



## **Progress Report**

Testing Consumer Acceptance of and Business Opportunities for the CleanCook Ethanol Stove

Submitted by Stokes Consulting

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“Project Gaia Brazil: Tapping the Potential of Proalcohol for the Household Energy Sector”

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## Project Gaia – Brazil

### Background

In Brazil, approximately 8.6 million woodstoves are used by rural and urban marginal families, accounting for 17.4% of national energy consumption at the household level. In Minas Gerais state, almost half of total household energy consumption is based on fuelwood, while in the poorest regions of the state, as in the Jequitinhonha valley where the study will be conducted, fuelwood use reaches 82.3% of total household energy demand, with over one half of households relying exclusively on fuelwood and an additional one quarter relying on fuelwood with some LPG use.

To evaluate this fuelwood dependency and its related impacts on indoor air quality, and to present a household energy alternative, Project Gaia Brazil will implement an ethanol fuel and stove pilot study in the state of Minas Gerais (southeastern Brazil) with the placement of ethanol fuel and 100 alcohol-burning stoves in one or two municipalities covering a cross-section of rural and urban households. Baseline studies investigating existing household energy use will be conducted, and will be placed vis a vis alcohol fuel use data attained throughout the pilot study to determine outcomes related to energy efficiency, indoor air quality and fuelwood-harvesting, to name a few.

### The CleanCook Stove

An alcohol stove that burns ethanol, used in Europe and North America for 30 years, and now redesigned for mass production cheaply, will soon be tested for use and manufacture in Brazil. The Shell Foundation has agreed to fund a 100-stove pilot study in Brazil's Minas Gerais state, to be run by Banco do Povo and assisted by experts from Winrock International and the Federal University of Itajubá (UNIFEI).



**The CleanCook Stove**

The stove, dubbed the “CleanCook” stove because it burns so cleanly, will use ethanol distilled from agricultural by-products and wastes. As part of the study, the feasibility of installing community-based mini-distilleries for the dedicated production of stove fuel and other household energy uses will be explored.

The CleanCook stove has two burners each with a heating power of 1.5 to 2 kW. Two rechargeable fuel canisters hold 1.2 liters of alcohol each. When alcohol is poured into the canister, it is adsorbed into a mineral fiber and will not spill out. This unique fueling system virtually eliminates hazards that lead to accidental fires and explosions. The burners can be regulated for slow or fast cooking. The stove performs much like an LPG stove, but without the need for a pressurized fuel tank, hose or regulator. The Dometic stove is known for safety, reliability and performance.

## Objectives

The project objectives of the 100 stove pilot study are:

1. To provide access for Brazilians to an alternative, clean-burning, renewable fuel that will not produce smoke and soot like solid fuels, thus improving air quality in the home,
2. To provide access to an improved fuel that will be cheaper than LPG,
3. To reduce local dependence on fuelwood, reducing pressure on forest resources,
4. To evaluate the acceptability of the ethanol stove by the mid to lower income household in Brazil,
5. To evaluate the Brazilian ethanol distribution system, regulations, price structure, incentives, quality and safety control, market competition, and trends to enable our team to evaluate a proposed future scale up, and to share this experience with other countries with ethanol potential
6. To assess the feasibility of community-based ethanol mini-distilleries for the dedicated production of stove fuel and other household energy uses, and
7. To provide the opportunity for rural communities to produce their own clean and renewable household fuel, which will help alleviate poverty through income generation, community investment, and improved standard of living.

## Alcohol Productive Process

The artisan process of producing alcohol is very simple and doesn't need many people working at the facility. Besides that several people research this subject, the equipment used is basically the same. The efficiency will depend on the fermentation of sugar cane juice process, which varies accordingly to the quality of sugar cane and climate. Usually, alcohol is not produced during the rain season (October to April), because the excess of water interferes in the brix (term that expresses the percent sugar concentration in juice), reducing the efficiency.

The sugar cane culture is well disseminated among the whole country, since colonization times, especially due to climate adequate to such culture. Brazil dominates the production techniques, since small family farmers that work in a very rudimental way, without any kind of special equipment and machines, until great alcohol and sugar mills.



Regarding small producers, the production of alcohol is associated with the production of cachaça. During the productive process, it is necessary to discard part of the cachaça production due to the high alcoholic grade, first 8%, so called “cabeça” (head), and the last 20%, so called “cauda” (tail), due to low alcoholic grade. This part of the distillation was a major problem to rural producers that had to eliminate without aggressing the environment, but if distilled one more time in the appropriate equipment, is the base to alcohol production.

After the cropping the sugar cane, it will be chopped and milled to better extract the juice. This juice is put into appropriate tanks to ferment, what usually happens just mixing it with fubá (corn flower). The quality of the fermentation is very important to the production, because the proliferation of bacillus take the product to the ideal point to improve the efficiency. The fermentation is constantly measured, to control the PH, which should keep between 6 and 8.

Once the fermented liquid reaches the ideal fermentation stage, it goes through pipes to the “alembic”, where it will be heated with the use o a boiler or a stove. This moment requires close attention because it is necessary to keep the temperature controlled and to know the exact moment that the distillation process will begin.

Regarding alcohol to be used in vehicles, it is necessary to obtain an alcoholic grade between 90% and 96%. Beyond that, it burns too fast and will incur into a greater consumption. Below 90%, the vehicle efficiency won't be good.

This process is totally natural and artisan made, without any chemical products.

In the state of Minas Gerais there are many cachaça equipment manufacturers, but only a few also manufacture equipment to produce alcohol. They all agree that such equipment should be made of stainless steel. Normally it is not possible to find the equipment ready to be installed. It is customized accordingly to capacity of production wanted.

There are basically two different heating processes: boiler and stove (direct and indirect burn). It is a common sense that a boiler works much better and is also safer, but the investment needed is greater. There some producers that say that in order to disseminate micro-distilleries, it will be necessary to reduce the investment needed and a stove will fit better.

#### **The manufacturer and producer references found in Minas Gerais are:**

- Mr. Marcelo Guimarães, geologist, he worked at Petrobras (Brazilian Petroleum Company) and at Ministry of Industry and Trade (at the department responsible for the alcohol expansion project in the seventies – PROALCOOL). Now he is retired and produces alcohol at his farm in the municipality of Mateus Leme, MG. He has several papers and books published on biomass, bioenergy, and alcohol production. He also developed a project to incentive micro-distilleries to make familiar agriculture more sustainable. He produces alcohol to his family use (seven vehicles) and in partnership with other farmers in the region.
- Mr. Sergio Pataro, farmer, he started producing alcohol to diversify his business. He researched several existing equipments and said that improved them and required a patent for his design. He gives courses in his farm in the municipality of Ponte Nova, MG, always with full agenda. So far, he doesn't sell equipment directly, but he receives orders and delivers to equipment manufacturers in Belo Horizonte. Mrs. Regina Couto participated of his training course as a guest and she was able to see the equipment working. Mr. Pataro gives lectures on the feasibility of alcohol production by small farmers to raise the income at the rural area.

- Professor Juarez de Souza, Federal University of Viçosa, MG. He produced a video training course on how to manufacture alcohol producing equipment. We heard a lot of complains regarding the quality and functionality of his equipment.
- Mr. Fernando Leite Ribeiro, agronomist with specialization in thermodynamics. He owns a small factory in Guaxupé (South of Minas Gerais) and other in Salinas (North of Minas Gerais). He works in partnership with Mr. Marcelo Guimarães and with Mr. José Maria Mendes, agronomist from Divinópolis. Mr. Ribeiro teaches at the Federal Agrotechnical School of Salinas, at the Production of Cachaça Course. He required a patent for a micro-turbine to energy generation through small pressure boilers. He is cited by many people as a great reference in alcohol distillation equipment. Mr. Fernando Ribeiro assists two alcohol producers in Salinas.
- State Representative Father João. He doesn't manufacture equipment, neither produces alcohol, but he is a reference on the subject. He wrote a bill of law in the state of Minas Gerais to create incentives to micro-distilleries that has been approved a year ago, but the bill still needs to be regulated to be really implemented. Father João is president of the Commission for Rural Policy at the State Legislature, and is doing a good work with regional sustainable development, family agriculture, access to land, income generation, environment, and food and nutritional security.

### **Community Selection Process**

Due to the high cost of alcohol at gas stations in the last months, we started to search producers within the state of Minas Gerais seeking to establish partnerships, take into consideration the access and lower cost than at the regular market. We contacted several institutions and people with links in alcohol sector, and to projects and incentives micro-distilleries as a sustainable mean for farmers, especially small farmers. We were able to identify five small alcohol producers: Mr. Marcelo Guimaraes, from Mateus Leme; Mr. Arlindo Mendes, from Salinas; Mr. Sergio Pataro, from Ponte Nova; City Hall of Alterosas; and the Commercial Association of Campo Belo. As of today, only Mr. Marcelo Guimaraes and Mr. Sergio Pataro are producing alcohol. Mr. Arlindo Mendes is having problems with water supply at his farm, and the City Hall of Alterosas and the Commercial Association of Campo Belo are researching and assembling the equipment yet.

At the municipalities we visited, first we contacted the alcohol producers to analyze the possibilities of supplying and to do a partnership. The communities were indicated by those producers.

Besides the communities, there is the intention to test the CleanCook Stove at camping areas and with truck drivers. We already visited the State Park of Itacolomi, close to Ouro Preto and Mariana and contact the Truck Drivers Cooperative of Betim.



**View of State Park of Itacolomi**

Below is table with the summary of main points raised during the visits, and considerations we should take into consideration during the selection process.

<b>Municipality/ Distance from Belo Horizonte</b>	<b>Community</b>	<b>Partners</b>	<b>Positive Aspects</b>	<b>Negative Aspects</b>
Betim 35 km	Settlement Dom Orione (MST)  10 Km from Betim's downtown	INCRA (National Institute for Agrarian Reform)  Municipal Division of Agriculture	<ul style="list-style-type: none"> <li>- About thirty-nine families. The community produces rapadura (block of raw brown sugar) and has a tower for distillation of alcohol, but it needs some adaptations a revision;</li> <li>- There are seven families in the Production Center, who will supply alcohol to the other families;</li> <li>- The place where alcohol will be produced is well centered;</li> <li>- The community is well organized.</li> </ul>	<ul style="list-style-type: none"> <li>- Not all the registered families live in the settlement. We might get about 25 to participate of the project;</li> <li>- The responsible for the Production Center also works for the state commission of the MST (Pro-Agrarian Reform Organization) and he would like that, by the end of the project, the stoves are donated for MST, to be delivered to other settlements in the state.</li> </ul>
Betim 35 km	Encampment Dois de Julho (MST)  10 Km from Betim's downtown	INCRA  Municipal Division of Agriculture  Local NGO: More Life	<ul style="list-style-type: none"> <li>- Close with the Farm Green Valley, (known by its Ecological Park and cachaça manufacturer – <a href="http://www.valeverde.com.br">www.valeverde.com.br</a>) that would like to cooperate with whatever is necessary, although he doesn't produce a great volume of alcohol (they usually support social projects);</li> <li>- The community doesn't have any productive activity, only subsistence agriculture, but it has some interest in acquiring equipment for production of rapadura and alcohol.</li> </ul>	<ul style="list-style-type: none"> <li>- The community is encamped for six years waiting for the legalization of lands;</li> <li>- They are about 20 km far from the Settlement (Dom Orione) that could supply alcohol.</li> <li>- There are 50 families, but many don't live there;</li> <li>- Precariousness of some "tents", made of wood and plastic, subject to accidents when storing or handling alcohol;</li> <li>- Located on the margin of River Paraopeba, the inhabitants collect firewood in the region (it can be positive factor);</li> <li>- A commitment agreement is needed.</li> </ul>
Ouro Preto 100 km	Engenheiro Corrêa  12 km from Ouro Preto's downtown	Community Association  Municipal City hall  Town-council	<ul style="list-style-type: none"> <li>- Community member use a lot of firewood;</li> <li>- A cachaça manufacturer (<a href="http://www.gotademinas.com.br">www.gotademinas.com.br</a>), Mr. Sergio Bambilra is interested in the project. He receives many visitors and it would be good for information dissemination;</li> <li>- Mr. Bambilra and his employees would participate of the project (12 families);</li> <li>- Mr. Bambilra is very well connected. He has support from Town-council, Ouro Preto's Cachaça Producers Cooperative, and is director of AMPAQ (Cachaça Producers Association in the state of Minas Gerais).</li> </ul>	<ul style="list-style-type: none"> <li>- the Majority of the inhabitants do not pay for firewood, they just collect;</li> <li>- Cultural Aspect: they enjoy using woodstove;</li> <li>- The region is very cold, so they use a coil into the woodstove to heat the water;</li> <li>- During rain season, the access to the region is very poor.</li> </ul>

Guaraciaba (close to Ponte Nova)  181 km	Distrito de Gentios  15 km from Ponte Nova's downtown	Community association  City Hall	<ul style="list-style-type: none"> <li>- Mr. Sergio Pataro is well known in the region, he gives courses on alcohol production, receiving people from the whole country. He would give visibility to the project;</li> <li>- Mr. Pataro could supply the fuel at an accessible price, and be able to delivery (he doesn't sell at his "front door");</li> <li>- The community association has about 80 families.</li> </ul>	<ul style="list-style-type: none"> <li>- The region is very cold, the woodstove is also used for heating;</li> <li>- Cultural Aspect: they enjoy using wood stove;</li> <li>- Mr. Pataro is very busy. We would need to close monitor the activities.</li> <li>- The community is distant 18 km of the Mr. Pataro's farm;</li> <li>- There is 12km of a very bad land road to get in the community;</li> <li>- Our contact there is the former president of the community association and he has political interest.</li> </ul>
Salinas  610 km		Municipal City hall  Association of cachaça producers of Salinas	<ul style="list-style-type: none"> <li>- Great visibility to the project due to Jequitinhonha Valley appeal;</li> <li>- Traditional region of sugar cane;</li> <li>- Alcohol distillery equipment manufactured in the region, by Mr. Fernando Leite Ribeiro (very capable equipment manufacturer);</li> <li>- Region is very hot and it is not necessary to use the coil in the woodstove;</li> <li>- Our contact in the city, can open doors to other partnerships;</li> <li>- Mayor interested in the project. Already knew an alcohol stove in South Africa;</li> <li>- Possibility of financial support from city hall, depending on the community. This financing originates in INCRA, to support the assembly of a mini-distillery.</li> <li>- A rural producer that can supply alcohol is owner of a well known cachaça brand (<a href="http://www.cachacacubana.com.br">www.cachacacubana.com.br</a>). He has some enterprises, and is well known (former congressman);</li> <li>- Our contact in the city is selecting, together with the mayor, an urban community.</li> <li>- Federal Agrotechnical School of Salinas has the course "Technology of Production of Cachaça", with professors that also dominate alcohol production.</li> </ul>	<ul style="list-style-type: none"> <li>- The valuation of cachaça of the region inhibits those that want to produce alcohol;</li> <li>- Very far from BH;</li> <li>- The agricultural area of the city is very extensive, the communities are far from downtown and also far from the alcohol producer identified that would support the project;</li> <li>- The people is very poor and many with difficulty to acquire LPG, therefore they still use firewood.</li> </ul>
Salinas  610 km	Distrito de Ferreirópolis  15 km from Salinas' downtown		<ul style="list-style-type: none"> <li>- Closer to Salinas, with good road conditions;</li> <li>- Sugar cane plantation;</li> <li>- Well-organized community, with commerce, school, and others;</li> <li>- The district has two community associations;</li> <li>- Urban characteristics, with houses close to each other.</li> </ul>	<ul style="list-style-type: none"> <li>- Poor District, the majority of the district income comes from retired people;</li> </ul>

Salinas 610 km	Serra dos Bois 35 km from Salinas' downtown		<ul style="list-style-type: none"> <li>- Agricultural community well-organized, with great use of the firewood;</li> <li>- Cachaça production facility assembled by the association;</li> <li>- Plantation of sugar cane.</li> </ul>	<ul style="list-style-type: none"> <li>- Although organized, the community did not receive support from the Emater (State-owned technical assistance company);</li> <li>- 20Km of land road.</li> </ul>
Salinas 610 km	Rio das Antas 30 km from Salinas' downtown		<ul style="list-style-type: none"> <li>- Many producers of cachaça would like to produce alcohol with the residues, if they had a distillation tower.</li> </ul>	<ul style="list-style-type: none"> <li>- The region is very extensive, the residences are spaced far apart;</li> <li>- 15 Km of land road;</li> <li>- According to wife of the president of the association, the people of the region like the woodstove;</li> <li>- There isn't any kind of commerce close to the community;</li> <li>- Distant from closest alcohol producer.</li> </ul>
Divinópolis 105 km	Mata do Coqueiro 25 km from Divinópolis' downtown	Rural Producers of Divinópolis Credit Cooperative	<ul style="list-style-type: none"> <li>- City has a branch of Banco do Povo;</li> <li>- There is a producer of cachaça, who is preparing herself to produce alcohol next year. She already supports some social projects;</li> <li>- The cooperative has about 3000 associates. It would give visibility to the project, besides offering logistic support and physical space.</li> <li>- Jose Maria, member of the cooperative, is technician and gives to assistance to the producers of cachaça and alcohol (he works with Mr. Marcelo Guimarães).</li> <li>- The city is not very poor.</li> </ul>	<ul style="list-style-type: none"> <li>- The producer still doesn't make alcohol. Although she has the equipment, she doesn't know the costs, and still buys sugar cane;</li> <li>- Her boiler needs to be repaired;</li> <li>- The producer doesn't communicate with the president of the local association (extremely politicized);</li> <li>- Few residences in the region, place with many small farms of leisure, very active region, especially during the weekends (this public likes to use the woodstove).</li> </ul>
Mateus Leme 63 km	Comunidade Sítio Novo	Marcelo Guimarães	<ul style="list-style-type: none"> <li>- Mr. Marcelo Guimarães worked in the Pró-alcool and wrote books and articles on the alcohol production subject;</li> <li>- He is well connected and knows the subject.</li> </ul>	<ul style="list-style-type: none"> <li>- Mr. Guimarães has already retired and he is more concerned in disseminating the micro-distilleries project;</li> <li>- Besides he says he would like to cooperate with the project, he would not sell alcohol at his front door;</li> <li>- The community is 4 Km far from his farm;</li> <li>- The community isn't very poor. The use firewood because the region is cold and also because they like it.</li> </ul>
Curvelo 160 km	Paiol de Cima	Não foi identificado	<ul style="list-style-type: none"> <li>- Community indicated by an agent from Banco do Povo.</li> </ul>	<ul style="list-style-type: none"> <li>- The community is very extensive, and the houses are distant from each other;</li> <li>- They use the firewood due the easiness to find it, do not buy;</li> <li>- LPG is more used in the night, or when it rains (little rain in the region);</li> <li>- Presentation of the alcohol stove for some inhabitants, we do not perceive much interest.</li> </ul>

Urucânia 199 km	Employees' Village	Jatiboca Alcohol Production Facility	<ul style="list-style-type: none"> <li>- Partnership with great producer for the supply of alcohol;</li> <li>- Owner of the plant is president of the Syndicate of the Alcohol Distilleries of the State of Mines, very well-connected;</li> <li>- Syndicate has good sector of communication, besides own periodical, what can give visibility to the project;</li> <li>- Social Assistant of the company will follow the project and help to select the families, being able to assist in the monitoring;</li> <li>- Possibility to diversify the families, of villages close the urban zone and villages in the rural area.</li> </ul>	<ul style="list-style-type: none"> <li>- The director wants only 20 families participating of the project;</li> <li>- They want to direct the stoves to pre-selected families;</li> <li>- The responsible one for the taxation department still doesn't know how to account the alcohol to be used in the project, if the fuel can be subsidized, but he is looking for a way.</li> </ul>
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**Considerations:**

1. **Betim:** Settlement Dom Orione. In the end of 2005, the community united and obtained money for fixing the distillation tower. We might take into consideration the importance of the city, second economy of the state, with great poverty clusters. In the Settlement Dom Orione we can work with about twenty-five families.
2. **Salinas:** Regarding the impact of the project, due of the poverty of the region, and also to the great number of producers of cachaça. Today the city has already three alcohol producers. Salinas is small, and we already have the support of an important producer and of the city hall. We asked to the representative of the municipal city hall, who also works with an alcohol producer, to look for an urban community, closer to the alcohol producer. In Salinas, we can work with about thirty families.
3. **Ouro Preto:** It has some positive aspects, as the physical characteristic of the community (lay out of residences), the producer has participated of the Pró-alcool and is well-connected in the city and among producers of cachaça of the state (AMPAQ), but culturally we need to know the community better. During a conversation with the producer in January 2006, he confirmed his availability for the project, and communicated that he was providing the alcohol distillation tower, and that his alcohol production would begin in May 2006. In Ouro Preto, we would work with about thirty families, being twelve families of employees of the producer and also member of the Community Association.
4. **Ponte Nova:** Mr. Sergio Pataro has helped to spread the idea of the mini-distilleries in the state of Minas Gerais, selling equipment and giving lectures and courses on the subject. He is well-connected in Guaraciaba (headquarters of the farm), and in Ponte Nova (close city). Also he has access the ways of advertising. The fact is that we will have to follow the project very close, because Mr. Pataro has showed to be very busy. The community is not yet adjusted for the project. It would be interesting if we leave a stove with Mr. Pataro, due to the great number of people that passes through his property to participate in the course of alcohol production.

5. **Jatiboca Alcohol Production Facility, in Urucânia:** The partnership with a big alcohol producer, president of the Syndicate of the Alcohol Distilleries of the State of Minas Gerais, would give a great visibility to the project and access to media. The manager of the facility made 20 families available to participate of the project.
6. **The State Park of Itacolomi:** The park is located between the cities of Ouro Preto and Mariana. An area of camping has opened there recently. The proposal is to leave five stoves, to be loaned to the campers. To use a stove, each camper should commit to do an evaluation. We will be giving preference to this park, for being closer to Belo Horizonte, but we have other options.
7. **Cooperative of Car Truckers of Betim (connected to Fiat Automobiles):** The proposal is to select five truck drivers to use the stove during their trips, them agreeing to answer an evaluation questionnaire (contact was already made).

**Pictures of farms and communities we visited**



**Mateus Leme**



**Green Valley Farm**



**Jatiboca Alcohol Production Facility**



**Jatiboca's Village of Employees**



**Ponte Nova**



**Dom Orione Settlement, Betim**



**Gota de Minas, Ouro Preto**



**Salinas**



**Salinas**



**Mrs. Lia, District of Engenheiro Correia, Ouro Preto**

“The region is too cold. Besides of the food, we use wood to heat water. I’m used to the use of wood, although the work it takes. The young people don’t use wood because it is too much trouble and the dirtiness at the walls and pans.”



**Mr. Marcelo, Community Association of Gentios, Ponte Nova**

“This stove is very interesting to people that work in the field. We usually stay the whole day out, and at the time of meals, the food is cold.”



**Dom Orione Settlement, Betim**

“The stove is very interesting for us. At the settlements it isn’t always that we have a good infrastructure to prepare meals. This stove would make it a lot easier.”



**Rural zone, Salinas**

We use more LPG stove, but the cost is very high for us, besides there isn’t any place close to our home that sells gas bottles. The food prepared at woodstove is tastier, but we rarely use because it is too much trouble.

## **Partnership with Federal University of Viçosa (UFV) in the selection of communities**

The Department of Domestic Economy (DDE) of the Federal University of Viçosa is a recognized reference within this area and its members already developed several studies and researches at national level. Our purpose is to establish a partnership, where DDE, through its orienting professors and interns from Domestic Economy course, will collaborate in the selection of communities to participate of Project Gaia in Brazil. DDE will apply a methodology at pre-selected communities to refine our work. They will also evaluate the baseline and M&E survey questionnaires already developed and recommend modifications.

The research will take into consideration several parameters, such as: family structure, community structure, socio-cultural, economic and health aspects, feeding habits, type of equipment currently used to cook, and energy issues, among others.

We already had two meetings at DDE/UFV and are waiting for their cost and technical proposal. We anticipate that they will start the work in the field in February 2006.

## **Importation of CleanCook Stoves Status**

We are facing many problems with the importation of the CleanCook Stoves, due to the high bureaucracy of Brazilian importing legislation.

The first problem we had was the lack of the invoice that should come together with the stoves. To initiate the importing formalities, it is absolutely indispensable to submit the Invoice, BL (Bill of Lading), Packing List, and Importation License.

The fact Banco do Povo didn't have a previous importation license was another big issue and we will have to pay a penalty. As Banco do Povo wasn't registered as an importing company, it wasn't also registered at SISCOMEX (Foreign Trade Integrated System).

We tried to register Banco do Povo as an importing company and at SISCOMEX at a special category that would, supposedly, save us time and money, but after two weeks waiting for an answer, the process wasn't approved and we had to submit a big list of documents all over again to get a simplified register. It seems that this registration process is almost over and in the next few days we shall be able to really "import" the stoves.

## **Next Steps: February-March 2006**

- Finish the negotiation with UFV/DED;
- Implement UFV/DED's field research;
- Finish stoves importation process;
- Adapt fire control;
- Translate and adapt contract to be signed by families participating of the project;
- Translate information material to be put on the fuel canisters and vessels;
- Translate calendar with information on safety use of the stove (waiting for sample);
- Quote printing material;
- Visit State Parks with camping area;
- Follow-up with discussions regarding micro-distilleries movement;
- Deepen research of alcohol production process and equipment available.