter of oil, which uses 3.5 kg of seeds. The farmer and processor would share 6¢ for a kg of seeds.

This price is consistent with the 10¢ per kg Daba Loqui said they were offered by EDA for jatropha seeds. The com-

pany told *La'o Hamutuk* that 10¢ per kg was not enough to meet their costs, so they asked for 50¢ per kg. They said the disagreement over price was one of the reasons their partnership broke down. Even in a best case scenario with a processor and farmer sharing income equally, farmers would receive only 3¢ per kilogram of seeds.

La'o Hamutuk estimates that a one hectare farm planted entirely with jatropha will earn only \$30 per year.

If farmers needed or demanded a significantly higher price, the project would not be commercially viable, Timorese farmers would also need to compete with EDA's imports of seeds from Southeast Asia. In other countries, jatropha yields may be higher or more cost effective by using large company plantations: they may have more money to invest in hybrid seeds, intensive pruning and developing irrigation. Often, these plantations are on good quality soil with good rainfall, as farmers have no longer been able to afford to stay on the land.

Food Security and Farmers

Farmers in Venilale (Baucau) and Ossu (Viqueque) who were approached to grow jatropha in 2005 and 2006 told *La'o Hamutuk* they have not yet received any money from the jatropha they planted.

In Fatu Lia (Venilale), the Chefe de Suco told us that although Daba Loqui and EDA had asked the village to use communal land, they never approached the suco administration. Many farmers said they agreed to grow jatropha because they trusted Timor-Leste's Consul General to Australia, Abel Guterres, who accompanied representatives of Daba Loqui and EDA on their visit to the community. The companies had made verbal commitments to buy jatropha, but when

there was a subsequent falling out between Daba Loqui and EDA, no-one had come to buy their harvested pods. Farmers are reluctant to replace the jatropha plants as they take several years to reach optimum production, and the farmers hope the problem can be resolved.

Farmers in both areas told *La'o Hamutuk* they were encouraged to replace food crops with jatropha, that farmers would receive more money per kilogram if they grew more jatropha. They replanted fields where they had been growing food, such as corn and mung beans, with jatropha. Some farmers also planted jatropha on land which was no longer used to farm food because monkeys and rats had destroyed previous crops.

Daba Loqui taught farmers how to plant jatropha, including spacing jatropha wide enough to grow corn in between. The farmers said that the corn grew well in the first year, but after that its quality dropped. Venilale farmers said that jatropha from cuttings grew faster than from seeds, and that they harvested pods from these plants in 2007 and 2008. People who pulled out their jatropha plants when no one came to buy seeds said that they had not observed any difference in soil quality.

When farmers grew jatropha on poor quality land with little access to water, some jatropha died while others produced few seeds, of poor quality. A farmer from Builale (Ossu) explained “this seed came from Liquiçá where there are different temperatures and more water.” Jatropha seed from Liquiçá was used because it had a high oil content. Communities told us EDA and Daba Loqui representatives visited several times and encouraged them to plant more jatropha. Farmers and the community at Carabela did not know whether the jatropha project was run by an NGO or private companies. Farmers in Venilale said that a local NGO had offered them 40c a kilo to plant candlenut and they were frustrated that they had not received any money from jatropha. They said jatropha had become a source of conflict in their community.

Timorese jobs and investment

In 2005 EDA's parent company the MPI Group stated that a 100 million liter/year oil extraction plant would create 20,000 jobs if 40,000 hectares were planted with jatropha in Timor-Leste. In 2008 the government said the new contract would create 30,000 jobs. Secretary of State for Energy Policy

Avelino Coelho told *La'o Hamutuk* that 20,000 of these jobs would be produced by farming 20,000 hectares – one job per hectare. Since growing an acre of jatropha will earn about \$30 per year, this ‘job’ would pay about 8¢ a day.

The Carabela plant will be built in stages, based on ‘commercial conditions,’ and EDA will decide whether to expand the plant based



Farmer in Fatu Lia with jatropha

Daba Loqui

Daba Loqui Pty Ltd. is a Timorese company that previously partnered with EDA. The main role of Daba Loqui was to facilitate between EDA and local farmers, land holders and local authorities in Timor-Leste. Daba Loqui was to develop jatropha plantations, and would provide jatropha oil from Timor-Leste and Indonesia to EDA. Daba Loqui would buy seeds and process them into oil in EDA's oil extraction plant.

on how well their business is going. In 2005 EDA agreed to start by processing 100,000 tons of jatropha oil per year only 4% of the possible future expansion to the ‘ultimate capacity’ of 2.5 million tons/year it mentioned this year. It is unclear if this ‘capacity’ is production capacity (based on the infrastructure they will build) or site capacity (how large a processing plant could be built on the land at Carabela).

In Australia, biodiesel factories producing about 100,000 tons of oil per year are estimated to employ 100 or fewer people, including short-term construction jobs (but not farmers). The EDA-RDTL contract does not guarantee any jobs for Timorese people, and it is unclear if skilled foreign workers will take some of its best-paying positions.

The processing plant will be built with imported parts and will supply its own energy, water and construction materials, so it will require few goods or services from local businesses.

Based on the contract, *La'o Hamutuk* believes that this project will not produce any significant new employment for Timorese people or revenues to the RDTL government:

- √ Few, if any, new jobs from the company buying Timorese goods and services.
- √ Few, if any, realistic farming jobs because the farmers will receive very little money for jatropha seeds.
- √ Only a few dozen Timorese jobs to operate the biodiesel facility and refinery.
- √ Very little money to the RDTL government, due to recently lowered business taxes and concessionary tax treatment for EDA.

Recommendations

La'o Hamutuk believes that this contract should be cancelled because it violates Timor-Leste's constitution, which prohibits foreign companies or people from buying land. It also relies on ‘Northern Territory development standards’ which are legally unenforceable here. Many areas of law which would apply to this project – such as land titling or health and safety regulations, are either underdeveloped, or the capacity to implement and monitor laws is not yet in place. This means that contracts should carefully consider how companies operating industries can be expected to follow specific, enforceable requirements for health, safety, emergency response, environmental management, decommissioning and many other areas – and ensure that companies will be accountable to new laws and regulations as they are developed. The agreement to grant all relevant licenses contained in the contract also fails to meet administrative and legal processes for the relevant ministries. These kinds of problems often occur when a government signs contracts in secret,

without adequate public information or consent and without a transparent tender process (see *Other Agrofuel Agreements in Timor-Leste*).

La'o Hamutuk agrees with the decentralized energy planning strategy of the State Secretary for Energy Policy, but we strongly disagree with many of the plans for unsustainable energy projects that have emerged (see Heavy Oil Plant, page 18). In countries which waste a lot of energy, people are trying to reduce energy use and shift to renewable energy sources. Entrenched special interests are forcing many of these countries to continue to depend on polluting, outdated coal and petroleum.

Timor-Leste is fortunate not to be in this situation; our low current usage and lack of pro-petroleum lobbyists puts this country in a perfect position to develop a sustainable energy infrastructure. Countries which use a lot of energy are promoting agrofuels as a way to provide energy to maintain their

lifestyles, while taking land away from people in poor countries who would otherwise use it for food or other needs.

Timor-Leste should develop a sustainable, decentralized energy policy based on the specific local resources and circumstances of communities. Projects should use locally maintainable resources to meet current and future local needs, and may incorporate a combination of sources. Timor-Leste already has experience with solar power, wind, mini-hydro and biogas. Decentralized energy systems should be developed together with the community and local authorities. In the long term, local, sustainable energy systems are much cheaper and cleaner, and will ensure that people can always access energy, protected from the rising global costs of petroleum, coal and agrofuels.

We welcome further information or experiences of farmers with *jatropha*, sugar cane, corn or other agrofuels in Timor-Leste. ❖

What are Agrofuels?

Agrofuels refers to growing crops for fuel, often in large-scale monocultures, where only a single crop is planted. The resulting fuel is exported out of the local ecosystem. Two types of agrofuels are currently used:

1 **Bioethanol** can be produced from plants with a high sugar or starch content, such as sugar-cane, maize and cassava.

2 **Bio-oil/ Biodiesel** can be produced from plant oils such as palm oil and *jatropha*.

Some people refer to agrofuels as **biofuels**, which describes many different processes. **Biofuels** can also refer to the small-scale use of plant and animal products (such as husks and dung) for energy. These products are often used for energy together with alternative uses as animal feed or enriching soil, with the community making decisions about balancing their agricultural and energy needs.

Agrofuels may also be called **biomass**, living and recently dead plant material that can be used for fuel or industrial production.

Biogas, methane gas produced by the biological breakdown of organic matter such as cow manure, is one form of biofuel currently being used in Timor-Leste.

Agrofuels and Land Rights

La'o Hamutuk is concerned that the Carabela facility may violate the Timor-Leste Constitution by allowing foreign companies to buy land. Under the Constitution only citizens of Timor-Leste can own land. This ensures that the Timorese people retain the primary control and benefit from our natural resources.

Other agrofuel agreements allow companies to use government land on 30-50 year leases. Timor-Leste's land laws and titling are incomplete, so it is not yet clear which local communities and families have rights to this land.

The government has offered to help mediate between companies and private landowners if a company would like to purchase or lease private land. However, the government should only get involved in buying private land when it is to be used by the government to build public infrastructure, such as a road or a school. Our Government should not help foreign companies take land from Timorese citizens.

If all the undeveloped land in the world was used for agrofuels, it would not satisfy the energy needs of industrialized countries, which is why land now used for food and housing is being converted to agrofuel production.

Other Agrofuels Agreements in Timor-Leste

The Government has given *La'o Hamutuk* three Memoranda Of Understanding (MOU) it has signed with overseas companies: **Komor Enterprise Ltd** (South Korea) – RDTL supports the company's project to develop 100,000 hectares of corn and *jatropha* for agrofuels in Lautem, Bobonaro, Baucau, Manufahi and Viqueque for export markets. The MOU does not specify whether land will be leased from the government, although it raises the possibility of partial financing from a Timor-Leste 'agriculture fund'.

GTLESTE BIOTECH (Indonesia) – a MOU for the use of 100,000 hectares of sugar-cane for ethanol (with some sugar produced as well), to be leased from the Timor-Leste government. Pilot projects will occur in Suai and Viqueque. The ethanol is intended for export.

Jacobsen Elektro AS (Norway) – the company is to build *jatropha curcas* oil extraction facilities and a power plant which would use locally produced biofuel/agrofuel and imported heavy oil for local energy needs. *Jatropha* seeds would be provided by local cooperatives. Jacobsen Elektro specializes in heavy fuel plants, but why heavy oil is chosen for use together with *jatropha* oil is unclear as bio-oil and diesel motor fuel are far more compatible. RDTL will pay Jacobsen to "Build and Operate" the *Jatropha* oil extraction and power plant, eventually transferring it to RDTL.

In October 2008 the Provedor for Human Rights and Justice made a finding on the GTLESTE Biotech MOU that highlighted some principles for agrofuels agreements: those which affect many ministries cannot be undertaken by a single minister alone and agreements affecting land in Timor-Leste should not be confidential. He also highlighted that the land lease arrangement proposed in the GTLESTE Biotech MOU has the potential to violate human rights.

The Struggle for Gender Equality Continues

On 9-13 June 2008, 25 women working on women's issues, advocacy and media came together for the "Revitalizing The Women and Young Feminist Movement" workshop in North Sumatra. Participants came from Cambodia, Thailand, Vietnam, Malaysia, Philippines, Burma, Indonesia and Timor-Leste. Yasinta Lujina (*La'o Hamutuk*) and Sribuana da Costa (JSMP) shared information on the women's movement in Timor-Leste. This workshop was part of a broader initiative to strengthen women's leadership and women's movements in Mesoamerica, Asia and Southern Africa.

This regional workshop was organized by **Just Associates (JASS)**, a global community of feminist and social justice activists, and **PESADA** (Sada Ahmo Association), a Sumatra-based NGO fighting ethnic discrimination and promoting women's rights in North Sumatra.

This workshop aimed to:

- 1) Strengthen and diversify the leadership of women's movements, involving women of all ages and nations, building their skills through learning and action;
- 2) Re-politicize gender equality and women's rights strategies, creating a clear vision for the future. This will be achieved by improving women's political skills, better analysis of power relations and better organizing and mobilizing of the women's movement through dialogue, popular education and inclusive processes.
- 3) Build bridges between different women: rural and urban; grassroots and policy makers; researchers and activists.

Representatives related stories of women's movements in their countries; discussed ideas and lessons from the conference, and shared traditional music, traditional dress and gifts.

We reflected on three decades of women's rights and empowerment efforts, examining developments which shaped our countries and how they affect women and our movement.

We looked at national, regional and global challenges for the women's movement: NGO-ization, weakening of solidarity, religious fundamentalism, militarization, corporate globalization, neoliberalism and the shrinking of the state's capacity to protect women's rights. We learned that power, social movements and feminism are key to making our movements strong, and must be central to our activities. We found that women across Southeast Asia have similar experiences. Women face the same issues: cultural and traditional, social, economic, religious and political. We identified key challenges:

◆ Legacy of colonization

The legal systems of many Asian countries are based on colonial structures. These laws do not address the fundamental legal issues of colonization, which are racist and gender discriminatory (in the laws and in how they are implemented). For example, crimes which take place in the home are considered less important than those in public. These legal issues are a major force for women's subordination.

◆ Fundamentalist interpretation of law

In Asia, fundamentalist movements linked to Islam and Christianity are growing in strength. These groups generally have a conservative interpretation of religious doctrine, with nega-

tive impacts on women. An example is Shar'ia law in Indonesia which discriminates against women and limits women's opportunities.

◆ Capitalism and Neoliberalism

Political and economic developments in capitalist and neoliberal systems have increased poverty across Southeast Asia. By undermining sharing, cooperation and communal assets, these systems increase economic inequality, with a few people becoming rich but many becoming poor. The need for money, by women themselves or their families, often causes women to be exploited by prostitution, trafficking and pornography.

◆ Legal system

Many legal systems discriminate strongly by gender, not valuing women the same as men. While formal laws and regulations across Asia can benefit women by stopping domestic violence, trafficking and increasing political access, in reality they are not yet implemented and mostly male rulers do not see this as a priority.

◆ Patriarchal system

Most people in Asia place men above women. Differences in gender roles and functions enforce the patriarchal system. The patriarchal mentality gives greater power to men in all areas, and leads to men's domination over women.

Challenges to the women's movement in Timor-Leste include:

1. The culture and system of patriarchy are so strong, giving power and value to men over women.
2. Catholic doctrine strongly enforces patriarchal thinking.
3. The Justice system is inefficient in implementing many laws, and laws are still needed to address women's needs.
4. Some people believe that women's empowerment is against men and breaks up the family, giving a negative stigma to the women's movement.
5. Because of discrimination, women are economically, psychologically and socially dependent on men.
6. Many women and men are not yet aware regarding gender equality.

The women who participated in the workshop learned:

- √ about women's situation and condition in other countries in South East Asia.
- √ how to liberate ourselves from our thinking that women and men are not equal.
- √ that the struggle for gender equality is not finished.

Women should prepare ourselves to identify challenges, build up capacity, share information and develop relationship with others in the struggle for gender equality.

Conclusion

Women of all ages across the world face the same challenges and the same struggle. We know what we want to change and we must work together to make these changes.

We must draw on our resources – the strengths, knowledge and learning from the women's movement — to achieve equal rights for women. ❖

Climate Justice, Now!

Report from Climate Justice Conference in Bangkok

On 12-14 July 2008, around 170 activists including fishermen, farmers, indigenous people, women, youth, workers, researchers and campaigners from 31 countries met at Chulalongkorn University, Bangkok for the Climate Justice Conference. The conference was organized by Focus on the Global South to build and strengthen movements for Climate Justice in countries in the Global South.

Participants discussed many topics, including agrofuels, land, and food sovereignty, coastal community, fishermen, forests, water and energy sovereignty, REDD, Carbon Trading and Clean Development Mechanisms, indigenous people, International Financial Institutions, gender, tourism, development with low carbon emissions in the South, strategy on technology and techno-fixes, social movement strategies, greenhouse gases and the right to development.

Climate Justice

Climate justice means that those who have done the most to cause climate change should have a greater responsibility for climate change mitigation and adaptation. Activists in this conference agreed that until now victims of climate change, particularly indigenous people, farmers, fisherman, and people on small islands have been further disadvantaged by the unfair process to tackle climate change. Climate justice is both a principle and an objective. Participants of the conference stand for this principle and fight for a just solution for climate change.

Agrofuel, Land and Climate Justice

In tackling climate change, alternative energy is important to substitute for fossil fuel – the main source of CO₂ – but developing agrofuels in large scale would bring strong negative impacts on people, land and environment. If agricultural lands which had been used to produce food are converted to crops for biofuels, farmers in developing countries will be affected most because their lives directly depend on lands. Most poor people will not be able to buy food at increased prices, resulting in greater hunger and famine.

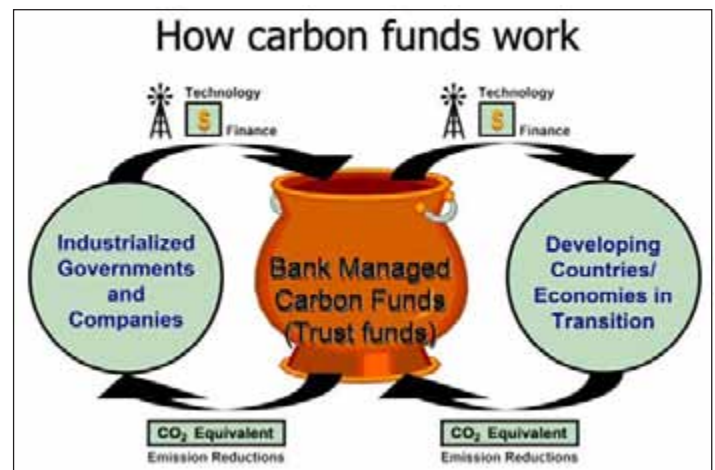
Converting agricultural land to agrofuels will decrease food production and consequently raise food prices. It will have negative impact on land and environment because of the use of chemical pesticides and fertilizers to increase yield. Development of agrofuel has sacrifice millions hectares of forest in many countries like Brazil and Indonesia and will sacrifice more forests. It will threaten the ecosystem and biodiversity, and many local people will be displaced to expand agrofuel plantations.

Participants identified several campaign priorities: to support the campaign in Europe to stop subsidies on agrofuel and agrofuel industries in all countries, to call for the establishment of regulations in every country to promote sustainable agriculture and local industries, to pursue just agrarian reform and to campaign against all market oriented investments agreement and unjust agrarian reform. Agrarian reform can refer either, narrowly, to government-initiated or government-backed redistribution of agricultural land, or more

broadly to an overall redirection of the agrarian system of the country, which often includes land reform measures. Agrarian reform can include credit measures, training, extension, land consolidations, etc.

International Financial Institutions

Speaking on IFIs' involvement in climate change, Janet Redman from the Institute for Policy Studies described the involvement of the World Bank in Carbon Trading as dangerous and counterproductive to global action against climate change. The World Bank has two funds to improve poor communities' lives — the Community Development Carbon Fund (CDCF) and the Bio-Carbon Fund (CDF), but together these include only \$219 million - 10% of the \$2 billion Carbon Finance Trust Fund. The Carbon Finance Trust Fund is managed by the World Bank to fund carbon trading, including technology transfer between industrialized governments and companies and developing/economics in transition countries.



Janet Redman pointed out that the World Bank gives more support to investment in fossil fuel industries than to environment friendly industries. In some places, including Indonesia, Thailand and Brazil, local communities use areas within the forest for farming and animals. With World Bank Carbon Trading projects, some of these lands will be reforested to increase CO₂ absorption, without considering local communities' needs.

Participants of the conference agreed to:

1. Oppose loans, aid, and subsidies extended by the World Bank, regional development banks, export credit agencies, and northern governments for fossil fuel projects and dirty technologies.
2. Oppose climate adaptation and mitigation loans and financing by international financial institutions (IFIs) and Northern governments and their imposition of conditionality through grants, loans, aid, and debt cancellation.
3. Oppose IFI funding of commercial fishers in the name of joint ventures.
4. Oppose IFI financing of unsustainable tourism infrastructure development. Tourism produced 5.0 % of global emissions from its three main sub sectors: transportation (es-

pecially airplanes), accommodation and activities. Tourism must not continue to threaten land and water rights. Food security is also in danger through abuse of land rights by tourism development (golf courses, beach resorts etc.).

5. Oppose IFI financing of unsustainable transportation systems. The transportation sector is one of the biggest producers of CO₂ (along with industrial activity and deforestation), producing around 13% of global CO₂ emissions.
6. Demand that all public financing for climate change adaptation and mitigation recognize the rights and roles of affected and marginalized peoples, including indigenous peoples, fishers, peasants and women.

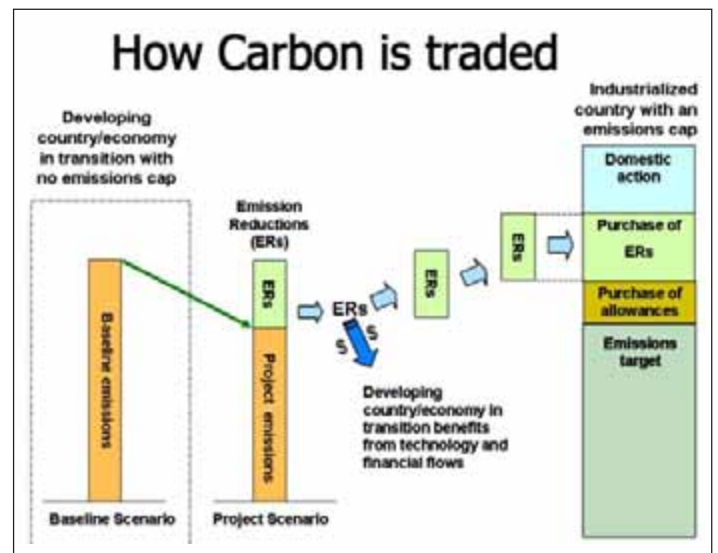
Indigenous People and Climate Justice

The Indigenous Forum on Climate Change and the International Alliance of the Indigenous Peoples of the Tropical Forests are groups of local people fighting for their rights on the climate change issue. Although they don't do much to cause climate change, they are victims of it. They have suffered from flooding, drought, irregular rains, the drying up of their wells and other effects of climate change. Participants demanded that indigenous people be involved in the process of adaptation and mitigation to climate change, and that their rights and customs be respected and considered. They opposed all funding models, alternative energy and mechanisms which don't protect and consider local people's rights and customs, such as Carbon Trading, REDD, IFI funding agrofuel and WTO involvement in agriculture.

Clean Development Mechanism (CDM)

This mechanism is run under Kyoto Protocol with the aim of reducing gas emissions. This mechanism obliges countries to cut their emissions to specified levels. It also helps developing countries adapt to climate change with support from developed countries. But this mechanism will give more benefits to developed countries and big companies when it is used by them as a new market which puts businesses before people.

An example of this mechanism is the development of energy sources that produce few emissions, like hydroelectricity, wind electricity and solar power. These alternative energies are better than fossil fuels, but problems arise when the development of alternative energy doesn't respect and consider local communities' choice and voice. The building of hydroelectricity with large dams will have negative impacts on local communities, river systems, ecology, agriculture and ecosystems. Access to clean water will be reduced, people can't use rivers for irrigation or other needs, and they will become major victims if these dams are broken. When such projects result in emission reductions, they will be credited to the country that funded these projects.



Participants agreed to:

1. Campaign against the development of mega dams.
2. Call for all countries to respect local communities as those who should get benefits from all alternative energy development in their land.
3. Campaign and support the development of clean alternative energy on a small scale appropriate to communities' needs.

Development and Climate Justice in Timor-Leste

The issue of climate change has not been broadly discussed in Timor-Leste, but the impacts of climate change are present in harvest failure, irregular seasons, and wells drying up. The Government and civil society are assessing how climate change impacts on Timor-Leste, and it is very important to develop a good national plan to respond to climate change. The government should not only distribute rice or tent to help victims of harvest failure or floods. We need to respond to the root of the problem. Climate change can be a lesson for us to design a clean development model, based on respect for local communities and nature, campaign for an environmentally friendly life style, conserving forests, etc. Social, economic and environmental assessments should be done before starting any projects that have possibility to harm people and nature – such as an LNG pipeline and liquefaction plant, sugar cane or Jatropha plantations, or heavy oil power plants. We recommend that the government prioritize developing local industries that don't produce many gas emissions and destroy our land and environment.

With the reduction in the vehicle import tax, the government needs to establish a system so it will not worsen climate change because there will be more cars in Timor-Leste. We should consider mechanisms like taxes for car and motorcycle users and campaigning for using bicycles. ❖

Listen to La'ó Hamutuk's "Iguualidade" Radio Program

Interviews and commentary on the issues we investigate in Tetum and Bahasa Indonesia
 Every Sunday at 1:00 pm on Radio Timor-Leste.
 Every Thursday at 8:00 pm on Atoni Oecussi Community Radio.
 Every Wednesday at 8:00 pm on Radio Povo Viqueque.

Will Sunrise LNG be in or for Timor-Leste?

What will result if we bring natural gas to Timor-Leste and construct and operate a gas liquefaction and LNG (liquefied natural gas) shipping facility here? The answer is “it depends.” This article, part of a series derived from *La’o Hamutuk’s* research report *Sunrise LNG In Timor-Leste: Dreams, Realities and Challenges*, will explore what it will take to maximize the benefits and minimize the dangers.

The decision to pipe natural gas from the Greater Sunrise field to Timor-Leste requires agreement by the Timor-Leste and Australian governments, as well as project operator Woodside Petroleum and its partners. Once decided, Woodside will hire subcontractors to construct, operate, and decommission the pipeline and LNG facility. If things go well, such a plant could give jobs and training to Timorese workers, supply much-needed infrastructure boost the national and local economies, and provide tax revenues for the government, which could benefit all Timor-Leste’s people.

However the situation could be much bleaker. The facility could be built as an isolated *enclave*, physically situated here, but with few or no jobs for Timorese citizens, no money going into the local community, and no infrastructure or roads usable by local people. In short, it could be “in” Timor-Leste, but not “for” Timor-Leste. The worst scenario is a plant that displaces the local population, takes over their land and sacred places, harms the natural environment, and is staffed by foreigners who live in self-contained housing with no positive interactions with the rest of the country. This could generate resentment and frustration from people struggling with poverty and recovering from colonialism and war.

The government, the petroleum companies, local authorities, local communities, traditional leaders, civil society, non-governmental organizations and individual Timorese citizens must work together to ensure that people in Timor-Leste benefit from such a project, with minimum negative impacts. This work begins while preparing for the arrival of the pipeline, plant, and port; continues while there are being built, and can end only after the project has been dismantled after all the gas is used up.

People across Timor-Leste, from village residents to top government officials, dream of benefits that could come from a gas pipeline from Greater Sunrise to Timor-Leste, with an LNG factory in our country. As *La’o Hamutuk* has written previously (*LH Bulletin* Vol. 6, No. 4: November 2005), more than half of Timor-Leste’s entire economy and more than 90% of our state’s income will come from oil and gas over the next few decades. The Sunrise LNG project is one of the few opportunities for Timor-Leste to have a major oil or gas project on our land, rather than simply receiving royalties and tax revenues

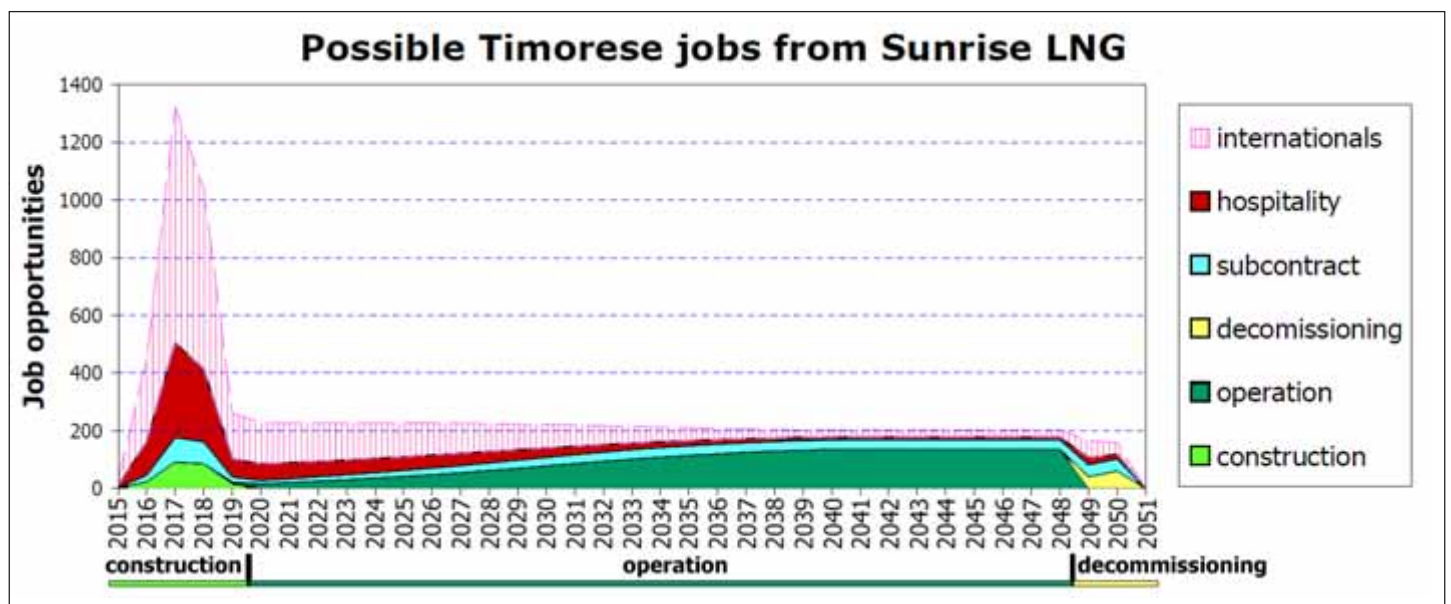
La’o Hamutuk has studied this project since 2006, learning that the benefits from this project may be difficult to achieve, and that there are significant risks which Timor-Leste is not yet ready to handle. Because this project will be much larger, more complex, more capital-intensive and more dangerous than anything Timor-Leste has yet tried, it is essential for citizens and decision-makers to understand it well from the beginning. Possible benefits much be considered realistically, and preparations much be done in advance, rather than relying on nationalism and polemics alone.

The lack of economic growth since the restoration of independence has disappointed many people, especially those who suffer from poverty and unemployment. While the Government has received billions of dollars from offshore petroleum, the non-oil economy has stagnated. An LNG plant could provide jobs and other economic benefits, and this article will discuss the amount of such benefits and what is necessary to achieve them.

Local economic activity

People across Timor-Leste believe that this project will create employment for local workers, either directly in constructing the plant and port complex, or indirectly through the increased demand for local goods and services that the project would generate.

If the plant comes here, companies will spend more than \$10 billion to construct a gas pipeline and liquefaction plant,



and some of this would enter Timor-Leste's economy and provide livelihoods for Timorese. Given the current state of development in Timor-Leste, virtually all of the materials used in construction will be produced overseas and imported, so that local jobs will come from the construction process itself, rather than manufacturing components.

Currently, no Timorese construction companies have the capacity to do the more complex and skill-intensive parts of the project, so these will likely be done by foreigners. However, local companies could get subcontracts for less technically demanding tasks, such as building administrative buildings, housing for workers and other supporting facilities and infrastructure. Similarly, some Timorese workers may be hired by foreign contractors for lower-skill jobs such as concrete wall construction and painting, while a select few could secure higher-skilled engineering, testing and assembly jobs.

In addition to the construction work itself, other jobs needed during construction include security, drivers, transport, hospitality (food and housing), infrastructure and clerical work. While these are a small fraction of the total construction expenditure, they would provide a much-needed boost to the local economy. Local businesses and farmers can also supply food and construction materials, such as sand and concrete.

Construction will take one to two years, followed by about 30 years of operation. Once the plant has been built, it may not bring many benefits to the domestic economy. The LNG plant could be almost entirely self-sufficient, independent of local supplies, labor and infrastructure. Unless Timor-Leste requires the plant to be integrated with the country, it could operate as an enclave, with few local employees and no linkages or benefits to the local community or the rest of the economy.

The longer duration of the operations phase provides more time for Timorese workers to gain the education and experience for the higher-skill jobs, and to develop local subcontractors. However, as during construction, the quickest way to get local economic benefits is for local people to do low-skill, low-wage jobs such as maintenance, cleaning, cooking, and security. At the same time, the Government and companies should work together to steadily increase the proportion of Timorese working in the approximately 200 direct jobs at the facility, including the highest-paid ones. The plant will operate for more than 25 years, enough time for Timorese to learn to do every job well.

This will not happen by itself, but requires determined effort from the companies (in their willingness to use local content), the national government (through well-targeted education, regulation and incentives and requirements for the companies), and local government, communities and civil society organizations.

One way to benefit the local economy is for Timorese people to be paid to support foreign workers living here, during both construction and operation phases. The Government, local communities and companies should work together to nurture Timorese businesses so that international workers can rent or buy housing, hotel rooms, restaurant food and groceries which are locally staffed and produced. This can be done with local content purchasing requirements, financing, teach-

ing people how to start and run businesses, and other training. Such work will provide jobs for both women and men, helping to overcome gender discrimination which is common both in Timorese society and the international oil industry.

Government's tax revenues

The most obvious advantage of processing natural gas in Timor-Leste is the revenue that Timor-Leste's government will receive from the profits of the LNG facility, as well taxes from the jobs and economic activity which accompany it. Before deciding to try to bring an LNG facility to Timor-Leste, the government should make detailed estimates of the expected revenue.

This is difficult because of unstable international oil and gas prices, and will be reduced by recent "reform" to Timor-Leste's tax laws. It is made more complicated by the interaction between upstream tax revenues (that is, from the off-shore wells at the Sunrise Field) and the downstream revenues which would come from the LNG plant. The Australian government and Woodside believe that it will cost more to build the LNG facility in Timor-Leste than to expand the existing LNG facility in Darwin or build a new plant in the middle of the Timor Sea.

A pipeline to Timor-Leste would have to cross the deep Timor Trough, which makes its cost comparable to a shorter, shallower one to Australia. However, constructing the LNG plant will cost much more than the pipeline and this may be more expensive in Timor-Leste because of the lack of clear legal frameworks, infrastructure, local contractors and skilled personnel. However, modular construction methods that would not be used in Australia could be used in Timor-Leste, making the plant cheaper to build here, and the secondary benefits for Timor-Leste must also be considered.

Even if the Timor-Leste option is cheaper to build and operate than the alternatives, operating companies or gas purchasers may perceive that Timor-Leste's limited experience with self-government and stability creates a larger risk that their LNG supply could be disrupted.

If a Sunrise LNG plant is built in Timor-Leste, *La'o Hamutuk* estimates that it could bring Timor-Leste's Government around \$4 billion in tax revenues during its entire life. Regardless of where the plant is built, we estimate that exploiting Sunrise will provide Timor-Leste with approximately \$15 billion more from upstream taxes and royalties (see *LH Bulletin* Vol. 9 No. 2, August 2008).

Recommendations

In order for a Sunrise LNG plant *in* Timor-Leste to also be *for* Timor-Leste, everyone involved in the project needs to give attention to several things, including:

Building Timorese expertise

Today, very few Timorese have the skills and experience to undertake the more advanced jobs in an LNG facility. However, people can increase their capacity while the jobs are still here. If talented Timorese high-school graduates get strong post-secondary education in mathematics, physics, engineering and languages, they can then be trained and be fully qualified in about seven years. Since construction may

not start for several years and will last for a few years from then, people starting their technical education today could get jobs during this phase. Since the LNG facility will operate for a few decades, many Timorese could become qualified in the medium and long-term for the few hundred permanent positions. In other countries, such as Qatar and Trinidad and Tobago, government policies have caused LNG plants to employ an increasing proportion of local people.

The companies operating the plant can provide on-the-job training, but the government will have to ensure that educated and skilled trainees are available. In addition to improving the schools for everyone, the Government could make Timorese preparation for technical employment a national priority. One could imagine how the lure of a technical position at the LNG plant would motivate secondary school students to study; for example, high school students who do best in a competition could win scholarships to study engineering. The government will have to provide resources to schools so that they can fulfill the promise.

With the right educational preparation, the operating company could be required to hire and train qualified Timorese workers, while increasing the percentage of jobs open to them. Timor-Leste would develop an economic and human asset that would last long after Greater Sunrise runs out of gas. With a strong technical workforce, Timor-Leste might attract liquefaction business from other nearby gas reserves, such as Abadi, Evans Shoal and Caldita, which are close enough to Timor-Leste to make it reasonable to process their gas here.

Harnessing the construction phase

The jobs available during construction will range from unskilled to complex. Workers who receive construction jobs can use their experience to get jobs in future construction projects in Timor-Leste or abroad. (The operation phase of the plant requires only a few hundred employees, with specific education and training.) While the plant is under construction, Timor-Leste will temporarily have heavy construction machinery, inputs, and skills here. These resources could be used to advance other aspects of Timor-Leste's development.

In addition to constructing the pipeline and LNG facility, the contractors could be hired to develop other infrastructure. This could be infrastructure that supports the facility, such as roads, communications, water and electricity for the plant, the workers, and, most importantly, local citizens. Thinking bigger, the contractors could also carry out infrastructure projects only slightly related to the LNG facility. In summary, LNG construction should not be separated from overall infrastructure development; rather, it should be integrated into a national master plan.

While experienced contractors are in Timor-Leste, their skills should be transferred. As Timor-Leste will always need capable construction workers, training should be an integral part of the large-scale construction of the LNG plant. If con-

tractors are required to train a certain number of local workers before constructing the plant, the Timorese construction workforce would gain skills and experience. Subcontractors will hire more local workers, as they would have trained them. If contractors were required to employ the best of those they train, they would be motivated to provide quality training.

Incorporating the facility into the national infrastructure

Good road access to the LNG facility will make it possible for foreign workers to sleep and eat in local communities and nearby towns, rather than being helicoptered in and living in isolation from the rest of the country. Better roads will also make it easier for Timorese people and products to get to the plant site, making it more likely that the plant and its workers will purchase, sub-contract and hire Timorese goods, services and workers.

If Timor-Leste and the companies integrate the LNG complex with other infrastructure, rather than building it as a stand-alone project, our people will benefit more. Here are a few examples:

- √ It could save money to use the power plant in the LNG facility to also provide electricity to local customers, integrating it with Timor-Leste's power distribution system. This would require advance planning so that the electricity grid is ready to be connected to the power plant when power becomes available.
- √ It might also be practical to use part of the gas from Greater Sunrise for household fuel needs. Diverting a very small share of the incoming natural gas before liquefaction could provide fuel to households in the region, reducing deforestation and indoor air pollution from burning wood. This could be done by building an onshore gas distribution pipeline network or by bottling a small portion of the natural gas or liquid petroleum products from Sunrise for household fuel use, replacing wood and LPG (bottled propane) currently imported from Indonesia.
- √ The pipeline/LNG complex will include both a construction dock and a port for LNG tankers, where the liquefied gas will be pumped from storage tanks to super-cooled containers on large tankers, which ship the LNG to customer countries. This will be a deep-water port for the LNG tankers. As with electricity generation, economies of scale will be gained if the LNG harbor can also include a commercial port. The construction of the LNG plant should be planned, to the greatest degree possible, with a view to the total infrastructure development of Timor-Leste.
- √ The infrastructure and material resources involved with an LNG facility could spur the development of other businesses. Natural gas might be used as a raw material for a fertilizer factory, and other chemical industries could convert natural gas to liquid fuels. ❖

La'ó Hamutuk brings LNG information to south coast

Since 2006, *La'ó Hamutuk* has studied the challenges and opportunities Timor-Leste will have if a gas liquefaction (LNG) plant is built here to process natural gas from the offshore Greater Sunrise field. This research has provided important insights which apply both to an LNG plant and to other large industrial projects. We found that the benefits from this project may be difficult to obtain, and that there are significant risks which Timor-Leste is not yet ready to handle. We have also given recommendations on how to maximize the benefits and minimize the risks and other negative impacts.

La'ó Hamutuk wants everybody to understand the Sunrise LNG project, and is encouraging government, civil society and companies to discuss it in an open and respectful way. This debate has increased since *La'ó Hamutuk* published our findings in February 2008, and we continue to monitor developments and make information available on our website (www.laohamutuk.org) and in our Farol office.

Up to now, most discussions have been in Dili, far from the south coast where a plant might be built. As people in the south will be most impacted by such a project, they have a right to be involved in discussions and decision-making. Therefore, *La'ó Hamutuk* translated its research report into Bahasa Indonesia, prepared a shorter version in Tetum, and created a slide show which we presented in August 2008 at workshops in Betano, Lore I, Los Palos, Beaçu and Viqueque. Local community people participated in large numbers, including women and youth, local government authorities (including *chefe suco*, *chefe aldeia*, sub-district and district administrators), police, media, NGO and church representatives. Every workshop drew at least 35 people, and often people crowded around the meeting space. We thank everyone for their enthusiastic participation.

La'ó Hamutuk gave each attendee the Tetum popular version of the report and presentation hand-outs, and we distributed 15-20 full reports in Bahasa Indonesia. *LH* researchers Viriato Seac and Tibor van Staveren presented the findings, on topics like "What is LNG?", economic and other effects, and recommendations. As part of our recommendations, *La'ó Hamutuk* suggests delaying development of Greater Sunrise so that government and people have time to prepare better while the gas in the ground increases in value. Government



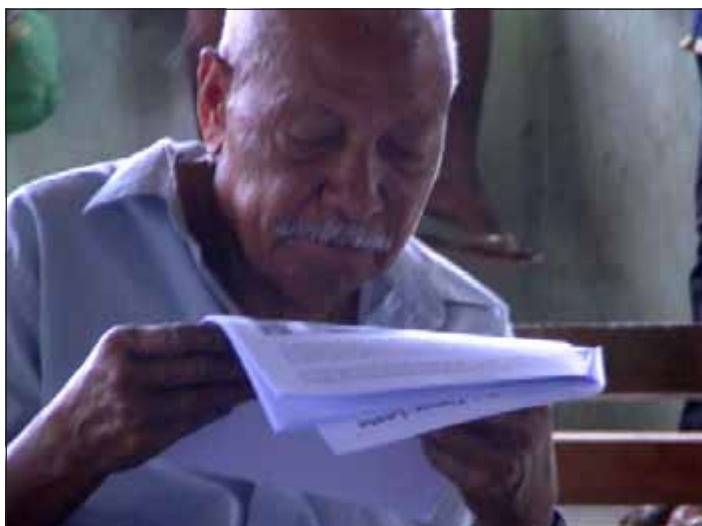
representatives also gave presentations; we thank the district administrators of Manufahi, Lautem and Viqueque for their support. The second part of each workshop included questions and discussion about how our research applies to specific situations and locations.

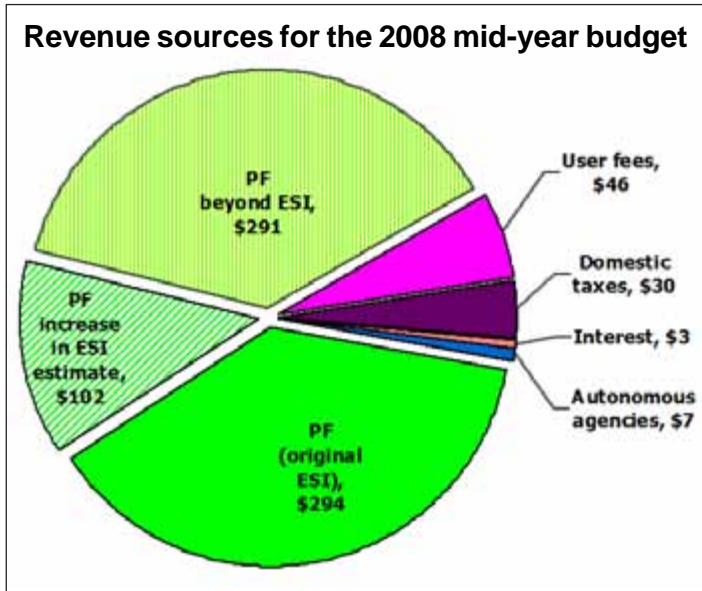
Many participants thanked *La'ó Hamutuk* for bringing this information directly to them. Especially in the coastal towns of Betano, Lore and Beaçu, *aldeia* people said that they almost never receive this kind of information, showing both positive and negative sides. Since almost all newspapers and other media are centered in Dili, it is rare to get coverage at district level or in rural areas. Some places cannot receive Radio Timor-Leste, although many sucos can now receive TVTL through Government-provided satellite receivers and solar panel installations.

Many people hope that Government can ensure that the project will come to Timor-Leste and create employment for local people, either directly in constructing the plant or indirectly through subcontractors and hospitality. Almost all people agreed in principle with *La'ó Hamutuk's* suggestion to delay development of Sunrise because a lot still needs to be done to maximize the benefits for the country.

Many people asked the government representatives when preparations would start and what has been done so far, as well as about compensation for loss of land and livelihoods (like fishing grounds), and about training. Older people were particularly concerned about changes to society and traditional ways of living. Government representatives explained some activities and plans, indicating that a lot of activities are dependent on the national government. *La'ó Hamutuk* added that civil society and government from districts and sub-districts should continue the discussion and bring their hopes and concerns to Dili. Furthermore, before starting any development project, both Government and involved companies must consult and explain directly with the communities to make sure that reality comes close to dreams.

La'ó Hamutuk hopes that these workshops are reference points to encourage local communities and their leaders, civil society representatives and other relevant institutions to actively exchange and discuss information, and participate together in the rural development process in Timor Leste, and in projects such as the Greater Sunrise LNG plant. ❖





cost Timor-Leste \$9 million each year from 2009 onwards, an amount which could pay for the Ministry of Foreign Affairs.

This spending spree was rationalized by momentary high oil income, but the record-high global oil prices while the budget was being enacted have already fallen by 57%, to May 2007 levels. The Ministry of Finance estimated world oil prices for 2008 at \$86/barrel, and for 2009 at \$76, but prices in early November were around \$60 and falling. In addition, Bayu-Undan (which supplies all of Timor-Leste's current oil income), has passed its historic peak of production, and will be completely used up in 16 years. If the Sunrise project goes ahead, Timor-Leste's oil wealth (the oil and gas in the ground ready to be extracted under an existing contract and development plan, which is included in the ESI calculation) will approximately double, but all of it will be exhausted in about 50 years. That is within the lifetime of many people living today, but by that time Timor-Leste will have about five million people, and even the current minimal level of government services will cost at least five times as much as today.

As Government and Parliament considered this budget, they received advice from a range of experts: the NGO Core Group on Transparency, World Bank, *La'o Hamutuk*, the International Monetary Fund, the Petroleum Fund Consultative Council, the United States Ambassador and many others.

Without exception, they warned against spending Timor-Leste's oil wealth so quickly, but the Government chose to ignore their wise counsel. Many of their analyses are on *La'o Hamutuk's* website or available from our office.

In November, the Timor-Leste Court of Appeals ruled that this budget's spending more than the ESI from the Petroleum Fund is illegal because it violates the 2005 Petroleum Fund Act. The Court emphasized that future generations are entitled to benefit from Timor-Leste's natural resources, and that the Government did not give Parliament the legally required detailed explanation of why it is in Timor-Leste's long-term interest to take more than the ESI at this time.

The Government did not withdraw money from the Petroleum Fund during the first half of 2008, but transferred \$140 million in the third quarter, and the Fund had \$3.74 billion at the end of September. The Government withdrew \$80 million in October and asked for another \$80 million in November. The budget would allow them to take \$387 million more in 2008, although the Court ruling would limit this to only \$96 million more.

If the policies begun by this mid-year budget continue for the next three years (see page 18), the Petroleum Fund will become smaller, the ESI will be reduced by about \$48 million every year, and the resource inheritance of Timor-Leste's future generations will have been squandered.

Budget Execution

One of the issues raised by people worried about the large increase in planned expenditures is budget execution, that governments of Timor-Leste don't spend all the money they have budgeted. Politicians debate numbers and percentages, and ministers challenge public officials with a fruit rating system, encouraging them to be high-spending durians instead of low-spending bananas.

SIGNIFIKA HOSI SÍMBOLU AI-FUAN			
	0-25 la gasta osan ho di'ak		51-75 % gasta osan di'ak ona
	26-50% gasta osan di'ak uitoan		76-100% gasta osan di'ak tebes



Budget Execution, January-September 2008 (without autonomous agencies)					
from RDTL Ministry of Finance					
(US\$ Thousands)					
	Current Appropriation	Actual Payments	Outstanding Commitments / Obligations	Total Expenditure	% to Current Appropriation
Salaries & Wages	57,278	33,176	-	33,176	57.9%
Goods & Services	194,384	96,147	50,475	146,621	75.4%
Minor Capital	40,803	9,214	29,022	38,237	93.7%
Capital & Development	101,501	8,721	85,824	94,545	93.1%
Transfers	132,000	51,401	62,762	114,163	86.5%
Total	525,966	198,659	228,082	426,741	81.1%
Economic Stabilization Fund (ESF) – Goods & Services	240,000	14,677	-	14,677	6.1%
Grand Total	765,966	213,335	228,082	441,418	57.6%

Timor-Leste's people need roads, water, electricity, jobs, housing, health care, security and education, and measuring performance by money spent rather than by services delivered misrepresents government's role. If office-holders just handed out money to friends and families they could achieve 100% budget execution, but our people would still be unemployed, unhealthy, illiterate and without water or power.

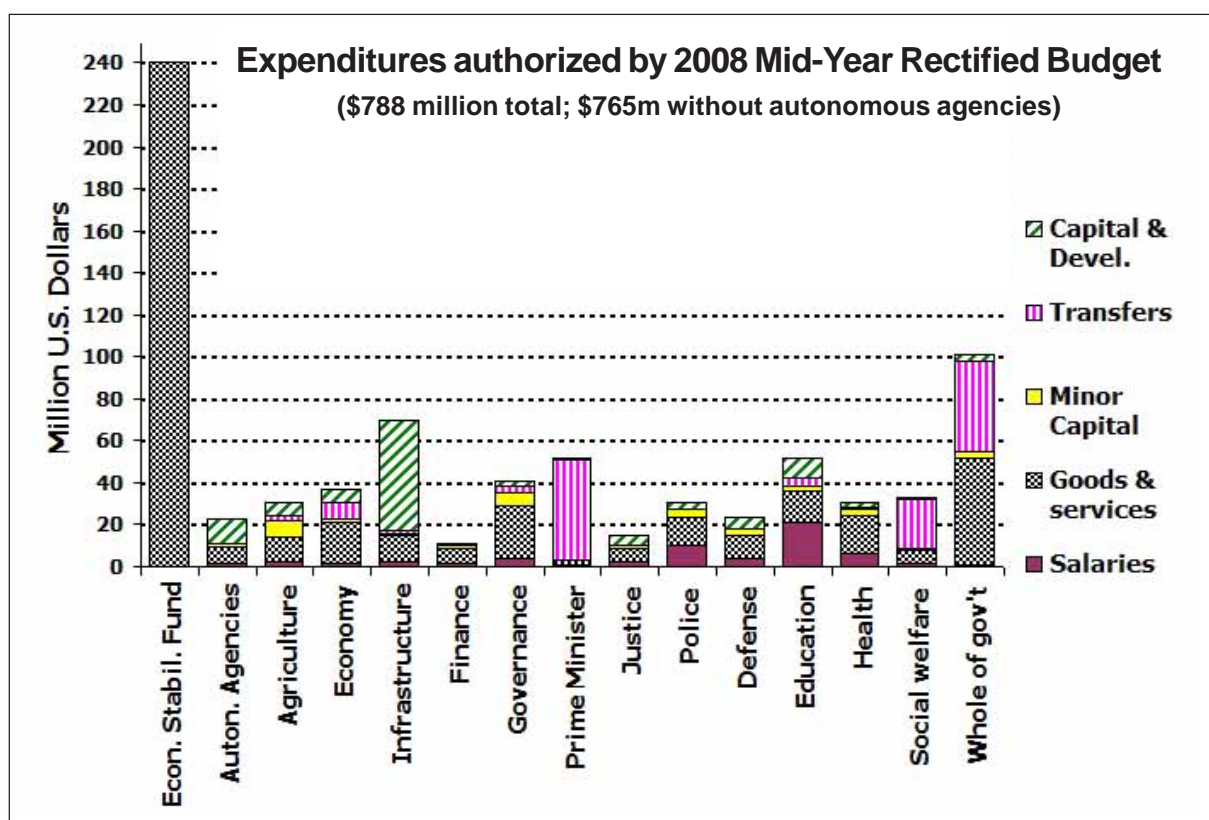
We find it distressing that the Prime Minister proudly told Parliament in July "We have already executed \$153 million out of the \$348 million that was approved. Which means the budget execution rate achieved up to 16th July 2008 equates to 81%..." Not only does this miss the point, but it distorts reality. Government execution statistics include money promised to contractors ("Outstanding commitments/obligations") even if the contractor has not done the work.

In October, the Government published the above summary of budget execution during the first nine months of 2008. It shows that future commitments are much larger than actual payments (except for Salaries and Goods & Services). In the categories of Minor Capital (cars, computers, furniture)

and Capital & Development (infrastructure, roads, buildings) actual payments are less than one-quarter of what was budgeted, while transfers (payments to individuals and families) fall in between. It is relatively easy to pay salaries and buy things, but infrastructure projects are difficult to carry out, and this is where both past and current Governments have not met their promises.

The budget rectification includes \$132 million in transfers (up from \$15m budgeted for 2007), including \$41m for veterans, \$35m for IDPs, \$17m for the elderly, \$8m for petitioners, and smaller amounts for the Church, children, vulnerable groups and pensions for former office-holders.

The rectification also appropriates \$240 million for a new Economic Stabilization Fund to subsidize imports of rice, construction materials and fuel. This could flood Timor-Leste with foreign rice, increase possibilities for corruption and strangle local agriculture. It is unclear which transfers and subsidies will continue after 2008, but other countries have learned to their sorrow that stopping such programs often provokes civil unrest.



In November, the Appeals Court ruled that the Economic Stabilization Fund violates the Constitutional prohibition of secret budgets. The Court also said that the lack of detail, reporting and accountability for the Fund makes it impossible for Parliament to exercise its Constitutionally mandated oversight responsibilities. The Court ordered the Government to stop the Fund's operation when the ruling was published.

The mid-year budget increases Capital & Development expenditures authorized for 2008 from \$61m to \$105m, even though only \$8.7m was actually spent on this during the first nine months of 2008 (and less than one million in the last half of 2007). The mid-year budget also includes \$548m in multi-year capital projects for 2009-2011, five times the amount appropriated in December 2007 for those three years. Most of this is for heavy oil power plants and electricity distribution (see next page).

Transparency and consultation

Like everyone in Timor-Leste outside of Government, (including Parliamentary leaders and the Petroleum Fund Consultative Council), *La'o Hamutuk* could not get concrete information about the proposed budget increase until the Council of Ministers submitted the 205-page, Portuguese-language document to Parliament a week before it was supposed to be in force. Although the mid-year adjustment process normally only re-allocates money which is already appropriated, this proposed rectification more than doubled the budget.

When the Government finally made documents available, they were internally inconsistent, poorly organized, and lacking important information. Although capacity limitations in the Ministry of Finance are partly to blame, we wonder if some of the missing totals and confusing structure are intentional. *La'o Hamutuk* circulated information about the budget and discussed it with many journalists, Parliamentarians, NGOs and members of civil society, and we sadly observe that hardly anyone understands either the technical details or the implications of this budget.

Parliament debated the budget for more than a month, holding several public hearings. The deputados considered more than 100 amendments before approving a \$788 million budget on 30 July. They made only two changes: increasing pensions for veterans by \$20 million and deleting the \$5 million initial payment for heavy oil power plants. The power plant amendment contained a technical mistake, and Government re-interpreted it to cut funds for roads and flood control, although that was clearly not Parliament's intention.

President José Ramos-Horta questioned the constitutionality of the Economic Stabilization Fund, and he asked the Court of Appeal to rule before he promulgated the budget. However, due to mistakes in the President's office while he was overseas, the budget was promulgated on 5 August, before the Court had time to decide. The Ministry of Finance is implementing it.

In late August, sixteen Members of Parliament from Fretilin, PUN and Kota asked the Appeals Court to rule that the rectified budget violates Timor-Leste's Constitution. On 13 November, the court ruled that the Economic Stabilization Fund is unconstitutional because it violates the ban on secret budgets, and that spending more money than the Estimated Sus-

tainable Income from the Petroleum Fund is illegal because it violates the principles and procedures of the Petroleum Fund Act. The impact of the ruling is not yet clear.

Recommendations

In the hope of making the 2009 and future budgets more democratic, effective, sustainable and in the public interest, *La'o Hamutuk* offers the following suggestions for the budgetary process:

- √ Before undertaking major new programs like the Economic Stabilization Fund or the Heavy Oil power plants, Government should obtain informed consent from the public, Parliament, and people who will be directly affected. Both of these projects involve more money than the entire Gross Domestic Product (GDP) of Timor-Leste during the six months this budget applies, yet there has been negligible public information and no public consultation about what they are, who will manage them, how they will be conducted, or their economic, environmental, political and social impacts in the short and long term. Huge initiatives like these should not be buried in a rushed "rectification."
- √ To avoid squandering the birthright of current and future generations of Timorese citizens, Government should stay within sustainable levels of expenditure from the Petroleum Fund, and not fall into the trap of high spending when oil income is high, which leads to debt when income drops. The Sustainable Income should be re-estimated using more realistic, conservative oil price and interest rate projections, rather than having it fluctuate with the volatile world oil market.
- √ Transfers and subsidies cannot be continued indefinitely, and they make it harder to develop Timor-Leste's own economy, employment and capacity. Government should minimize such expenditures, which are often intended to buy off problematic constituencies. Rather, the main priority of both public and private sectors should be longer term, sustainable, domestic economic development which can advance food and energy sovereignty and prepare Timor-Leste for the inevitable move away from depending on transitory oil revenues.
- √ Budget execution is not an appropriate measure for government effectiveness. Rather, the Government should evaluate its service delivery and economic development.
- √ All the expertise and perspectives available in Timor-Leste should be utilized to develop future state budgets. The Government should:
 - ◆ Slow down and open up a more deliberative budget-making process.
 - ◆ Disseminate complete, timely, understandable and comprehensive public information, including ESI estimates, ministerial drafts and proposals before decisions are made by the Council of Ministers.
 - ◆ Build for Parliamentary and societal consensus rather than overriding opposition groups.
 - ◆ Involve civil society, the Petroleum Fund Consultative Council, Parliament, and others throughout the process.

- ◆ Respect the Constitution, legal processes, and separation of powers by the Government, President and Constitutional Court.
- √ Cancel the heavy oil power plants and pursue cleaner, decentralized, more reliable and more sustainable energy technologies.
- √ Make honest, objective projections and encourage open discussion about future implications of budget decisions. ❖

La'ο Hamutuk needs you!

We are always looking for motivated, qualified people to join *La'ο Hamutuk's* staff. In addition to learning a lot and working on interesting issues, you will have a strong influence in helping Timor-Leste develop in a sustainable way which benefits all our people. If you are interested, contact our office at 3325013 or visit us behind the HAK Association in Farol, Dili.

Heavy Oil Power Plants - \$390 million over four years

The mid-year budget includes \$105 million to be spent from 2008 to 2011 for two heavy oil electric power plants, as well as \$285 million over the same period for a national electricity distribution system. A 120 megawatt power plant will be built on the north coast in Manatuto, and a 60 megawatt one on the south coast in Manufahi.

The "Construction of Nationwide Electrical Power Grid and Power Plant and its Facilities" is by far the largest project ever undertaken in Timor-Leste, an order of magnitude more than any contract the Government has ever awarded.

The Ministry of Finance circulated the request for tender in July and signed a contract with the Chinese Nuclear Industry 22nd Construction Company on 24 October. The Government promises electricity 24/7 in every district in 2009 and in all subdistricts by the following year. It is very difficult for a project of this magnitude to be done with any quality in this timeframe. On the other hand, the payments for the project are spread out over four years, with only \$10 million in 2008. Although the rectified budget includes this project, the \$380 million for 2009-2011 is not included in the Government's predictions of those years' budgets (see next page).

These power plants will burn "heavy oil," also known as "heavy fuel oil" or "residual fuel oil." This cannot be made from oil and gas found in Timor-Leste or the Timor Sea, but will have to be imported. Heavy oil is the carcinogenic residue left over from refining crude oil after gasoline, diesel and other lighter fractions have been removed. It will require ports for oil tankers, heated storage tanks, waste heat dissipation systems, and safe storage and disposal of pollutants and residues. Heavy oil is an extremely dirty fuel, already phased out in many countries for environmental reasons, and burning it emits large amounts of sulfur, fly ash, carbon dioxide and other pollutants. Timor-Leste's has ratified the Kyoto Protocol on climate change, and this project undermines it. At this stage, Timor-Leste does not have the legal framework, the human resources, the enforcement mechanisms, or the Environmental Impact Assessment capacity to keep such a plant

operating, let alone to ensure that it runs cleanly and safely.

The power plants are intended to generate 180 megawatts, more than the 109 MW the ADB estimates to be Timor-Leste's electricity needs in 2025 and much more than we use now. The heavy oil plants are base-load plants and cannot be operated at lower power levels. They would make currently planned hydroelectric projects unnecessary, as well as pending agrofuel, biogas, gas seep, wind and other alternative energy sources.

Because of these concerns, Parliament passed an amendment to delete this electricity generation project from the mid-year budget, but the Government is ignoring Parliament's decision.

The budgeted \$105 million is significantly lower than the usual cost of such power plants. This, together with the short timeframe and other information we have received, leads *La'ο Hamutuk* to believe that the Chinese company made a secret deal with Timor-Leste officials before the tender was circulated or anybody outside Government knew about this project. The tender invitation does not specify that the power plants must be new; perhaps the company will dump used equipment in Timor-Leste that would otherwise be garbage. It also does not specify whether the responsibility to build ports and other infrastructure lies with the company or with the Government, so costs are likely to increase.

La'ο Hamutuk agrees that Timor-Leste needs power generating and distribution facilities to supply the entire country. However, we believe that this unrealistic, unreliable project will not meet those objectives. In addition to depleting the country's finances and subverting honest tender and budgeting processes, it will block development of more feasible and beneficial alternatives and damage our environment.

La'ο Hamutuk will continue to follow this issue, and we welcome information and suggestions as to how to help Timor-Leste pursue a cleaner, safer, more dependable electricity system. ❖

Budgeting for the Future

Although the rectified 2008 mid-year budget will withdraw \$291 million more than the re-Estimated Sustainable Income from the Petroleum Fund during 2008, the budget document promises to stay within sustainable levels in future years. *La'ó Hamutuk* believes that this will be impossible, based on decisions in this budget.

In the document explaining the \$788 million mid-year budget for 2008, the Government expects expenditures to be reduced to \$373 million in 2009, \$350 million in 2010, and \$354 million in 2011. This is pure fantasy. If spending policies in the mid-year budget are considered realistically, they will put this country into deep deficits, making it impossible to use the Petroleum Fund sustainably in the future and eventually forcing Timor-Leste to borrow money.

The following are some of the areas not included in the Government's budget projections. *La'ó Hamutuk* has included them in our estimates, and both sets of results are shown in the graphs on the next page. These projections and policies do not consider the Appeals Court ruling against the Economic Stabilization Fund and exceeding the Estimated Sustainable Income, but are based on the Government's policies as expressed in the budget. The Court's decision could help bring budgets closer to sustainability, but these factors must also be considered.

- √ Timor-Leste's population grows about 3.5% every year, and the need for public services grows even faster than our population, as large numbers of children will enter primary school. Government spending on salaries, goods and services, and minor capital will have to increase with the population to maintain the same level of services.
- √ Prices continually increase from inflation; in October 2008 in Timor-Leste they are 12% higher than one year ago. Expenditures, including salaries and pensions, must keep up with rising prices to purchase the same goods and services. Turmoil in world financial markets could cause the dollar to fall even faster, with higher price increases, but *La'ó Hamutuk* has projected 10% inflation for 2009-2011.
- √ Although transfers to IDPs and petitioners will stop after 2008, transfers to old people, veterans and others will increase over the next few years. The budget as presented to Parliament projected transfers at \$37 million/year for 2009-2011, but the promulgated budget raised the projections to about \$91m/year (more than the \$20m Parliament added as pensions to veterans). *La'ó Hamutuk* believes

that the latter is a more reasonable projection, but we have corrected it for inflation and population growth.

- √ Multi-year Capital & Development projects (including the power plant and patrol boats) are budgeted at only \$17 million in 2008, and not listed in the promulgated budget rectification for 2009-2011. When the budget was presented to Parliament, these were given as \$170m, \$133m and \$120m for 2009-2011. We have used the latter figures, which are in Annex IV of the budget law.
- √ The budget as published assumes no spending for minor capital in 2009-2011. A more realistic assessment is to continue this year's level of \$32 million, increased for inflation and population growth.
- √ The budget as published assumes that single-year Capital and Development projects will decline from \$82 million in 2008 to \$54, \$42 and \$31 million by 2011. It also assumes that no new multi-year projects will start after this year. Neither of these is realistic, so we have tried to make conservative assumptions based on current policies.
- √ The budget as published assumes that the \$240 million expenditure for Goods and Services for the Economic Stabilization Fund will end after five months (although government revenues from selling subsidized rice are projected to continue in future years). Once subsidies have started, they are almost impossible to stop without causing hardship. The Government might have to phase them out gradually to avoid civil unrest; we estimate decreases from \$40 million/month in 2008 to \$20m/month in 2009, \$10m/month in 2010 and zero in 2011.
- √ Falling global oil prices may cause Timor-Leste's future oil income to be lower than current projections. In addition, drastic reductions in global interest rates caused by the financial crisis will reduce investment income into the Petroleum Fund, making the current ESI formula (based on 3% annual yield above inflation) unsustainable. We have not included these factors in our calculations (which only consider expenditures), but they should not be forgotten.

The proposed 2009 budget has not been released at press time, but *La'ó Hamutuk* has heard that it will be close to one billion dollars. If the Government proposes to spend that much money, the deficits will be even larger than our projections on the next page.

Who is La'ó Hamutuk?

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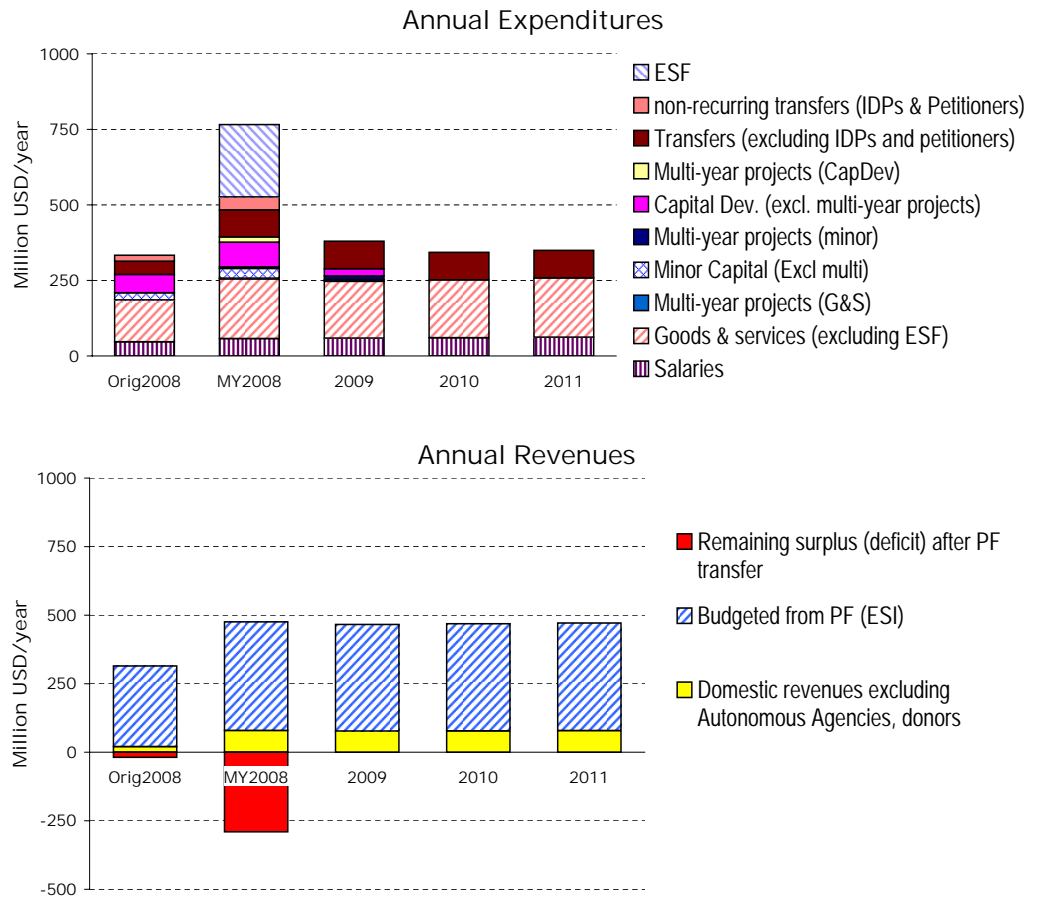
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The first two graphs on this page show the mid-year rectified budget and projections as passed by Parliament and promulgated by the President. The left-most column is the 2008 Budget passed in December 2007.

Before the Court decision, the deficit for 2008 was to be filled by spending \$291 million more than the Estimated Sustainable Income from the Petroleum Fund, but future expenditures are under-calculated so as not to require deficit spending in later years.

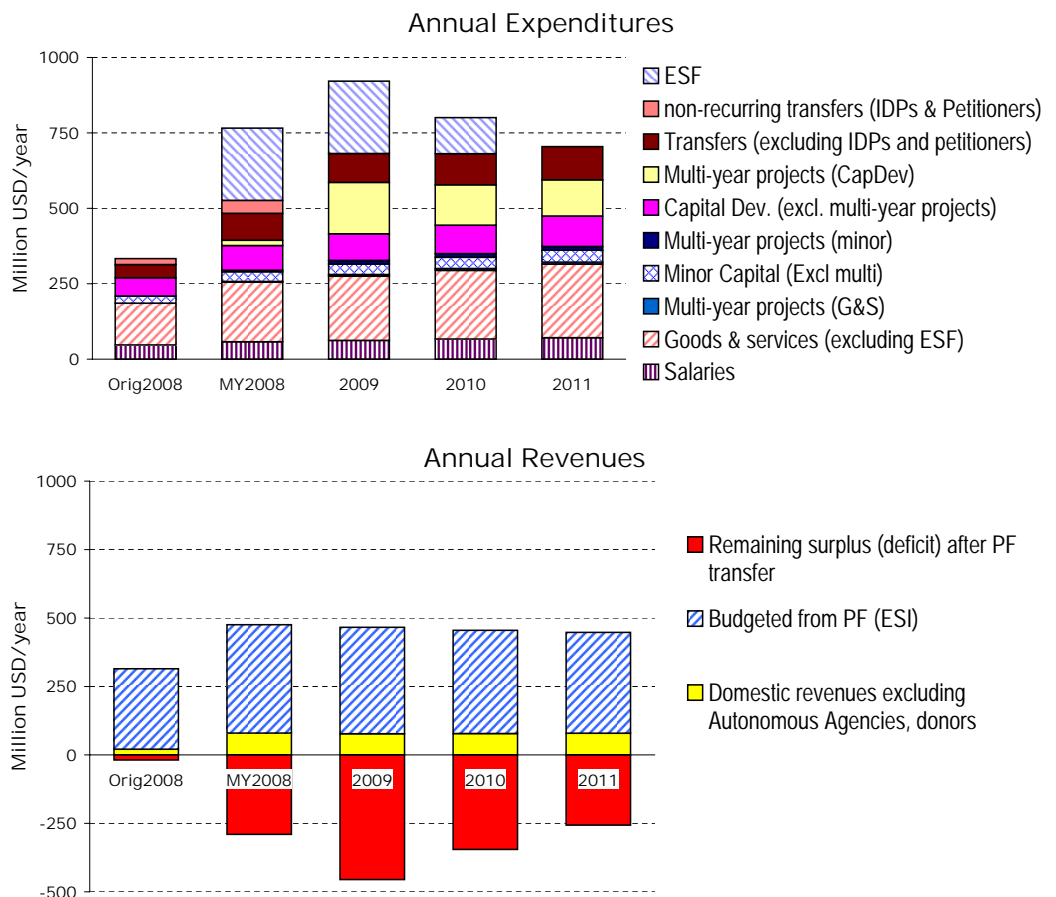
La'o Hamutuk believes this is incorrect, and has re-calculated spending levels as described on the previous page. These assume that programs continue at levels envisioned in the mid-year budget; if the reports of major new government projects are true, the budgets (and deficits) for 2009 and following years will be even larger.



These graphs indicate budget projections if current policies continue, with reasonable assumptions and everything included as described on the previous page. It will be necessary to exceed the sustainable income by more than a billion dollars during the next three years to pay for the expenditures resulting from the mid-year rectified budget passed in July 2008.

This projection will reduce the ESI by \$48 million every year in the future; if rumors of an even larger 2009 budget come to pass; the reductions will be greater.

If such trends continue and oil prices stay near current levels, Timor-Leste could be a debtor nation in less than 10 years. ❖



Editorial: Budget Invites the Resource Curse

During June and July 2008, Parliament debated and approved a mid-year budget adjustment (*Orsamentu Rektifikativu*) which increases Timor-Leste's government expenditures by 127% for the last half of 2008. This editorial will explain some of *La'o Hamutuk's* concerns about the contents of this budget and the process by which it was enacted, which we believe moves Timor-Leste toward the "resource curse" which afflicts oil-rich, cash-poor nations around the world.

This budget adjustment is in effect, although the mid-November Court of Appeals ruling that major elements of it are unconstitutional and illegal puts its validity in doubt. This article was written before the impact of the court's ruling is clear and discusses underlying issues, including some considered by the Court.

During the next few months, Government and Parliament will enact the State Budget for 2009. The Government may propose that next year's budget be around a billion dollars, which would accelerate the dangerous trends discussed below. *La'o Hamutuk* hopes that our observations will help people make realistic budget decisions, considering their consequences now and the future.

The 2008 "mid-year adjustment" more than doubles the State Budget for 2008, to \$788.3 million dollars from the budget of \$347.8 million passed in December 2007. The "rectification" was done with a mid-year process which is usually intended for minor adjustments. It incorporates hasty major policy initiatives and violates the principles of sustainable management of petroleum revenues which are the foundation of the 2005 Petroleum Fund Law.

The Government held no public discussion or consultation on this budget, keeping it secret until it was given to Parliament on 23 June, one week before it was to take effect. The rectified budget includes a new \$240 million Economic Stabilization Fund to subsidize imported food, fuel and construction materials. It also includes the first \$10 million for a heavy oil power plant and electric distribution system expected to cost \$390 million over the next four years (see page 17). Although the cars for each Member of Parliament have drawn public attention, including demonstrations, they are only 0.3% of the budget (\$2.3 million, including \$0.9 million approved last December). We encourage people to give more attention to some of the larger items in future budgets.

Sustainability

One of the most common ways to bring on the resource curse is to spend a lot when oil income is high, starting programs which cannot be maintained when oil revenue drops because world oil prices fall or reserves are used up. Timor-Leste created its Petroleum Fund precisely to protect against this dangerous temptation, which often leads countries into debt, default and disaster.

According to the Petroleum Fund Law, the amount of money spent from the Petroleum Fund each year should be

no more than the Ministry of Finance calculates as the "Estimated Sustainable Income" (ESI), 3% of the total of the money in the Petroleum Fund added to the value of Timor-Leste's oil and gas reserves. The ESI guideline is intended to protect against oil price changes and to ensure that Timor-Leste continues to receive revenues after all our oil and gas has been extracted and sold.

The increase in spending is only possible because the Petroleum Fund continues to enjoy the benefits of recent petrol price increases, which have resulted in the sustainable revenue increasing in a few months by more than \$100 million per annum.

— Prime Minister Xanana Gusmão budget message, June 2008

Unfortunately, the mid-year budget defies these precautions and will spend \$687 million from the Petroleum Fund, far above sustainable levels. In December 2007, the Ministry of Finance calculated an Estimated Sustainable Income (ESI) of \$294 million, which was the basis for the original 2008 budget. In June 2008, they increased the ESI by \$102 million to \$396 million, assuming future oil prices \$18/barrel higher than had been projected six months earlier. However, the Government wanted to spend even more money, so the mid-year budget takes an additional \$291 million from the Petroleum Fund. Spending beyond the ESI reduces the ESI for all future years – this mid-year budget will

(Continued on page 14)

What is La'o Hamutuk?

La'o Hamutuk (*Walking Together* in English) is a Timor-Leste non-governmental organization that monitors, analyzes, and reports on the principal international institutions present in Timor-Leste as they relate to the physical, economic, and social reconstruction and development of the country. *La'o Hamutuk* believes that the people of Timor-Leste must be the ultimate decision-makers in this process and that this process should be democratic and transparent. *La'o Hamutuk* is an independent organization and works to facilitate effective Timorese participation. In addition, *La'o Hamutuk* works to improve communication between the international community and Timor-Leste society. *La'o Hamutuk's* Timorese and international staff have equal responsibilities, and receive equal pay. Finally, *La'o Hamutuk* is a resource center, providing literature on development models, experiences, and practices, as well as facilitating solidarity links between Timorese groups and groups abroad with the aim of creating alternative development models.

La'o Hamutuk welcomes reprinting articles or graphics from our *Bulletin* without charge, but we would like to be notified and given credit for our work.

In the spirit of encouraging greater transparency, *La'o Hamutuk* would like you to contact us if you have documents and/or information that should be brought to the attention of the Timorese people and the international community.