Enabling Urban Poor Livelihoods Policy Making:

Understanding the Role of Energy Services

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Acronyms

AMPLA – Associação de Moradores de Plataforma (Association of Plataforma Residents)

ANATEL – Agência Nacional de Telecomunicações (National Agency of Telecommunications)

ANEEL – Agência Nacional de Energia Elétrica (National Agency of Electric Energy)

ANP – Agência Nacional de Petróleo (National Agency of Petroleum)

COELBA – Companhia de Eletrificação da Bahia (Bahia Electrification Company)

DIEESE – Departamento Intersindical de Estatística e Estudos Sócio-Econômicos (Department of Statistics and Socio-economic Studies)

EMBASA – Empresa Baiana de Águas e Saneamento (Bahia Water and Sanitation Company)

IBGE – Instituto Brasileiro de Geografia e Estatística (Brazilian Institute of Geography and Statistics)

IPEA – Instituto de Pesquisa Econômica Aplicada (Institute for Applied Economic Research)

KWh – Kilowatt-hour

LER – Lesão por Esforço Repetitivo (Injury for Repetitive Effort)

NEIM – Núcleo de Estudos Interdisciplinares sobre a Mulher (Nucleus of Interdisciplinary Women's Studies)

MDGs – Millennium Development Goals

MW – Megawatt

PED – Pesquisa de Emprego e Desemprego (Survey of Employment and Unemployment)

PNAD – Pesquisa Nacional por Amostra de Domicílio (National Survey by Sampling Dwellings)

PROCEL - Programa Nacional de Conservação de Energia Elétrica (National Program for Electric Energy Conservation)

RMS – Região Metropolitana de Salvador (Salvador Metropolitan Region)

SEBRAE - Serviço Brasileiro de Apoio às Micro e Pequenas Empresas (Brazilian Service for Supporting Micro and Small Enterprises)

UFBA – Universidade Federal da Bahia (Federal University of Bahia)

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Executive Summary

Access to sustainable energy is a key factor in poverty alleviation and in meeting development needs throughout the world. Indeed, energy use is a crucial element for socio-economic development and an essential ingredient to economic growth. However, neither poverty nor energy needs is gender neutral. Understanding how gender, poverty and energy needs operate in different settings should be a necessary step in energy planning as well as in policy making geared to poverty alleviation

The current study is part of a research project coordinated by the Technology and Development Group of the University of Twente in the Netherlands. It involved similar studies conducted in Nigeria as well as in the Philippines. In Brazil, the research was carried out under the coordination of Winrock International-Brazil.

It aims at addressing energy issues from the perspective of urban poor livelihoods. More specifically, as part of the comparative study, this study is geared "to provide a clear understanding, based on micro-level gender disaggregated data, of the issues around urban energy supply and use for poor people's livelihood strategies" (Inception Report 2004). The specific objectives are:

- To determine the role of clean affordable energy services in creating good physical well being and productivity of urban households;
- To analyse the role of social networks and relations in facilitating urban household livelihoods;
- To determine the role of energy services in urban enterprise viability and the influence of household livelihoods
- To analyse the impact of energy sector reforms on access by urban enterprises to energy services.

For comparative purposes, local studies followed an overall research design centred on four working hypotheses linked to the stated objectives, as follows:

a) Clean and affordable energy services are key factors in creating good physical well being and productivity of urban household members;
b) Social networks and relationships facilitate access to urban energy services;
c) Energy services are key factors in the sustainable urban livelihoods by increasing the viability of existing enterprises and enabling the establishment of new ones;
d) Energy sector reforms lead to improved access by urban enterprises to energy services.

For each of these hypotheses, in turn, a number of indicators were formulated, taking into account a "sustainable livelihood framework". Each of these hypotheses and their indicators are discussed in greater detail further ahead, along with the presentation of the major findings for the Salvador study.

The present report is as a contribution to a "gendered" outlook on energy services from the perspective of poor urban households in Bahia, Brazil. More specifically, it presents the results of a study conducted in Plataforma and Canabrava - two poor neighbourhoods of Salvador, the capital city of the State of Bahia in the Brazilian Northeast -, in order to gain greater understanding of the roles played by energy in sustainable urban livelihoods.

The focus is centred on small enterprises and their role in providing sustainable livelihoods for the corresponding households. To identify these enterprises, a total of 514 households – 259 in Plataforma and 255 in Canabrava - were surveyed, eliciting socio demographic data as well as information regarding sources and uses of energy, and the nature of small enterprises linked to these households. The research design was based on a sustainable urban livelihood framework and sought to identify the significant assets in terms of human, natural, financial, physical and social capital.

The results confirmed some socio demographic trends already observed at the national level, such as: a) the significant proportion of women headed households among the urban poor and their greater vulnerability; b) the tendency for female household heads to live without partners and to be older and have less years of formal education than their male counterparts; c) the considerable percentages of these women who are retired or receiving pensions; and d) the sizeable proportion of these women who are supporting their unemployed adult children and their spouses as well as grandchildren, with meagre retirement and pension benefits.

One main finding in the study was the fact that energy services in urban areas did not appear as a priority in the livelihoods of the poor as other services, such as sewage, transportation, unemployment and education, which seemed to be of greater concern. As a result, a gender analysis of the energy services was not possible to do as expected because in opposition to rural areas, where energy services have an impact on gender division of labour and well being[1], almost the total amount of urban poor interviewed had access to electricity, therefore not having a major impact on gender relations.

As to urban housing conditions, the survey registered the overall improved sanitation levels of the households visited; indeed, there were very high proportions of homes with piped water, garbage collection services and (nearly universal) assess to electricity. These improvements reflect on the health conditions of the members of the households studied: the ailments found to fall upon them (high blood pressure, tired eyesight) are compatible with an aging population. Indeed, within the households surveyed, its most the elderly and the adults who tend to fall ill. However, the fact that linkages to adequate sewage systems are still desired probably respond for the presence of vermin and parasites, and the incidence of diarrhoea, among members of the households surveyed.

In regards to the sources and uses of energy by these households, it was found that the transition to “clean energy” seems to be well consolidated among the urban poor of Bahia. Not even the national energetic crisis of 2001, which imposed forced rationing of electricity to all, nor rising costs of both electricity and LPG cylinder, have deflected the families studied from using “clean” energy, in favour of other sources of energy, such as wood, charcoal or kerosene, known to be less efficient and of deleterious consequence to the health of the users.

Nonetheless, the electrical consumption structure of the urban poor of Salvador remains at a low level and characterized by the “simplicity” of its use. Indeed, nearly half of the households surveyed consumed less than 100 kWh/month, which were basically employed on the use of domestic appliances, particularly those geared for leisure (colour TVs) and food preparation (blenders) and preservation (refrigerators).

[1] Winrock International, August 2002. – “Gender and Energy in 24 Rural Communities in Bahia”.

A key finding was the weight of transportation costs on family budgets – the effect of global conflicts and their role in raising the price of petroleum throughout the world – which contributes to energy related expenses to take a sizeable proportion of family budgets (around 25%). Certainly rising fuel costs also have an effect on elevating food costs – especially in Brazil where the major transportation means use fossil fuels as sources of energy. This should explain, at least in part, the relatively simple and poor daily menus – of rice, beans, meat and flour – that constitute the basic staple of the households studied.

Other important findings pertain to the nature of the small enterprises surveyed such as, a) most are home ran businesses; b) they are ran by women; c) these business are not the major earnings of the households (they supplement budgets); d) there are still incipient; e) they are the type of business that receive no incentives by the government; and f) they tend to be an extension of women's domestic activities – food production, sewing, etc.

In this respect is important to note that despite significant changes regarding women's participation in assuming greater financial responsibilities in the household and, as a consequence, also more "saying so" in decision making, a gender division of labour along traditional lines is still at work in the internal organization of the households here studied.

1. Introduction

It is widely agreed that access to sustainable energy is a key factor in poverty alleviation and in meeting development needs throughout the world. Indeed, energy use is a crucial element for socio-economic development and an essential ingredient to economic growth. In particular, it is related to greater economic opportunities, better living conditions and personal well being – it can be time-saving and liberate people from much drudgery and back-breaking work.

However, neither poverty nor energy needs is gender neutral. To the contrary, gender differences and inequalities have important consequences to the way people experience and can be moved out of poverty (Beneria & Bisnath 1996). Likewise, gender divisions work such that women and men have different energy needs in relation to their roles and responsibilities; thus, gender also matters in dealing with issues pertaining to access to energy and its usages (Nielsen 2002, Clancy 2002, Clancy 2003).

It follows that understanding how these linkages operate in different settings should be a necessary step in energy planning as well as in policy making geared to poverty alleviation. As stated in a resource guide provided by UNDP for researchers and practitioners: "Energy planning that is implemented in a gender-neutral way misses important issues and inadvertently discriminates, usually against women" (UNDP 2004).

The present report is intended as a contribution to a "gendered" outlook of energy services from the perspective of poor urban households in Bahia, Brazil. More specifically, it presents the results from a study conducted in two poor neighbourhoods in Salvador, capital city of the State of Bahia, to gain greater understanding of the roles played by energy in sustainable urban livelihoods.

In that respect, it should be noted that studies of the gender, poverty and energy nexus in Brazil are not only scarce, but also focused primarily on rural settings (Branco 2002). Actually, very little is known of how these linkages operate in urban settings – a statement that probably would apply not just to Brazil but to other countries in the so-called "South" as well (Clancy, Oparaocha & Roehr 2004). It is important to ask: What are the gender aspects of urban energy and livelihoods? How can policy making better address them in providing affordable access to energy services to the urban poor? Indeed, these are some of the questions that will be here addressed, in order to explore gender and energy issues in urban households in a more systematized way.

Before discussing in greater detail the specific questions at work in the study, a brief outline of some of the major pressing issues in Brazil today will be delineated, particularly those pertaining to the political economy of energy services.

2. Background to Study

Numerous efforts have been made at the policy level to stimulate settlement in rural areas within Brazil, including colonization in the Amazon, and to limit the growth of the largest cities while strengthening middle-sized cities. Despite these efforts, however, most public policies have continued to favour population concentration in large cities by providing services and benefits primarily to urban residents. Although increased urbanization has accompanied economic development, it also has created serious social problems in the cities. Even the wealthiest Brazilian cities contain numerous shantytowns, known as *favelas*. In 1990 the number of indigents suffering from extreme poverty (less that U$ 1 per day) was estimated to be at least 32 million, about one-fifth of the country's total population at the time. The urban poor live in *favelas* or distant housing projects, take long bus trips to go to work (often more than one bus, which costs twice as much), go to public schools or often drop out from it, shop at smaller supermarkets or local shops (which tend to be more expansive), have poor access to sanitation, transportation, energy, among other public related services.

High taxes, cumbersome bureaucracy and a lack of enforcement has led to the existence of the so-called informal economy, which includes self-employed business people and workers who do not have the legal protection of labour legislation. In 1990 the informal sector accounted for nearly half of the economically active population – mainly small business that do not benefit from most of the existing policies.

In Brazil rates of females participating in the job market appear to increase with education, especially the proportion of single educated women entering the formal sector rather than the informal and self-employed sectors. The poorest of the poor[2]in urban areas are the families headed by single women, who find their way of living in the informal small business receiving very low wages and most commonly employed as domestic servants.

The National Housing Bank finances public housing using funds from savings accounts and from the official employment guarantee system. Because of the financial constraints of working with a low-income clientele, the federal Housing Finance System has been used primarily to provide low-cost mortgages for houses and apartments for the middle class, yet another public policy put in place for low income that has not been properly enforced or not well oriented. Many poor people, without access to financing, find it necessary to build their own houses, and most commonly it is done in the *favela* and suburban areas where basic services are not available.

In the 1970s a series of social policies designed to compensate for the economic policies that favour income concentration was put in place. Although they were insufficient, the investments made by the government had unquestionably positive effects. Inclusion of lower favoured social class resulted from extension to the lower middle class, by means of the labour and consumer markets and public services - some of the benefits of development previously restricted to the upper and upper-middle strata. They have gained from participation in the labour market or markets for their goods and services and from government-provided services, such as education, health, energy access and sanitation. The quantity of coverage has increased, although serious problems of quality remain, and the lowest strata continue to be excluded from integral participation in markets and full access to government services, again including health, energy, sanitation, education and so on.

[2] As defined by the United Nations, these include people earning less than US$1.00 per day.

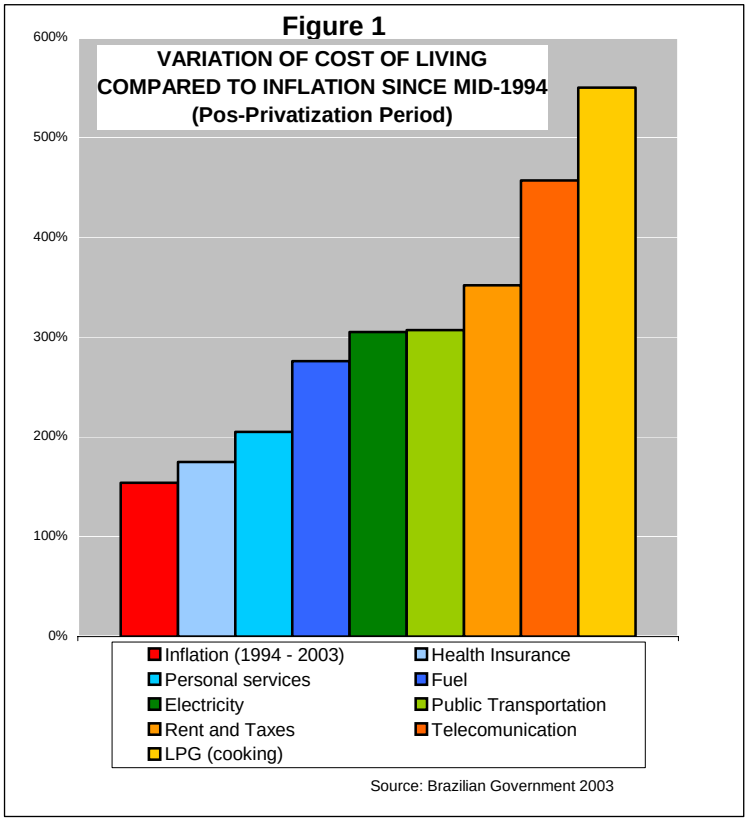
Macroeconomic policies aimed at stabilization and competitive insertion of Brazil into global markets has contributed to slower economic growth and increased unemployment, which in turn worsen exclusion and increase urban poverty. Although there are important signs that significant change is underway with recent electrification policies to guarantee universal energy access to all consumers, benefiting the poorest families, Hunger Zero Program and others for poverty alleviation programs, the benefits are not quite immediate.

Brazil's privatization experience since 1990 was a response to the fiscal pressures on the public sector, which worsened significantly in the 1980s with the bankruptcy of the public sector. In the energy sector, the federal treasury initially assumed many of the cost distortions public policy. In the 1990s policy changed significantly, and privatization was one of the major issues of its economic platform, shifting focus to state-owned enterprises responsible for the major part of Brazil's economic infrastructure, among them enterprises in the energy, transportation, and communications sectors.

An adequate supply of electric energy became critical, both for production and for a rapidly growing urban population. Petroleum requirements expanded quickly because of the heavy reliance on trucks for short- and long-distance transportation of goods and public transportation. Nowadays Brazil imports close to 14% of the necessary oil to meet country Diesel demand.

As a result of polices originated with the privatization process, the cost of services provided by old state-owned infrastructure companies, now done by private concessionaires, such as Electric Energy, LPG and Natural Gas distribution among others, has increased in price in some cases two to three times above the official measured inflation in the same period. The impact of such policies has enormously increased the already existing bad income distribution, contributing to the growth of poverty.

Figure 1



Source: Brazilian Government 2003

The Graph (from mid 1994 until 2003) shows the variation of some of the services such as energy and LPG distribution (Propane), transportation fuel (gasoline), telecom, rent and taxes, etc. Most of them formerly provided by public sector but transferred to private companies after the privatisation process.

In the early 1990s, the government implemented a series of measures to reduce its role by introducing deregulation, market reforms, and privatization, but these reforms did not change the essence of the energy policy that was focused to increase competitiveness in

generation, transmission and distribution segments, with State assuming the position of Regulator through specific Regulatory Agencies, such as ANEEL for Electricity, ANP for Petroleum and Gas, ANATEL for telecommunication and so on. Interest groups, from private groups in the petrol and LPG sectors, prevented the adoption of measures that would drastically alter the liquid fuels policy, and the agency controlling electric energy continued to lack resources for investments. Thus, the energy price structure was altered only marginally not benefiting the poor, because pressure from private companies did not allow for social improvements.

According to the Nation Statistics Institute, from July 1994 until June 2003 the official cumulative inflation was around 154%. The cost of LPG, the most used fuel for cooking in urban areas, has increased 550% in the last decade, over three times the inflation in the same period. Unfortunately, this is the reflex of the current policy for propane distribution in Brazil, where the final product and distribution services prices were increased way above inflation at the same time that provides subsidies to the poorest through a program that distributes free small LPG cylinders to poor income families. The prices of diesel fuel and propane were maintained artificially low, requiring subsidies. The low diesel price was intended to keep transportation costs from increasing sharply, and social arguments were used to justify the LPG subsidy. The easiest way to access the LPG government distribution program[3], known as *Auxílio Gás* (LPG Voucher), is via Internet access– not accessible by the main program beneficiaries – the urban poor population. It is important to mention that with urbanization biomass fuel for cooking has been completely abandoned and cooking is mainly done with LPG cylinders – though it is expensive, most people rely on its use as they have no other alternative.

Yet according to the graph above, telecommunication costs increased 457% in nearly 10 years. Liquid fuel, most used for transportation of national production and people has increased 276% and public transportation in general has increased 307% (twice the inflation). Privatization aimed to reduce costs and increase competitiveness, however this did not occur as the same electric company continued in operation – thus electricity costs followed the same trend and increased 305% in this period, twice above the inflation. When industrialization began in the early 1950s, the country's main sources of energy were firewood, charcoal, and sugar cane bagasse. Modern industrial expansion could not be based on these, and electricity and petroleum products received special attention. But again, policy was totally oriented to industrialization and favouring powerful economic groups. Intermittent adjustments in electricity prices after privatization allowed the sector to generate profits and thus some resources for investment. However, when under economic pressures, the government returned to the practice of manipulating consumer prices to contain inflation. Nevertheless, the poorest of the poor – families headed by single mothers – did not benefit.

Finally, Brazil has one of the highest taxes in the world, which highly penalizes the small business, that want to operate on the formal market. In the last decade general public taxes and fees has increased 352%, a heavy burden to formal small business. Thus, an informal economy expanded as a result of poverty, the rapid rise in population, the inadequate provision of education, and the succession of economic troubles and badly targeted policies. The unfolding of Brazil's current difficulties in the energy sector constitutes a distortion arising from misdirected regulation combined with the action of interest groups.

[3] This started in the previous mandate of Fernando Henrique Cardoso and it was inserted in the Family Assistance program from Lula's mandate.

3. Cities within the City

Within the last three decades, Brazilian society has forged ahead by rebuilding the democratic institutions destroyed during the long years of military rule. However, despite the important political advancements and economic growth registered in the period, profound distortions in the system of distribution of wealth have persisted, contributing to the marked social exclusion of large segments of the population.

Indeed, as the Resident Coordinator for the United Nations in Brazil (who is also responsible for the UNDP in the country) so declared in a recent interview: "Brazil is the most unequal nation in the world". And he proceeded to explain: "When we compare the quality of the Brazilian business environment with European patterns, the curves come together. When we analyze the quality of labour relations (employment stability, social benefits and union rights), the curves draw apart" (Lyra 2004).

Data included in the Syntheses of Social Indicators published by the Brazilian Institute of Geography and Statistics – IBGE (2004) confirm this trend. In spite of significant improvements in health, education, and the overall condition of dwellings verified within the last decade, the distance between the very poor and the very rich are still overwhelming. The richest 1% accumulates the same earned income accumulated by the poorest 50% taken together, while the richest 10% earn 18 times more than the poorest 40%. Furthermore, half of Brazilian workers earn an average monthly income of only two minimum wages – something in the order of US $ 200.00 – and more than half of the workers do not contribute to Social Security. Needless to say, the situation is even worse for women, particularly for those responsible for their households; and, of course, for the Black population as a whole. Indeed, 70% of the poorest 10% of the population identified themselves as either Black or Brown (mestizo).

This situation has rendered to Brazil a double task in the achievement of the Millennium Development Goals. On the one hand, along with other countries of middle income, such as China, Malaysia, Mexico and South Africa, Brazil has been called upon to help poorer nations in working towards those goals. On the other hand, however, Brazil has been challenged to overcome her own shortcomings, in channelling critical investments – "in infrastructure, human capital, and public administration" - towards the eradication of the country's internal "pockets of poverty". As stated in a report on the MDGs recently published by Earthscan:

> "Economic development often leaves some parts of an economy, or some groups in society, far behind. This occurs both in lagging regions and in cities, where a growing proportion of the poor live in slums. In many countries there are cities within cities – a dual reality of haves and have-nots in close proximity" (Sachs et al 2005:43).

Salvador, the site of this study, certainly falls within this description: it has "cities within the city". Indeed, it shows high levels of social inequality, exhibiting not only the highest unemployment rates in Brazil (24,7%), but also the highest urban population percentages (33%) living in squatter settlements (DIEESE 2005). It is a city known for its densely populated poor neighbourhoods, which lack most of the basic items of urban infrastructure. [4]

[4] A recent study published by CEPAL has shown that 75% of the population of Latin American countries lives in cities, and 44% of them live in slums or poor neighbourhoods (Cucolo, 2005b).

3.1. Brief Historical Background of Salvador

The first colonial capital of Brazil and the capital city of the State of Bahia, Salvador has enjoyed, at different moments of its history, considerable national prominence. During colonial times and well into the 1800's, it figured as Brazil's main seaport for the sugarcane economy, particularly for the slave trade that sustained it. To this day, Salvador remains the "most African" city in Brazil, not only in terms of its cultural heritage, but also in terms of the ethnic make-up of the population, which is made up of more than 85% Black. Towards the last quarter of the nineteenth century, Salvador also claimed importance as Brazil's major textiles manufacturing centre, home to nearly one-third of all the cotton textile factories in the country (Sardenberg 1997a).

By the turn of the century, however, Salvador had already lost this position to cities in the South, entering into a period of industrial stagnation. It was only in the 1950's, after the discovery of petroleum off the shores of Salvador and the subsequent creation of Petrobrás, Brazil's National Petroleum Company, that this situation began to be reversed. Petroleum would pave the way for the creation of government-sponsored incentives for investments in industrial production and the economic development of the area, incorporating Bahia into new patterns of capitalist accumulation (Faria 1980, Oliveira 1987).

At the same time, agro-industrial development in the interior of the state spurted increasing land speculation and the speeding up of the process of expropriation of the peasantry – the so-called "rural exodus". All of this has stimulated increasing migration to the metropolitan area of Salvador and significant population growth. Salvador is today the third largest city in Brazil, with a population of near 2.5 million people; as depicted on Table 1:

Table 1 - Evolution of Population of Salvador (1940-2000)

Years	Population	Rate of Growth
1940	290.443	-
1940	290.443	3.7
1950	417.235	4.6
1960	655.735	4.4
1970	1.007.195	4.0
1980	1.502.013	3.0
1991	2.075.273	1.3
1996	2.211.539	-
2000	2.440.828	-

Source: IBGE

However, the economic development of the area and the increased population were not accompanied by the necessary investments in infrastructure, crucial to decent and humane living conditions. On the contrary, Salvador is today a city surrounded by miserable squatter settlements and notorious for its lack of public sanitation, its shortage of schools, day-care centres, hospitals, and means of transportation--problems which are not unique to this area, but which in fact besiege most major Brazilian cities.

Likewise, though in the period outlined the local and regional economies have expanded considerably, creating new job opportunities, this expansion has fallen far behind in absorbing the available (and growing) work force. As a consequence, both unemployment rates as well as those of "sub-employment" soar high in the city. Indeed, according to 2000 census carried out by IBGE, over 55% of those engaged in gainful occupations were found to be involved in activities

which could be loosely identified with the so-called 'informal labour market' (IBGE 2000). They involve low wages, low productivity, and low employment security for the urban poor.

Of course, all of these factors impact on the territorial and social make up of the population. There are sharp contrasts between rich and poor neighbourhoods in the city and marked variation in household incomes, with large numbers of households living in extreme poor conditions. As will be seen later, these contrasts are also found in the uses and levels of energy consumption of rich and poor households in Salvador.

The two neighbourhoods in which the study was carried out, Plataforma and Canabrava, are part of the so-called *periferia* (periphery) of Salvador. As the term does imply, on a more general level *periferia* refers to the totality of neighbourhoods, which are usually located on the fringes, or outskirts of major cities. Nevertheless, more than location, the notion of *periferia* in Brazil today also implies social condition. It applies to those residential areas which are not only away from the centre but also "precarious, needy, and underprivileged in terms of public services and urban infrastructure" (Caldeira 1984:7), and which are immediately associated with the poor. As Eunice Durham observes, if it is true that the poor are to be found living all over the cities--including in enclaves within better neighbourhoods or in intermediate areas between them--"there is a place where they are concentrated, a space of their own and in which their mode of life is better expressed. This is the so-called *periferia*".

3.2. Plataforma

Located in the area known as *Subúrbio Ferroviário* (Railroad Suburb), Plataforma is a former factory workers' villa, founded in the mid-1800s, and home to one of the major cotton textile mills, which functioned in Bahia until the late 1950's. The factory closed in 1959; however, throughout the 1960s, Plataforma's population still consisted mainly of long-time residents and former factory workers' families (Sardenberg 1997a).

During the following decade, significant changes came about. The development of the Brazilian petrochemical industry, headquartered in Salvador, along with the construction of major roadways linking the poor suburbs to the city centre promoted intense population growth in the area.

Road construction in this section of the city has lead to the partitioning of areas, previously under cultivation, for new land developments and housing projects, as well as for the springing up of squatter settlements along the roadway. Besides, the establishment of regular bus routes to and from the city centre has also contributed to the considerable growth of the neighbourhoods in the *Subúrbio Ferroviário*.

Indeed, at present, the *Subúrbio* is the most populated area of Salvador, and Plataforma one of the largest areas of the *Subúrbio*, with a population of close to 60.000.[5] The neighbourhood is divided in different sub-areas, each with distinct characteristics, including new housing developments.

For the purposes of the study, however, the original settlement was defined, which grew around the factory, as the target area, a section that includes about 10.000 people. This choice takes

[5] For administrative purposes, the City of Salvador is divided into 17 Administrative Regions ("RA's"); *Subúrbio Ferroviário* corresponds to RA XVI. In 2000, the population of this RA was in the order of 262 thousand people.

into account historical age, and thus the long established social ties among residents of the original community.

3.3. Canabrava

In contrast to Plataforma, the population of Canabrava is relatively new to the area, a significant portion of it having arrived in May, 1977, after eviction from another neighbourhood, near the centre, where a new water plant was to be constructed. Around the same time, Canabrava became the site of the Salvador Sanitary Landfill. As a result, there emerged the *Favela da Rocinha*, a squatter settlement of families of "badameiros", that is, of people who made their living shifting through the garbage in the landfill, and thus under highly unsanitary conditions.

Indeed, for nearly two decades, the city of Salvador dumped all sorts of garbage in this area, a practice that resulted in constant air pollution as witnessed by the intense unpleasant odour that clouded the neighbourhood during that period. This also exposed the local population to endemic diseases such as respiratory and skin problems, including burns from the emission of gases from organic refuses in the dump.

Despite local attempts to better conditions, this situation lasted until the late 1990's when a new City Dump was constructed in another region of the city. More recently, a recycling plant for the production of biogas was created in Canabrava, which is being used as an energy source for the "Socio-environmental Park", built as a recreational area for the community.

According to official accounts, approximately 6,000 people live in Canabrava today, but no homes are being serviced by the recycling plant, as the biogas produced in the plant is only enough to tend to the needs of the Park.

Plataforma

Canabrava

4. Overall Methodology

4.1 Background

There is little empirical data on urban livelihoods and energy. The study set out to make a contribution to this knowledge gap by providing empirical data from three countries: Nigeria, Philippines and Brazil. Such a selection, spanning three continents, aimed to give a more comprehensive, universal picture of energy and urban livelihoods. It will enable the identification of parameters which appear to be generic and those which have a cultural context.

The three countries have a number of similarities which would help in generalization. All three countries have recently experienced economic crises which have increased the number of people in urban areas relying on informal sector enterprises. They are countries with large urban populations living in big cities. Privatization in the energy sector had already started in Philippines and Brazil and Nigeria was beginning the process when the research was started. There was no evidence, at the time the project proposal was written, of analysis of the micro-level impact of these policies in these countries. Nor do the energy policies specifically taken into account the needs of the urban poor. Therefore, the research findings also make an important contribution to knowledge at the national level about the current local situation as regards energy and the urban poor which can in turn help to identifying policy gaps.

4.2 Approach

The research team consisted of three national teams with an international coordinator. The national teams were responsible for the collection and analysis of the data which was presented in three country reports.

To ensure that comparative data was collected a planning workshop was held with the country team leaders and the study co-ordinator to define the boundaries of the study. This was followed by a training workshop in the Netherlands for the three national researchers responsible for data collection and analysis. A mid-term review meeting between the country team leaders and the study coordinator was held to evaluate the data collection process.

As part of the output partners were asked to develop dissemination strategies, including holding consultation workshops to disseminate their findings to key stakeholders both at the national and international level. All reports will be made available on a website dedicated to the project at www.urbanenergy.utwente.nl. A special issue of ENERGIA[6] News will also form part of the project output.

4.3 Framework, scope, hypotheses and indicators

The research used as its starting point the livelihoods framework. The usefulness of the sustainable urban livelihoods framework for analyzing urban poverty and energy

[6] ENERGIA is the international network on gender and sustainable energy.

relationships had already been demonstrated in an earlier DFID KaR funded research project on urban livelihoods and energy (Future Energy Solutions et al., 2002). It should also be recognized that the approach is not without its critics (see for example, an over-reliance on the log frame and quantitative indicators can lead to gender-equality issues being neglected (Kanji, 2000). The role of energy within the livelihoods framework is a good illustration of this point. Energy is seen as enabling asset for reducing the drudgery, saving the time and improving the livelihood strategies. However, whether the men and women benefit equally from improving access to energy is not clear.

The proposal contained an analysis of the energy-gender-poverty linkages that could be explored within the livelihoods framework (see Appendix 3). At the inception workshop, the team reviewed these linkages and it appeared that such an analysis would require a large amount of data which would not be possible to collect and analyse within the scope of the project. The research team therefore took a number of decisions about the focus of the research.

The study focused on the enterprises of low-income urban groups, in particular the linkages between energy in enterprises and household members' well being and productivity. The low-income groups were not the "poorest of the poor" – since there is no doubt that providing people in this group with energy services will lead to improvements in their livelihoods. Instead, the focus was on those groups which have the capacity to be entrepreneurs or improve their entrepreneurial status since it was considered that here might be possible to have an indication of the role of energy in enterprise viability. The term "viability" was chosen in place of "sustainability" since the latter has an implicit time dimension whereas the reality in the informal sector is that enterprises are often not in continuous operation but entrepreneurs "dip-in and dip-out" as need arises. Therefore to this type of entrepreneur, energy must not be a barrier to re-start. However, term "viability" does not preclude "sustainability".

The research team decided that the multiple aspects of the energy-poverty-gender nexus with the livelihoods framework could be adequately covered by the use of four hypotheses:

1. Clean and affordable energy services are key factors in creating good physical well being and productivity of urban household members.
2. Social networks and relationships facilitate access to urban energy services.
3. Energy services are key factors in the sustainable urban livelihoods by increasing the viability of existing enterprises and enabling the establishment of new ones.
4. Energy sector reforms lead to improved access by urban enterprises to energy services.

The arguments for the formulation of these hypotheses are as follows: Both the type of energy used in enterprises and households and the services energy can help supply (such as clean drinking water either through pumping or boiling) influence the health of household members. Health is itself an important factor in people's productivity (*human and financial assets*). (Hypothesis 1)

Moser (1996 quoted in Meikle, Ramasut, and Walker, 2001) has stressed the importance of social capital for many households in coping with economic crises. The role of enterprises in households coping with economic crisis is not contested although the significance of the role of energy within these enterprises is not well understood (*physical and financial assets*) (Hypothesis 3). However, since many of the informal sector

enterprises use energy it can be reasonably surmised that access to a reliable energy supply will be important at least in letting the enterprise function. What would appear not have been previously researched is the role of that social capital plays in facilitating access to energy services. Therefore the research team set out to map how social networks and relationships in urban communities helped in access to energy services (*social assets*) (Hypothesis 2). This component of the research can be considered to be innovative. The context in which people live is particularly important in the sustainability of livelihoods. The two most significant contextual factors common to the three study regions are the economic crises and the reforms in the energy sector. The former has contributed to the increase in the urban poor while the latter has promised to contribute to the solution by improving energy services. Hypothesis 4 specifically tests this assumption (*livelihoods context*).

For each hypothesis, a number of broad indicators have been formulated which determined the data that needed to be collected (see Appendix 2). These indicators build on an earlier set of indictors in a scoping study for DFID KaR carried out in Ghana, Indonesia and China[7]. The aim within this study was to develop indicators that were independent of location and could be used for comparative purposes. They aimed to be comprehensive without providing unmanageable quantities of data.

[7] Future Energy Solutions et al (2002) Energy, Poverty and Sustainable Urban Livelihoods. DFID KaR R7661.

5 Country-specific Methodology

For comparative purposes, the implementation of the Salvador study followed the parameters established in the overall project research design, including the research hypothesis, strategy, data gathering tools, and software used for data analysis. Nevertheless, the Brazil research group also defined country specific methodologies, such as that for selection of neighbourhoods, and developed the questionnaires, structured interviews and other tools.

5.1 Selection of Neighbourhoods for the Study

Salvador, the third largest city in Brazil, with over 2.7 million people, shows high levels of poverty (1/3 of the population lives in squatter settlements). Its densely populated poor neighbourhoods lack, or are poorly served by, basic infrastructure services, such as water and sanitation. Two such neighbourhoods were selected for this study – *Plataforma* and *Canabrava* – based on the following criteria: a) their different histories and periods of settlement; b) geographic location within the city; c) experience with alternative energy sources (Canabrava); and d) adequate conditions for carrying out fieldwork.

5.2 Research Strategy

The research design for the study combined quantitative as well as qualitative methods. The first phase of activities was a survey of 250 households[8], in each of the selected neighbourhoods, in order to gather data on the impact of energy policies on poor urban households and of variables, such as education, household size, and others, affecting the consumption of energy. For six weeks, eight enumerators carried out the household survey in both communities simultaneously. Upon conclusion, the data was processed using the SPSS software. The least square regression method allowed the isolation of each specific variable effect. In the second phase of the study, interviews were conducted with key people, case studies of 25 small enterprises[9] in each community were done, and two focus groups, one in each community, were convened as a means of complementing the information gathered through the surveys.

5.3 Data Gathering Tools

The research team chose a total of seven tools to gather data. Whenever possible, methodological triangulation was used to increase reliability of the sources.

Household questionnaire	A structured data-collecting tool. The development of the survey questionnaire by the Brazil research group incorporated some of the parameters and concepts used by IBGE, the Institute responsible for the national census and other official statistics. The 124 questions included in the questionnaires covered topics ranging from household and family characteristics, use of water, electrical energy and other sources of energy, to health, well being, access to social benefits, decision making, division of labour, and income generating activities. A survey manual was provided for the enumerators.

[8] Additional households were later visited, as part of the small enterprises case studies, increasing the total number of households surveyed to 259 in Plataforma and 255 in Canabrava.
[9] The household survey identified only 14 family-run small enterprises in Plataforma and 20 in Canabrava. Local leaders were thus asked to indicate additional enterprises for the case studies.

Enterprise questionnaire	A structured collecting tool with a variety of questions on small enterprises.
Interviews with key individuals	Semi-structured interviews with questions to be addressed to key individuals, such as service providers, leaders in the community, health agents, among others. They were used to obtain specific, in-depth, qualitative information on specific points of interest. The interviews were recorded upon approval of the person being interviewed.
Transact Walk	Transact walks are observation walks across a specific area. They help identify important aspects of the local environment and specific events such as the occurrence of enterprises related to food processing. The walks were done as part of the exploratory phase and during the application of questionnaires.
Secondary sources	Research in books, articles, website, other previous researches etc. An energy policy review was written in order to guide questions. Additionally, data on the communities were also gathered used to give an idea of the local context.
Participatory Appraisals	Participatory appraisals were used to capture local knowledge of life and conditions in their place. Facilitators have discussed with the community their interest in the research project and what types of information would be of their interests. Methods used were open, group oriented, visual as well as verbal, and used comparison to identify patterns, trends, and issues. Some specific questions were added to the household questionnaire based on the appraisals done. Appraisals also provided specific data, as for example, information to develop the resource map and understand the social networks, food intake and policy needs.
Case Studies	Case studies were used to obtain in-depth information for a detailed analysis of specific enterprises. Case studies were composed of a mix of observation and structured interviews with key individuals (in this case, the entrepreneurs).

5.4 Selection of Households

The first step in the sample selection was the choice of ten streets among those that, according to preliminary, observations made in the neighbourhoods and IBGE sector maps, presented a significant number of dwellings. In order to select the dwellings to be visited in these streets and draw a sample of 250 households per neighbourhood which reflected the diversity of the local residents, it was necessary for the project team to take a “transect walk”, counting all the dwellings on each side of the chosen streets, and later dividing by the number of the sample size for each neighbourhood (250 households), defining an interval of houses to be surveyed. The visits were directed only to residential units (enumerators were instructed to skip public buildings, schools, churches, hospitals or health centres, commerce and churches and go the residential dwelling next door).

5.5 Selection of Enterprises

The household questionnaire included 12 questions that provided initial data on enterprises within the community. Local leaders also indicated a number of enterprises. The enterprises to be studied in depth were selected according to the following criteria: a) greater incidence in the community; b) more intense use of energy sources; c) gender of the owner of the business, such as to include both male and female owners in the survey. The main informal small enterprises that fulfilled these criteria were food processing, sewing and hairdressing businesses. 25 small enterprises were selected in each community.

5.6 Selection and Training of Enumerators

In order to carry out the field research, eight enumerators – four young women and four young men – were selected among undergraduate students from different programs of the Federal University of Bahia.

Firstly, enumerators were engaged in two one-day workshops were focused on: 1) gender and energy issues, and energy sources and policies in Brazil; and 2) the "methodology-in-use", including a detailed discussion of the questionnaire, and its conceptual framework. Enumerators also participated in site assessments, pre-tests, and the discussions following the application of pre-tests. After the application of household questionnaires, they received special training in the use of the SPSS data processing software. The enumerators were also asked to compile field journals, and received training in conducting interviews with key-individuals and undertaking case studies of small enterprises. Two of the enumerators also participated in the focus groups.

5.7 Quantitative Data Gathering

Pre-test of questionnaires. A three-day pre-testing of the household questionnaire was undertaken in order to detect possible problems in the formulation and enunciation of the questions. Enumerators applied a total of 12 household and 8 enterprise questionnaires in each of the target neighbourhoods. Eventual necessary corrections in questions and their presentations by the enumerators were made.

Application of household questionnaire. As mentioned earlier, the household survey was carried out in both communities simultaneously, by eight enumerators, coordinated by a researcher. The Brazil project team constantly supervised the data gathering process to ensure that it was carried adequately and clarify any doubts that the enumerators had. To ensure that enumerators were collecting the data, questionnaires were randomly selected for validity and the researcher went back to the community to validate the data gathered.

Application of enterprise questionnaire. A specific in-depth questionnaire was applied on 51 enterprises by interviewing the business owner. The survey was also carried out in both communities simultaneously, by the eight enumerators, and under the supervision of project team.

5.8 Qualitative Data Gathering

Case studies. Enumerators performed a total of 25 case studies of small enterprises, under the coordination of the project team. Case studies consisted of structured interviews and in-site observations by the enumerators, lasting no more than one day for each study.

Focus groups. Focus groups on quality of life with community leaders were carried out at each neighbourhood to collect additional qualitative information on a number of issues, including: transportation situation, energy impacts on household budget, construction of social networks, and community priorities.

Interviews with Key Individuals. The research team interviewed employees of the local power utility and the landfill gas plant. These interviews addressed primarily the following issues: history and company's role in the social arena, relationship with neighbourhood, company's current problems and challenges, and future plans.

5.9 Data Analysis

The tools used to analyze the collected data were: resource map, timeline, gender tools, case study, livelihood profile, ranking, graphical/matrix, regression model and policy analysis. Data

from both, the household and enterprise, surveys was entered into the SPSS software, assisting in the quantitative analysis. A least square regression linked the different variables to help understand how each one affected the amount spent on energy. The results were used to support the policy analysis. Case studies and participatory appraisals were selected to increase the understanding of some particular situation and enrich the research.

Focus Group with community leaders

Interviews in families houses of the communities

6 Key Findings

In an unexpected way, one main finding of the study was the role played by energy in the quality life of the urban poor. As the great majority of the people interviewed have access to electricity with regularity, they don't realize it as a priority issue. Even in spite of the electric energy costs, the study did not find the use of alternative or cheapest sources of energy. On other hand, problems with access and quality of water, transportation, unemployment and education were highly raised and discussed in the focal groups. It could be concluded that energy services is already part of the reality of urban poor communities in Salvador, making possible a certain level of life quality and allowing that people can demand other changes needed.

6.1 Household Survey

The results of this study confirmed several socio demographic trends already observed at the national level, such as: a) the significant proportion of women headed households among the urban poor and their greater vulnerability; b) the tendency for female household heads to live without partners and to be older and have fewer years of formal education than their male counterparts; c) the considerable percentages of these women who are retired or receiving pensions; and d) the sizeable proportion of these women who are supporting their unemployed adult children and their spouses as well as grandchildren, with meagre retirement and pension benefits.

6.1.1 Major Socioeconomic Findings

6.1.1.1 Household Organization

In Plataforma, all of the households surveyed were private units, and only three of them included more than one family living within the same premises. In point of fact, all of the households were "family-households", that is to say, they had kinship ties as their major organizing principle. In Canabrava, although this principle also applied, nineteen dwellings, or the equivalent to 7.5% of the households visited included more than one family.

A) Canabrava

In Canabrava, as displayed on Table 2, the patterns are not much different from those found to operate in Plataforma. Close to one-fourth of the households (24.7%) are of the nuclear-family type, followed by those households composed by a mother and her children, representing 19,2% of the sample, and by 13,7% of households formed by a father and his children.

Extended families, whether composed by a couple (6,7%) or single parent, father (5.9%) or mother (13.3%), and their children and grandchildren and other relatives, added together claim another one-fourth (25.9%) of the households surveyed.

As in Plataforma, so too in Canabrava these arrangements give rise to some large households, such as the one headed by Ms. Antonia

(questionnaire #238 in the sample). She lives with her two sons (17 and 22 yrs old), and two daughters (29 and 23), plus a son-in-law (24) and two grandsons (aged 2 and 8). All the adults but one of the sons are unemployed, and survive with only one-minimum wage pension left to Ms.Antonia by their father, and whatever the 22-yr old son brings home as a street vendor.

In both neighbourhoods households, as a rule, were not as large as the Antonia family. In point of fact, households in Canabrava averaged three to four people, probably as a result of the fact that, as it will be seen, households heads tended to be slightly younger than the ones in Plataforma, and thus with children who still had not started their own families.

Table 2 – Distribution of Household by Form of Organization - Canabrava

Household Organization	Frequency	Percent
Couple with children	63	24,7
Mother with children	49	19,2
Couple, children, other relatives	17	6,7
Father with children	35	13,7
Mother, children, other relatives	34	13,3
Couple only	19	7,5
Individual	10	3.9
Other arrangements	13	5,1
Father, children, other relatives	15	5.9
Total	255	100.0

B) Plataforma

Table 3 – Distribution of Household by Form of Organization - Plataforma

Household Organization	Frequency	Percent
Couple with children	63	24.3
Mother with children	47	18.1
Couple, children, other relatives	36	13.9
Father with children	31	12.0
Mother, children, other relatives	27	10.4
Couple only	19	7.3
Individual	16	6.2
Other arrangements	12	4.6
Father, children, other relatives	8	3.1
Total	259	100.0

Table 3 displays the distribution of households visited in Plataforma according to their specific composition. It can be observed that among them, three-generations extended families - composed of couple, children, and other relatives (13.9%), mother, children, and other relatives (10.4%), and father, children, and other relatives (3,1%) – responded for 27.4% of the homes, that is to say, for more than one-fourth of the households surveyed. Nonetheless, rather than express a cultural preference for an "extended-family" model in Bahia, these arrangements generally result from the precarious economic situation of the families surveyed. Rising unemployment among the younger

generations has forced them to continue living with parents and sometimes grandparents, even after constituting a family of their own.

This also explains why the study found some very large households, such as the one headed by Ms. Maria Josefa, who is 69 yrs. old and retired (questionnaire #487). She and her husband, Mr. José C., who is also retired, live in a household of fourteen people, including eight children - four sons and four daughters - and three grandchildren. Their oldest son, for example, who is 39 yrs old, is presently unemployed, as are three of the couple's daughters.

But very large households such as this one were exceptions, not the rule. Households in Plataforma averaged only four to five people, even though close relatives might live in the same building, or even in an extension of the house. This is a common arrangement in poor neighbourhoods in Salvador; as children grow up and marry, the houses "grow" either up, with new floors being added, or "out", that is, by extending the house into the backyard. The new additions, however, usually become independent dwellings. As a popular saying affirms: "Those who marry want a home away from home" – even if, due to economic constraints, "away" means just a different floor of the house (Sardenberg, 1998b).

Indeed, in this respect, it is important to note that the "nuclear family-household", composed of a heterosexual couple and their children, still responded for nearly one-fourth (24.3%) of the households visited, thus denoting the relevance of this traditional model for domestic organization in Bahia (Sardenberg 1998a). This does not mean that in Plataforma other arrangements are not equally important. Mono-parental households, for instance, particularly those headed by women, also represent a significant portion (18.1%) of the units sampled.

6.1.1.2 Women Headed Households on the Rise

One of the major changes that have been observed in census data as well as in official household surveys (PNAD) in Brazil within the last decades is the marked increase in the percentage of households headed by women. Whereas in 1992 these households represented only 19.3% of the total, by 2002 this percentage had risen to 25.5%, an increase in the order of 32.1%. Similar studies have also shown that even though increases are to be found in all strata of the urban population, these proportions tend to be even higher among the poor population (DIEESE 2004).

It is important to emphasize that the data gathered by PNAD revealed that 87.3% of the women heads of households did not have a partner, whereas in the case of men heads this proportion fell to only 11.1% (IBGE-PNAD 2002). This means that the overwhelming majority of women headed households are also single parent households.

The situation is more pronounced in Plataforma, women-headed households represent 44.0% of the sample. These cases include, not only single-parent, women- headed households, composed of a woman and her children, but also extended family households and even a few nuclear-family households as well. In one of the households visited on Batista Machado Street (questionnaire #481), for instance, the husband had a difficult time deciding who was the head of his household. He is presently unemployed and stays home taking care of the couple's three-year old daughter, while the wife works as a store clerk. She is the one supporting the family; nonetheless, after a few moments of hesitation, he succumbed to patriarchal ideology and named himself "head of the household". Another family, living a few houses down the same street, had a different view on the matter. Though the husband is employed (as a mechanic), the wife earns more than twice as much as he does (she is a retired school supervisor), and recognizes herself as the legitimate "head of the household" (questionnaire #479).

A) Canabrava

The percentage of women headed households in Canabrava - 40.4% - though slightly lower than that found in Plataforma, is still considerably higher than the national average. It was observed that this is a trend in these poor neighbourhoods where the women either have better jobs, are widows or have been left by their husbands.

The total includes households of different compositions, that is, two and three generations single parent households and women living alone as well as with partners, of which Ms. Renilda's household (questionnaire #246) is a case in point. Though her husband, Mr. Gervaldo, is economically active, he is involved in the informal market and, as such, his income is not reliable. Ms.Renilda, on the other hand, is a domestic worker; though she earns less (just one minimum wage per month), her salary is a sure thing –reason enough for her 17 year old daughter to recognize her as the legitimate head of the household.

B) Plataforma

In Plataforma, at least, this trend is certainly confirmed. As displayed on Table 4, women headed households represent 44.0% of the sample, a figure which is much higher than the national average of 25.5% (IBGE 2002), or even for the RMS (32.9%).

Table 4 – Distribution of Households by Sex of Head - Plataforma

Household Head	Frequency	Percent
Women	114	44.0
Men	145	56.0
Total	259	100.0

6.1.1.3 Family Income

According to the latest National Survey by Sampling Dwellings (PNAD) both the household total income as well as their *per capita* income of women headed households fell below the national average: R$ 1,110 (approximately US$ 400) and R$ 368 (approximately US$ 140), respectively (IBGE – PNAD 2002).

The findings of the survey conducted by DIEESE (2004) revealed that in the RMS, while households headed by men earned on average, R$ 1,186 (or US$ 440) per month, those headed by women only earned R$ 820,00 (approximately US$ 305). Likewise, the *per capita* monthly income is also lower in women headed households. In Salvador, it amounted to R$ 265,00 (US$ 100), while in households headed by men this amount came to R$ 329,00 (US$ 125).

A) Canabrava

Looking at the data displayed on Table II.9, it becomes evident that the economic situation of the population of Canabrava is even worse than that of Plataforma. Once again, the largest percentage of families lives off 1 to 2 minimum salaries, but in this case it concentrates 50.2% of the population. At the extremes, Plataforma has nearly double the percentage of families living off less than US$50/month, and no significant percentage of families earning over 10 salaries; the most well of families make up only 3.5% of those sampled, earning between 6 and 10 salaries (or the equivalent to US$ 600).

Incomes for male and female-headed households are practically equivalent 78.8% of the women headed households and 78.3% of the ones headed by men earn up to three minimum wages. However, the differentials are to be found in the extremes. In the higher income brackets, 1.9% of the women headed and 4.6% of the men headed accumulate monthly incomes of more than 6 minimum wages (US$ 600). In the lower ones – pooling up to 50% of the minimum wage (US$ 50) – these percentages are 11.7% and 8.6%, respectively.

Ms. Maura's household, though pooling a higher income – R$ 240 or US$ 90 – finds her family in a less than prosperous situation. Including she, there are 5 people to feed in that home, which amounts to a *per capita* monthly income of less than US$ 18.

On the whole, Canabrava households not only accumulate smaller monthly incomes, but also tend to have more children under 10 yrs old still at home than those surveyed in Plataforma. As a matter of fact, more than 50% of the women headed households in Canabrava count with at least one young child, surpassing households headed by men in this aspect[10]

[10] In Plataforma families are headed by older people, what can explain larger families and older children than in Canabrava, with smaller families and younger children.

B) Plataforma

Most of the households visited in Plataforma were composed of families who live under restricted budgets. The largest percent of families (31.3%) fall into the category of income of 1 to 2 minimum salary per month, equivalent to US$100 to US$200, followed by those earning 2 to 3 minimum salaries per month (16.2). In summary, more than half of the families surveyed (56.8%) live on US$ 300/month or less. At the extremes, the 5% poorest live off US$50/month, and the 5% richest earn over 10 minimum salaries, which is still only US$1000.

The situation is significantly worse when considering the distribution of family income according to whether the household is headed by a woman or by a man. More than half (51.7%)of the sample of women headed households and 31.7% of those headed by men fall below the line of poverty, with monthly incomes of only up to two minimum salaries (or US$ 200) per month. At the other end of the spectrum, men-headed households also fair better: 6.2% of them pool incomes of ten or more minimum wages, while only 3.5% of those headed by women reach this income level.

Indeed, although the Brazilian government has yet to define the official parameters for drawing the poverty line[11] in the country, its *Programa de Transferência de Renda com Condições* (Program of Transference of Income), better known as Family Assistance Program or *Bolsa Família* is presently catered to families with school-age children, that pool up to only half a minimum wage per person per month (US$50).

In this respect it is well to observe that among the households surveyed in the study, those headed by women tend to have less school-age children than those headed by men, due to the fact that women heads tend to be older than their male counterparts; they usually become heads through widowhood or divorce, while men do so at marriage, thus at a younger age.

6.1.1.4. Characteristics of Household Heads

A) Age

In general, female heads of household were found to be older than their male counterparts. In Canabrava, this difference is quite pronounced: 51.5% of women heads are over 50, whereas only 31.7% of male heads fall into the same age bracket. In Plataforma, though the age differential is less, the overall trend remains: 49.9% of women

[11] Supposedly, the government is waiting for IBGE, the Brazilian Institute of Geography and Statistics, to publicize the results of the Survey of Family Budgets before defining these parameters ("País ainda não sabe definir pobreza", *A Tarde*, Nov/28/2004, p.28).

heads were over 50 yrs of age[12], while only 40.7% of the men heads fall within these age brackets. Also, in Plataforma, the percentage of older men and women who find themselves supporting children and grandchildren with their meagre retirement benefits is certainly considerable, a situation arising out of the rising rates of unemployment among the younger generations.

B) Education

National statistics regarding education levels of the population have shown that, as a rule, women average more years of formal education than men. However, when one considers the education level of heads of households, the pattern is inverted; that is to say, it is generally men heads that have more years of education (DIEESE 2004). The survey showed similar trends in Plataforma as well as Canabrava.

However, in Plataforma one still finds a considerable percentage of household heads (27.8%), men and women alike, who have not completed Fundamental Education[13], and even a small percentage (4.2%) that has never gone to school, particularly among the older segments. At the same time, there is a sizable percentage that has completed Middle School (34.4%). This is even more relevant when considering that it is only within the last decade that the population of Plataforma saw the construction of a Middle School in the neighbourhood. Until then, students had to go to other communities to attend Middle School.

Table 5 – Distribution of Heads of Households by Sex and Level of Education - Plataforma

	Women		Men	
	Frequency	Percent	Frequency	Percent
No schooling	77	6.2	4	2.8
Grades 1- 8 incomplete	43	37.7	29	20.0
Grades 1 – 8 complete	14	12.3	30	20.7
High School incomplete	8	7.0	17	11.7
High School complete	37	32.4	52	35.8
College incomplete	0	0	1	0.7
College complete	3	2.6	8	5.5
Technical School	1	0.9	0	0
Not Known	1	0.9	4	2.8
Total	114	100.0	145	100.0

It is noticeable the overall higher education level of the men heads of households in the sample, as opposed to the women. As noted, this finding contrasts with recent trends for the overall female population: women have gradually become better educated than men (*Valor*

[12] The majority of the women is widow or has been abandoned by their partners.
[13] In Brazil, Fundamental Education (*Ensino Fundamental)* corresponds to a total of eight years of schooling, from Grade 1 through Grade 8. Middle Level (*Ensino Médio)* comprises three more years of formal schooling (high school), for a total of eleven (11) years.

Econômico, 09/09/2003). Perhaps, the fact that the sample includes a considerable percentage of women heads that are over 50 yrs old and, as such, at age brackets where illiteracy rates are still high for women, possibly explains the differences noted. In the past, few women had access to formal education, particularly those living in the Northeast Region where Bahia is located.

The same rationale could also apply to the findings for Canabrava. Here, in fact, the research found a considerable percentage of women – 21.4% – with no schooling whatsoever; while in the case of men this percentage was of a much lower order – 9.2%.

Table 6 – Distribution of Heads of Households by Sex and Level of Education - Canabrava

	Women		Men	
	Frequency	Percent	Frequency	Percent
No schooling	22	21.4	14	9.2
Grades 1- 8 incomplete	48	46.6	83	54.6
Grades 1 – 8 complete	9	8.7	18	11.8
High School incomplete	3	2.9	10	6.6
High School complete	12	11.7	18	11.8
College incomplete	1	1.0	-	0
College complete	-	0	-	0
Technical School	-	0	1	0.7
Not Known	8	7.8	8	5.3
Total	103	100.0	152	100.0

C) Occupation

The fact that female heads of households are usually older and do not have many years of formal education is due to their rates and forms of insertion in the labour market. A good portion, in fact, is no longer economically active both in formal and informal sector: they are either retired of receive a widow's pension (DIEESE 2004).

In Plataforma, the percentage of those who are already retired is high among them, particularly among the women (35.9%). It is also interesting that, among the women, the percentage of those who claim the status of "housewife", living with pensions (26.3%). Added together, they give us a total of 62.2% women heads that are no longer a part of the economically active population.

In Canabrava, this total is lower; it came to only 33.0%. It is important to observe that the category of employment with the highest percentage of women heads is that of domestic servants. Indeed, 20.4% of the women in the sample are so employed, while no men fall in the same category. Besides, it is the women heads in Canabrava that have the highest unemployment rates (14.6%) in the sample.

D) Colour

Both in Plataforma as well as in Canabrava, the distribution of heads of households per colour groups in the sample parallels that is found to be true of the population of Salvador as a whole. Blacks[14] represent 84.5% of the survey sample[15] in Plataforma as well as in Canabrava. The difference in the percentage of men as opposed to women in this category was slight. In this respect, it should be noted that recent studies have shown that, in Brazil, "colour" operates as a factor of discrimination that often weighs heavier than "sex". Indeed, the Afro-descendent population, composed of Black and Brown women and men, is almost always in a situation of disadvantage in relation to Non-Black.

6.1.1.5. Housing Conditions

A) General Aspects

According to the Syntheses of Social Indicators published by IBGE in 2002, during the previous decade, there were considerable improvements in the health and education levels of the Brazilian population, as well as in housing conditions. These indicators showed that, in 2000, 87.8% of Brazilian household dwellings were houses, 11.6% apartments, and 0.6% in rooms. Apartments predominated in metropolitan regions and, within them, in middle to high-income neighbourhoods.

These tendencies are reflected in both neighbourhoods under study, in that the overwhelming majority of the households surveyed were installed in houses: 88.8% in Plataforma, and 96.1% in Canabrava. In Plataforma 51.4% of these houses had up to 5 rooms, whereas in Canabrava this total came to 70.2%, 3.5% of the houses being one room dwellings without an inside bathroom.

Overall, the dwellings are in better condition in Plataforma, reflecting perhaps not only the fact that it is a much older and longer established neighbourhood, but also the better economic situation of its residents. For instance, in Plataforma, 58.7% of the dwellings surveyed have "lajes" (cement slabs) for roofs – probably in preparation for "growing upwards" – and over 90.0% have finished stucco walls, whereas in Canabrava these proportions fall to 45.5% and 62.2%, respectively. In point of fact, 49.4% of the houses in Canabrava have asbestos roofs; as known, this type of roofing has been widely condemned because is its hazardous to one's health as it is cancerous[16]. In addition, it keeps

[14] In Brazil, the denomination "Negro" has political connotations; it is the preferred term used by anti-discrimination activists. The term "Afro-Descendent" is used more in reference to cultural heritage rather than to people.
[15] This total was obtained by adding the percentages for Brown and Black women and men displayed on Table 9.
[16] World Health Organization European Regional Office, Copeheigen, Denmark, 2000.

the heat in – something certainly far from ideal for tropical climates such as that of Salvador.

In Plataforma, 78.4% of the households visited are owned by the residents, while this proportion reaches 81.2% in Canabrava. In both cases, however, there are instances in which ownership applies only to the building itself, not to the lots on which they stand. As displayed on Table 7, for example, 25.5% of the Plataforma lots in the sample are leased and 5.4% are loaned; in Canabrava, the proportions are inverted: 1.2% are leased while 20.4% are loaned.

Table 7 - Situation of Lots

	Canabrava %	Plataforma %
Owned	81.2	64.5
Leased	11.4	25.5
Loaned	5.1	5.4
Occupied	1.6	0.4
Other	0.8	4.3
Total	100,0	100.0

In Plataforma, the leased lots are the property of the family who formerly owned the textile factory, closed in the late 1950's. Local residents have been in litigation with this company for over a decade, to gain formal ownership of the lots. AMPLA, Plataforma's Residents' Association, has been leading the struggle; at present, interns from a private Law School in Salvador (Faculdades Jorge Amado) operate a "Citizen's Stand" (*Balcão do Cidadão*) in AMPLA's headquarters, counselling residents in their legal struggle with the former factory owners.[17]

B) Sanitation Levels

The 2001 PNAD defined as served with "adequate sanitation" those dwellings which: a) had sewage either linked directly to the public system or with concrete cesspit; b) were served by water piped from city water plants and internally canalized; and c) had direct or indirect public garbage collection services. In the whole country, 62.2% urban households fitted this criteria; but there were considerable regional differences, as well as differences among households in the same city according to monthly income. Indeed, only 38.2% of the households earning up to ½ minimum wage *per capita* met the criteria, while it was met by 86.1% of those with more than 5 minimum wages *per capita.*

C) Garbage Collection

In 2001, according to IBGE, 95% of urban households in the country

[17] For a more detailed discussion of the relations between residents and the factory owners see Sardenberg (1997a).

were served by either direct or indirect garbage collection. However, there was considerable regional variation, the North and the Northeast region showing lower proportions (70,4%). Even wider gaps were observed between metropolitan areas; among them, Salvador's Metropolitan Region came in last, tending to only 54.3% of the total households in the area, and most of them only through indirect collection (IBGE 2002).

Apparently, the situation has improved in the last few years. Indeed, in the sample, nearly all households were tended to by garbage collection services, as displayed on Table 8:

Table 8 – Garbage Collection Services

	Plataforma %	Canabrava %
Direct Collection	82.6	66.7
Indirect Collection	17.4	32.5
Other	0.0	0.8
Total	100.0	100,0

D) Piped Water

The proportion of urban homes in Brazil that are equipped with internal piping system and receive water piped directly from city plants is significant - 90%. But this proportion varies according to regions, metropolitan areas, and neighbourhoods within a city. In the two neighbourhoods studied, it was found very high percentages of households with internal piping system (Table 9): 99.2% in Plataforma and 96.1% in Canabrava.

Table 9 - Water & Internal Piping System

	Plataforma %	Canabrava %
Yes	99.2	96,1
No	0.8	3,9
Total	255	100,0

Likewise, the proportion of households served by water from the city plant was also high in both neighbourhoods (Table 10), with higher percentages in Plataforma (97.3%). However, residents complain that the service is not regular: in point of fact, 65.4% of the respondents in Canabrava stated that the water comes only every other day, the same complaint being voiced by Plataforma residents. People save water in buckets as they are generally advised when there will be no water.

Table 10 - Water Sources

	Plataforma %	Canabrava %

City Water Plant	97.3	81,6
Well	2.3	1,2
Other	0.4	17,3
Total	100.0	100,0

Not surprisingly, 19.8% of those in Plataforma and 36.1% in Canabrava rated the services provided by EMBASA, the public water company of Salvador, as "poor".

E) Sewage

The major shortcomings of the households surveyed in both neighbourhoods, however, have to do with the inadequacy of their sewage systems. Indeed, in Plataforma, only 56.8% of the households visited (Table 11) were linked to the public sewage system, while 6.6% had cement cesspits; for Canabrava, these proportions were in the order of 7.8% and 60.4%, respectively.

Table 11 - Type of Sewage System

	Plataforma %	Canabrava %
Public System	56.8	7.8
Cement Cesspit	6.6	60.4
Cesspit	21.6	2.4
Open gutter	0.4	5.5
Canalized to ocean/stream	3.5	22.7
Does not know	1.2	0.4
Other	3.1	0.8
Total	100.0	100.0

It is well to note that 21.6% of the households in Plataforma had inadequate cesspits, and that 22.7% of those in Canabrava canalized their dejects to the local stream, which tends to flood when it rains heavily in Salvador. Similar problems are to be found in Plataforma; the gravity of the situation deserved a page-long article on this issue, published in a local newspaper (Fonseca 2004).

6.1.1.6. Health, Food Security and Well Being

A) Health Issues

In *Reversed Realities,* Naila Kabeer discusses the different dimensions of poverty observing that: "Although health is the key to productivity among the poor, they are the least likely to enjoy it" (Kabeer, 1994:146). Indeed, as she further notes: "Illness appears to be a normal rather than an exceptional event for the poor"(ibid, p.147).

One of the major issues in the survey was precisely to learn more about the quality of life among the urban poor of Salvador, an issue that is certainly bound for reflection on their health condition.

Let it be pointed out that nearly one-fourth of households in both neighbourhoods evaluate the health of their families as "excellent" (Table 12). In Plataforma 39.1% stayed with "good", which corresponded to the highest proportion of households visited, whereas the highest in Canabrava fell into "regular", with 33.3%. It was also in Canabrava it was found the highest percentage of households - 12.5% - in which the situation is "bad" health wise.

Table 12 - Status of Family Health

	Plataforma %	Canabrava %
Bad	6.2	12.5
Regular	27.1	33.3
Good	39.1	27.1
Excellent	25.5	26,3
No answer	1.9	0.8
Total	100.0	100.0

It is interesting to note that, in both neighbourhoods, the same ailments seem to strike the residents included in the survey. As displayed on Table 12, for example, high blood pressure, tired eyesight, backache and cough are the three major health complaints of household members in Plataforma as well as Canabrava. With the exception of coughing, these ailments are linked to aging – something that is consonant with the age brackets of the household heads in the sample, particularly in the case of Plataforma, where these ailments show greater proportions.

Table 13 - Major Health Problems

Type of Illness	Plataforma	Canabrava
High Blood Pressure	44,0	33.9
Tired Eyesight	40,5	36.2
Backache	32,4	35.4
Cough	28,6	35.0
Eye irritation	25,9	24.0
Sinus problem	18,9	19.3
Shortness of Breath	15,8	15.0
Vermin /parasites	13,9	17.3
Diabetes	5,4	3.9
Head aches	4,6	5.1
Diarrhoea	4,2	4.7
Allergies	4,2	2.4
Anaemia	0,8	0.8
Depression	0,4	0.0
Hoarseness	0.0	9.8

One can observe that the high percentages of people suffering of high blood pressure in the sample could be seen as confirmation of national statistics regarding cardiovascular diseases. According to the Syntheses of Social Indicators published by IBGE (2004), they are the major causes of death in all regions and states in the country, being responsible for the obits of 28.8% of the men and 36.9% of the women.

In the survey, cough, eye irritation, sinus problem and shortness of breath, were the next set of ailments in the list of the two neighbourhoods; they are symptoms usually related to air pollution and the use of "less clean" sources of energy. As noted earlier, the overwhelming majority of households surveyed use primarily electricity and LPG cylinder, so the source of the problem does not reside there. In the case of Canabrava, the gases emitted by the landfill, could be seen as the culprit. But what would explain the same ailments striking the population of Plataforma?

In regard to the incidence of verminosis and of parasites among members of the households visited – 13.9% in Plataforma and 17.3% in Canabrava, a possible explanation resides on the fact that a sizeable proportion of them drink tap water, which is not potable, at their own risk. As displayed on Table 13.

Table 14 - Source of Drinking Water

	Plataforma %	Canabrava %
Bottled Mineral	24.4	14,9
Filtered	60.1	55,3
Tap water	12.8	25,9
Boiled	2.7	2,0
Other	-	2,0

It should be noted that it is in Canabrava the highest incidence of verminosis, as well as the larger proportion of households – 25.9% - that drink water straight from the tap, which does not receive proper treatment for drinking, therefore it is not potable.

The survey also showed that over 90.0% of households in the study wash their laundry at home. It is well to point out that a small proportion or Plataforma residents (9.3%) draw water from wells and making use of electric equipment, the proportion of households that do being even smaller in Canabrava (4.3%). But this is mainly a means to guarantee the presence of water in the homes, since the servicing of water by EMBASA is not dependable.

According to information and observation gathered, water bills were not so high – close to 75% of the households in both neighbourhoods said they spend up to R$ 30.00 (about US$13.00) a month on water services. Unfortunately, it was recently announced that, by the end of

February/2005, the cost of water should be 12% higher (*A Tarde,* Feb.02, 2005*).*

B) Diet, Nutrition and Food Security

Physical deprivation is one of the main consequences of poverty; it is often translated into hunger, malnutrition and low levels of life expectancy (Kabeer 1994: 142). Indeed, nutritional status is usually taken as one the main indicators of physical well-being – or, conversely, of physical deprivation. Although there seems to be no agreement as to which are the most reliable nutritional indicators, diversity of diet is considered an important one.

Table 15 – Basic Items in Diet

ITENS	Plataforma %	Canabrava %
Beans	93,1	94.9
Rice	89,6	92.9
Meat	74.9	72.4
Manioc Flour	33,6	50.4
Chicken	52,9	48.4
Bread	40,5	53.1
Greens	41,7	33.5
Vegetables	25,9	17.7
Fruit	27,4	19.3
Eggs	18,5	16.9
Milk and Dairy	27,0	26.4
Sweets	9,3	11.4
Pasta	37,1	41.3
Fish/seafood	41,7	17.7
Coffee	12,7	13.8
Cookies	3,9	3.5
Other	7,7	8.3

However, what constitutes a well-balanced meal in nutritional terms is not necessarily what people consider being a "good" meal. In Brazil, despite regional variations, a "good" meal is a substantive meal, consisting of rice, beans, and some type of meat. At least, as seen on Table 14, these are the basic staple items in the diet of the households studied.[18]

The diet is quite similar in both neighbourhoods; the major exception is in terms of intake of fish/seafood. In Canabrava, only 17.7% of the households have it on their diet, while this proportion reaches 41.7% in Plataforma, a difference that finds explanation on the fact that Plataforma sits by the ocean, whereas Canabrava is located far from it.

[18] Similar finds were reported for a study in Rio de Janeiro conducted by Alba Zaluar (1983).

Table 16 - Satisfaction with Diet

	Plataforma	Canabrava
Yes	84.9	51,8
No	14.7	48,2
No answer	0.4	-
Total	100.0	100,0

It is well to point out that Canabrava residents are not that satisfied with their diet; indeed, as per data on Table 16, only 51.8% of them, against 84.9% in Plataforma affirmed that they are happy with their food intake. When asked what they would like to include in their diet, a diversity of items was mentioned, with the greatest proportions going to "greens" (25.2%) and "fruit" (27.6%).

It should be mentioned that more than 70% of those households that have participated in social programs at one time or another and received some type of benefit from the government – 17.8% of those visited in Plataforma and 25.2% in Canabrava do so -, employed the money in food items, and would still do so if they had more benefits.

For certain, food security is a major concern for many of the households visited, but the problem is much more complex than what the survey could depict. For instance, it was not possible to gather information on the sources, frequency and quantity of food in meals, which are essential questions in evaluating the level of food security – or insecurity – faced by the household studied.

C) Well Being

The study asked what was the major problem affecting their families at that moment. Perhaps, as the research dealt with the urban poor, it should not come as a surprise that, in both neighbourhoods, the greatest proportion of answers went to "lack or shortage of money" (Table 17), with 44.6% in Plataforma and 42.7% in Canabrava. Next, came a related problem - unemployment – and one which affects even more so the people of Canabrava (36.1%).

Table 17 - Major Problem affecting family

	Plataforma %	Canabrava %
Lack/shortage of money	44.6	42,7
Illness	11.2	8,6
Family Conflicts	2.3	4,3
Unemployment	21.3	36,1
Violence	-	,4
Drugs	1.2	,4
Other	5.8	2,0
None	13.6	5,5

Total	100.0	100,0

It is interesting to note, however, that 13.6% of the households in Plataforma claimed to have no problems at the moment, a situation enjoyed by only 5.5% of the respondents in Canabrava.

It is also important to observe that despite the fact that "lack/shortage of money" was defined as the major problem of the households in the sample, it is not "money" that comes first in their definition of "well-being". As depicted on the Table 18, for residents of both neighbourhoods in the study, it is "good health" – with 54.1% of the choices in Plataforma and 53.5% in Canabrava – that first meets their understanding of "well-being".

Table 18 - Defining "Well-Being"

	Plataforma %	Canabrava %
Good Health	54,1	53.5
To live in peace	34,4	28.2
To have money	25,1	21.6
To have a good job with good wages	21,6	38.2
To own a home	8,5	10.2
To have a good diet	16,2	19.7
Family union	13,5	15.3
To get well with neighbours	3,5	5.1
To enjoy moments of Leisure	5,4	8.2
Others	18,9	24.7

In second place, however, there are important differences between the neighbourhoods. For instance, in Plataforma, 34,4% of the respondents affirmed that "well being" meant to "live in peace", probably as a reflection of the level of urban violence experienced in that neighbourhood. In consonance with the high level of unemployment rates registered among the residents of Canabrava, 38.2% of them understood "well being" in terms of "having a good job with good wages".

It is surprising that although, overall, households in Plataforma are in better financial situation than those in Canabrava, to "have money" was more important to Plataforma residents (25.1%), than for those in Canabrava (21.6%).

D) Leisure Activities

Although only relatively few of the respondents mentioned leisure activities in their understanding of well being, the study still targeted information on what members of the households in the survey did for leisure. The results confirmed what the very high proportion of

households with caber TVs indicated earlier. Indeed, watching television is the main leisure activity of residents in both of the neighbourhoods studied: 79.2% in Plataforma and 75.2 in Canabrava (Table 19). For many of the women in the study, in fact, this is their only leisure activity, and even at that, one that not rarely is combined with the performance of domestic tasks such as ironing ("to make it less boring").

Table 19 - Leisure Activities

Activities	Plataforma %	Canabrava %
Watch TV	79,2	75.2
Practice sports	27,8	26.8
Go to festival/concerts	42,1	30.7
Visit/talk to friends	69,5	51.6
Videos/videogame	32,0	9.1
Go to the Beach	61,4	28.3
Go to Church	7,7	7.1
Listen to music	7,7	1.6
Other	15,1	9.4
None	1,2	2.4

In both Canabrava (51.6%) and Plataforma (69.5), visit friends/talk to friends is the second most important leisure activity in the lives of the people – an activity that can be undertaken without financial costs. For Plataforma residents, going to the beach (61.4%), which comes next in their choices, also need not involve any expenditure – they already live by the ocean. For the people of Canabrava, however, going to the beach requires cash for transportation costs, which explains why that leisure option is only mentioned by 28.3% of the respondents.

6.1.1.7. Quality of Life in the Neighbourhoods

Table 20 - Options for Leisure Activities in Neighbourhood

	Plataforma %	Canabrava %
Yes	22.5	17,3
No	77.5	79,6
Not Known	-	3,1
Total	100.0	100,0

Indeed, when asked about the existence of leisure options in the neighbourhood, 79.6% of the respondents in Canabrava said "no" (Table 20). But the difference was small in relation to those in Plataforma (77.5%) who felt the same way about the situation in their neighbourhood.

Table 21 - Social Programs In Neighbourhood

	Plataforma %	Canabrava %
Yes	35.3	13,4
No	41.5	31,9
Not known	23.3	54,7
Total	100.0	100,0

It is important to note that although both neighbourhoods have social programs for children, teenagers, women's groups, senior citizen's groups and the like, few people seem to know about them. This is particularly so in Canabrava where 54.7% of the respondents said did not know, while 31.9% flatly denied the existence of the programs (Table 21).

Table 22 - Quality of Life in Neighbourhood

	Plataforma %	Canabrava %
Bad	37.6	58.4
Regular	51.2	33.7
Good	6.6	3.5
Excellent	3.5	2.4
Not Known	0.4	1.2
No Answer	0.8	0.8

Perhaps, ignorance about these programs stems from the fact that only very small percentages – less than 5,5% - of members of the households visited in the study participate in groups or associations in these communities. In point of fact, the majority of the people in the samples gave rather low ratings to their neighbourhood, particularly those from Canabrava. As displayed on Table 22, for instance, 58.4% of Canabrava residents stated that the quality of life in their neighbourhood is "bad"; in Plataforma, this proportion was in the order of 37,6%.

It should emphasize that despite these low ratings, community leaders of both neighbourhoods seemed to be strongly identified with their communities. Indeed, they spoke highly of them and even proud to live where they live. However, they did recognize that their communities face many problems.

Indeed, participants in the focal group in Plataforma discussed these problems, agreeing that the priorities for improving the quality of life in the neighbourhood were: 1) better transportation services, including expansion of the service hours of the commuter trains and re-activation of the boats system to and from the Ribeira boat terminal, across the bay from Plataforma; 2) lowering unemployment rates in the area; 3) improving and expanding services in the local Health Centre; 4) creation of more spaces for cultural and leisure activities; and 5) installation of a Police Post in the neighbourhood in order to curtail criminality rates.

Similar problems – and solutions to them – were also subject for the discussions that took place during the focal group held in Canabrava, when those present – 50% women -- defined as their main priorities: 1) the re-activation of the Police

Post in the neighbourhood (at present, the residents pay private security to curtail the level of local urban violence); 2) improvement and expansion of services and working hours in the local Health Centre; 3) installation of more schools in the community, particularly day-care centres and a high school; 4) linking Plataforma homes to the main sewage system; 5) improvement and expansion of transportation services to the area.

Table 23 - Major Neighbourhood Problem

	Plataforma %	Canabrava %
Lack of services	26.0	28.3
Lack of infrastructure	17.4	41.3
Lack of Security/Crime Rate	35.3	20.5
Drugs	6.2	3.9
Unemployment	2.3	1.6
Other	9.7	3.9
None	2.7	0.4

It is well to emphasize that the priorities defined in both focal groups are in tune with the answers given by the residents included in the survey in regards to the major problems of their neighbourhoods. As displayed on Table 23, lack of appropriate services (transportation and health), lack of infrastructure and lack of security, such as could be provided by the Police Posts, stood as the three major problems identified in the survey.

In addition to the basic needs and priorities defined by the local leaders, respondents in the survey would also like to have more options for leisure in the neighbourhoods: cinemas, parks, spaces for sports, theatres and even shopping centres.

Participants in the focal groups and other key informants recognized that their neighbourhoods had certainly changed for the better in several aspects. But they were aware that these improvements only came after the mobilization of the local population for organized action. They expressed great concern with what they identify as certain “apathy”, not only on the part of the community at large, but also of local leaders, particularly the local residents’ associations. They would like to see them working more closely with their communities, and leading them into building a better life for all.

6.1.2 Major Energy-Related Findings

Within the last two decades, significant advances were registered in the availability, affordability, and quality of energy services in Brazil. More specifically, the modernization of the generation, transmission and distribution systems, guaranteeing greater technical efficiency, combined with the implementation of special social programs for low income consumers, has resulted in greater access to clean energy sources to large proportions of the population, at costs which do not claim large proportions of their income. As a consequence, the use of other sources of energy, such as wood, charcoal or kerosene,

known to be less efficient and of deleterious consequence to the health of the users, has lowered considerably. Indeed, the transition to "clean energy" seems to be well consolidated among the urban poor of Bahia. Not even the national energy crisis of 2001, which imposed forced rationing of electricity to all, nor rising costs of both electricity and LPG cylinder, have discouraged the families studied from using "clean" energy.

6.1.2.1 Electricity

Within the last 30 years, the consumption of electricity by Brazilian households rose significantly, reaching close to 83.5 kWh in the year 2000, and responding for 25.1% of all the electricity consumed in the country that year (Achão in Schaeffer et al 2003:22). This rise in consumption of electricity took off particularly after 1995, with the implementation of a new economic plan known as *Plano Real* (Royal Plan)[19] – which involved the creation of a new currency, the *real,* and the curtailment of inflation rates. It also involved the privatization of electricity services, a factor that also contributed to the expansion of the services.

The overwhelming majority of households in Plataforma (99.2%) and Canabrava (96.5%) are connected to the power grid, nearly all of them consuming single-phase electricity. When asked what they do to safe on electricity bill, only 0.8% of the households in Canabrava and 1.5% in Plataforma resorted to other sources of energy, instead, people either turn off the electrical equipment (37.8% in Plataforma, and 38.4% in Canabrava), or simply reduce their time of use (31.3% in Plataforma and 39.6% in Canabrava). In Plataforma, all of the households surveyed with access to electricity had their own electric meter; in Canabrava, however, 14,9% of the households visited shared this device, in most cases, with relatives, by virtue of the process of "building up" (adding more floors) or "out" (extensions into the backyard).

What do you do to save electricity?	Family Income (In Minimum Salary)											
	0 a 1				1 a 2				> 2			
	Female		Male		Female		Male		Female		Male	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Turn off equipment	6	20,00	9	29,03	27	29,35	40	34,19	30	36,59	47	37,30
Deacrease usage	12	40,00	13	41,94	37	40,22	47	40,17	29	35,37	52	41,27
Subst. appliances	1	3,33	-	-	1	1,09	3	2,56	2	2,44	6	4,76
Change type of bulb	-	-	-	-	-	-	-	-	-	-	1	0,79
N/A	1	3,33	3	9,68	2	2,17	-	-	-	-	1	0,79
Does not know	2	6,67	-	-	-	-	-	-	1	1,22	-	-
Other	-	-	-	-	2	2,17	1	0,85	1	1,22	1	0,79
Nothing	8	26,67	6	19,35	23	25,00	26	22,22	19	23,17	18	14,29

A) Characterization of Electricity Consumption

Despite nearly universal access to the grid, overall per capita power consumption among the urban poor of Bahia remains low. Indeed, nearly half of the households surveyed consumed less than 100

[19] Real is how the national currency is called.

kWh/month, mainly to power domestic appliances, particularly those geared for leisure (colour TVs) and food preparation (blenders) and preservation (refrigerators). A large portion of informants in the survey, especially those in Canabrava (Table 23), did not know precisely how much energy they used per month. However, it is fair to state that the rates of electricity consumption of households under study concentrated primarily in the under 100 kWh bracket. Even considering only those households for which these rates were known, the proportion of "low income consumers", who qualify for a special program of lower electricity costs for consumers who use up less than 100 kWh/month, is certainly significant in both neighbourhoods.

Table 23 - Average Consumption of Electricity per Month (in kWh)

	Plataforma %	Canabrava %
Up to 100	44.4	42,4
> 100 – 200	24.3	10,6
> 200 – 300	5.0	1,2
N/A	1.5	3,5
Not known	23.9	42,4
Total	100.0	100,0

The study conducted by Achão (in Schaeffer et al, 2003) concluded that the energy consumed by the residential sector in Brazil was characterized by the simplicity of its uses: it was basically concentrated on the use of domestic appliances.

Table 24 – Brazilian Residential Sector – Energy Consumption Structure*

Finality	Major Equipment	Sources of Energy
Food Preparation/Cooking	Stove, Microwave oven, Electrical micro-oven, pressures cookers	LPG, manufactured gas, electricity, wood, natural gas
Water Heating	Electrical Shower, Water heaters, Stove	Electricity, manufactured gas, LPG, natural gas, wood
Lighting	Lamps, Gas Lamps	Electricity, LPG, kerosene
Leisure	TV, videocassette, stereo, radio	Electricity
Environmental Comfort	Fans, air conditioning, portable heaters	Electricity
Food Preservation	Refrigerator, Freezer	Electricity
General Services	Vacuum-cleaner, blender, mixer, iron, sewing machine, washing machine, dryer, microcomputer, printer, microwave oven, hair dryer	Electricity

* Adapted from Achão (in Schaeffer et al, 2003:24)

Indeed, as displayed on Table 24 above, the energy in this sector is used basically for: food preparation, water heating, lighting, environmental comfort (air conditioning, fans), preservation of food (refrigerator and freezer), general services (washing machine, electric iron, vacuum cleaner), and leisure (TV, videocassette, DVD, etc..).

Table 25 – Electrical Energy Consumption Structure of Neighbourhoods Surveyed

Finality	Major Equipment	% of Households	
		Plataforma	Canabrava
Food Preparation/Cooking			
	Microwave oven	11.6	4.3
	Blender	91.5	76.4
Water Heating	Electrical Shower	22.8	14.6
Lighting	Lamps/light bulbs	98.0	96.0
Leisure	Colour TV	94.6	86.2
	B & W TV	5.0	10.2
	Videocassette	25.5	13.0
	Stereo	64.9	43.7
	Radio	61.8	58.3
	Videogame	12.0	7.5
	DVD	5.8	2.8
Environmental Comfort	Fans	75.3	47.2
Food Preservation	Refrigerator	91.9	83.1
	Freezer	26.6	8.3
General Services	Iron	82.6	70.1
	Washing machine	33.6	8.3
	Microcomputer	18.2	3.6
	Cell phones	47.5	35.8

In order to depict the Electrical Energy Consumption Structure of the households surveyed, it is plotted on Table 25 the kinds of electrical equipment used by them, displaying the percentages of homes that actually possess these equipments in each neighbourhood.

As it may be observed, although Plataforma homes dispose of more equipment than those in Canabrava, the five most important items in their Electrical Energy Consumption Structure, are precisely the same (although not necessarily in the same order), i.e.: blenders, lamps/light bulbs, caber TVs, refrigerators and electric irons. It should be noted that after “lighting”, the most important household electrical equipment in both neighbourhoods is the caber television. Indeed, watching TV is the major leisure activity of families in the study.

B) Electricity Subsidy Program

As of 2002, the national Low Income Consumers Program (*Programa do Consumidor de Baixa Renda*) has offered the benefit of reduced electricity rates to clients who consume less than 100kWh/month. Despite being eligible, more than half of the households in the sample, in both neighbourhoods, are not familiar with this subsidy. In fact, only 9.4% of the households of Canabrava and 7.7% in Plataforma are registered in the program and only half of them are actually receiving the benefit.

One of the major factors for such a low participation in this program is the lack of dissemination of information about the program to the eligible population. It should be pointed out that this program was started in 2001, during the energy crisis, as a further stimulus for rationing energy. At that time, information about this program was aired on national television and included in the monthly bills; since the end of the rationing program, however, it ceased to be publicized more widely. Instead, COELBA now concentrates its efforts mostly on information concerning the criminal aspects of the clandestine electrical links, as reported by Clotilde Pimenta (COELBA`s Analyst of Standardization and Policy) .

C) Informal Electrical Installation and Maintenance Service

In any event, one must consider the fact that if professional electricians do not do the electrical installation and maintenance work, the possibility for wasting energy is greater. As displayed on Table 26, for instance, almost one-third of the households surveyed in both neighbourhoods run this risk, in that they have not used professional services in installing and servicing their electrical structure. Thus these installations may be illegal and there may be serious safety issues that need attention.

Table 26 - Nature of Electrical Installations and Servicing

	Installation		Servicing	
Paid Professional?	Plataforma %	Canabrava %	Plataforma %	Canabrava %
Yes	69.1	67.5	62.2	69.8
No	27.0	30.6	37.5	29.4
Not Applicable	0.4	0.8	0.4	0.8
Not known	3.5	1.2	0.0	0.0
Total	100.0	100,0	100.0	100.0

6.1.2.2. LPG

According to the available statistics, the rate of consumption of LPG cylinder has risen considerably in the last three decades, climbing from 5.4% of total residential energy consumption in 1970, to representing 16.4% of that total in 2000 (MME in Schaeffer et al 2003:24). Undoubtedly, this rise reflects, in great part, the substitution of wood stoves for gas stoves[20], which are considerably much cleaner and more efficient (Achão in Schaeffer et al 2003:24).

This seems to be the case of the households surveyed in the study. Indeed, the overwhelming majority of them – 98.5% in Plataforma and 97.3% in Canabrava - rely on LPG cylinders for cooking purposes. Even so, it was found that 3.5% of households in Canabrava use charcoal, whereas only 0.8% does so in Plataforma.

[20] This took place due to environment degradation in urban areas.

It should be stressed, however, that during the focal groups with local leaders held in each neighbourhood, participants complained of the rising costs of LPG cylinders, which at present stands at R$ 32.00 a cylinder, the equivalent to US$ 12.00.

In this respect, it important to mention the program sponsored by the Federal Government known as *Auxílio Gas* (LPG vouchers), which was offered to poor families until the beginning of 2004 and should extend the access to this type of energy source, when new social policies were implemented by the Lula administration, with the so-called *Bolsa Familia* (Family Assistance) (IPEA 2004). According to the study, 5.0% of households in Plataforma and 3.5% in Canabrava received *auxílio gas.* This rate was much lower than expected, as the vast majority of households interviewed would be eligible for this benefit.

6.1.2.3. Energy and Transportation Costs

Studies of residential energy consumption patterns usually do not include transportation as one of the activities using energy, since this use is indirect – that is, members of households pay for a service that is provided by a third party - the one that actually pays for the energy source. Following this parameter, therefore, transportation was not included in the original survey.

However, in both of the focal groups held, transportation emerged not only as one of the main problems faced by the population of the neighbourhoods under study, but also as one of the items that weighs most heavily on household budgets.

In order to draw a picture of the "bite" taken by energy costs, including transportation, of household income, the participants of the focal groups were asked about how much these costs represent in their monthly budgets.

On Table 27, it is listed the findings for Plataforma. As it can be seen, there is a considerable variation spanning from 7.2%, at one end, to 33.2% at the other. However, it should be emphasized that those households in which the percentages were lower, were actually made up of retired people, some over 65, and thus detaining bus passes for free rides. In contrast, those on the higher end are made up of working-age members, not all of them receiving transportation passes from their employers. It is precisely on these households that transportation costs to and from work, or to and from school, take up about 30.0% of household budgets.

Table 27 - Weight of Energy Expenditures on Monthly Income -- Plataforma

Number of People in Households	Gás (R$)	Transportation R$)	Electricity (R$)	Other Sources of Energy	Total Expenses	Family Income/month	% Energy Costs on Total Income
5	64	480	120	-	664	2.000	33.2
4	64	- voucher	16	-	80	480	16.7
4	32	540	80	-	652	2.000	32.6
2	32	-	4,80	-	34.80	480	7.2
4	64	400	150	-	714	2.200	32.4
2	32	?	17	-	49	240	20.4
7	64	400	150	-	714	2.800	25.5
7	64	130	80	-	274	840	25.5

6.2 The Gender of Small Enterprises in Salvador

The criteria chosen to classify the type of enterprises surveyed in Plataforma and Canabrava follows SEBRAE's[21] classification. It considers as small enterprises those including up to 9 members, whether employees or relatives.

According to SEBRAE, the size of an enterprise varies according to the target market's extension, amount of invested capital, production and sales program, the amount of employees, etc. The classification is determined by the capacity, based on the number of economically active people.

Table 28 – Businesses Size According to Number of Employees

CAPACITY/ECONOMICALLY ACTIVE PEOPLE	INDUSTRY	COMMERCE	SERVICES
MICRO	0-19	0-9	0-9
SMALL	19-99	10-49	10-49
MEDIUM	100-500	50-99	50-99
LARGE	Over 500	Over 100	Over 100

Following these criteria, 25 people were chosen as sample in each neighbourhood. They ran small enterprises in the areas of food production/sales, clothes manufacturing and beauty parlours. These are the most common business in both Plataforma and Canabrava.

6.2.1. Characteristics

In the survey realized in the Canabrava and Plataforma neighbourhoods, questionnaires were applied to the family businesses that were identified, with questions concerning the main characteristics of the enterprise. In total, 26 entrepreneurs were interviewed in Canabrava, and 25 in Plataforma. The 51 interviews were consolidated into a single database for data analysis.

The vast majority of enterprises are led by women (88%), with only 12% are under the responsibility of a man. In terms of business segments, 39% of those interviewed worked in services and 52% in combined production and retail; the remainder work only in production or only in commerce. Three main categories of business were identified: 54.9% work in the production/sale of food and beverages, 25.4% own beauty salons and

[21] SEBRAE - Serviço Brasileiro de Apoio às Micro e Pequenas Empresas – is an agency that has worked since 1972 for the sustainable development of small enterprises in Brazil. See: www.sebrae.com.br .

19.7% are seamstresses. It is understandable that women head the majority of the enterprises, being that the activities identified through the survey are typically female professions in Brazil.

Table 29 shows the number and percent of family business, according to the type of activity, age and sex of the owner. Sixty-four percent of the women who run food and beverage businesses and 67% of women in the salon business fall within the age range of 25 to 55 years old; in the case of seamstresses, 75% are between ages 35 and 65. With regards to the male entrepreneurs, three cases were identified working in the production/sale of food and beverage. One man is under 18 years of age, a second is between 25 and 35 and the third is between 55 and 65 years old. The only male hairdresser is in the category of 25 to 35 years old, while the two tailors fall between 25 and 45 years old.

Table 29 - Number and percentage of family/small businesses, according to type of activity, sex and age of owner.

Age of Business owner	Type of business activity											
	Production/sale of food and beverages				Hairdresser				Seamstress/Taylor			
	Female		Male		Female		Male		Female		Male	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
< 18	-	-	1	33.33	-	-	-	-	-	-	-	-
18 to 25	3	12.00	-	-	3	25.00	-	-	1	12.50	-	-
> 25 to 35	6	24.00	1	33.33	5	41.67	1	100	1	12.50	1	50.00
> 35 to 45	6	24.00	-	-	2	16.67	-	-	2	25.00	1	50.00
> 45 to 55	4	16.00	-	-	1	8.33	-	-	2	25.00	-	-
> 55 to 65	4	16.00	1	33.33	-	-	-	-	2	25.00	-	-
> 65	2	8.00	-	-	1	8.33	-	-	-	-	-	-

Table 30 shows that half of the women entrepreneurs who learned their trade through their family and 42.8% of the women who learned on their own are between 18 and 35 years old. Of those who learned through courses, 70% are between ages 18 and 45. Among male entrepreneurs, five learned alone and only one through his family. Notably, in absolute numbers, the majority of women entrepreneurs learned their trade by themselves.

Table 30 - Number and percentage of family/small businesses, according to the way the owner learned the trade, and age and sex of the owner.

Age of business owner	How the trade was learned											
	Family				Alone				Through a course			
	Female		Male		Female		Male		Female		Male	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
< 18	-	-	-	-	-	-	1	20	-	-	-	-
18 to 25	1	16.67	-	-	4	14.29	-	-	2	20.00	-	-
> 25 to 35	2	33.33	-	-	8	28.57	3	60	2	20.00	-	-
> 35 to 45	1	16.67	-	-	5	17.86	1	20	3	30.00	-	-
> 45 to 55	1	16.67	-	-	5	17.86	-	-	1	10.00	-	-
> 55 to 65	1	16.67	1	100.00	3	10.71	-	-	2	20.00	-	-
> 65	-	-	-	-	3	10.71	-	-	-	-	-	-

In terms of location, 58% of the businesses active in merchandise production, 41% of sales businesses and 29% of the services operate out of the home. Of those entrepreneurs working outside of their homes, 27% pay rent, and of these, 80% pay an amount under one-half of the minimum monthly wages and 20% pay the equivalent of between 1 and 2 minimum wages.

Evaluating the data of the two neighbourhoods separately, it still possible to observe that in Plataforma, most of the people involved in these small enterprises are women: indeed, 92% of the interviews showed that they are the ones developing these activities. 44% of them work as seamstresses or beauticians, while 48% are connected to food production and sales.

Under this perspective, Canabrava takes after Plataforma. Most owners, 84.6%, are women, and 57.7% of them are connected to food production and sales. In this neighbourhood there is a women's tradition of preparing and selling a homemade Popsicle, called *geladinho* that is commonly consumed in Salvador's poor communities.

Box # 1 – Production of Popsicles (Canabrava)

Ms. Ivonice produces popsicles at home. Her stove sits on her tiny and steamy room. She dedicates her time entirely to make popsicles every two other days. On these days, she wakes up, serves breakfast to her children and starts this activity, sometimes with the help of her daughter. She uses fruits, sugar, milk and the packaging (a small plastic bag).
She usually shops at a street market, but whenever there isn't enough money for transportation, she goes to her neighbourhood's grocery store. She uses different fruits, but she always chooses season ones, because they are cheaper: guavas, mangos, passion fruit, umbú,acerola*, peanuts and coconut. She relies on LPG tank and electricity for the production. She said she did not use much of either in the process to operate the stove and the blender. Then, she uses her fridge to store the popsicles but, according to her, they don't consume too much energy.*
The production process consists of washing, peeling and chopping the fruits and then putting them in the blender. Afterwards, the pulp is strained and she adds water and sugar up to when it becomes doughy. Then she places it in a plastic bag, ties up the ends, and puts it in the fridge. Whenever peanut is used, the grains are toasted in the oven for about 20 minutes and then peeled up. After that, she blends it with powder milk, water and sugar, up to when she gets an appropriate denseness.

When questioned about the choices they've made regarding the activities they develop, the women blame it on the old gender division of labour, that also influences business choices: in Plataforma, 28% of the women answered that they worked because they needed it, in order to survive, 16% answered that these were the activities they knew how to do, and just one woman answered that she was on that business to have a better life and to make money.

In Canabrava the situation is quite the same: 46.2% of the women say that they chose these business because that is all they know how to do and 19.2% do it to increase family income.

The women in the study are young. In Plataforma, 64% of them are between 25 and 45 years old. In Canabrava they're even younger: 53.8% of them are between 18 and 35

years old. All of them have been working on these small enterprises for less than 5 years, in an inconsistent and disorganized way. They work on a very precarious basis, producing, selling and offering their services as beauticians and seamstress in their own residence; they do not have an established place for the production and commercialization of their services and products. In Plataforma, they sell their products mostly on the streets. In Canabrava, mostly at home.

These women learned their business on their own, with no professional relevant help. 65.4% of the women in Canabrava and 64% in Plataforma said that they learned their business on their own, day by day, in other words, they "learned it by doing it."

Professional training is a serious lack, especially regarding knowledge of business management, in terms of production costs (inputs and raw materials as well as energy costs) or in calculating future profits; indeed, they have no notion of business accountancy.

6.2.2. The Informality of the Enterprises

Informality is a common factor in this group of small entrepreneurs, as shown by some indicators:

- In Plataforma 84% of the women didn't legalize their business. In Canabrava the percentage is 92.3%;
- In Plataforma 60% of the interviewed women said they work alone. So did 61.5% in Canabrava;
- 44% of the enterprises in Plataforma are seasonal; 24% of them work just for a few months per year, especially during summer, which is the high season for tourism in Salvador and when most of the popular festivities happen. In Canabrava only 26.9% of the women consider their business seasonal. Among them 15.4% say that they work whenever they have customers;
- 36% of the interviewed from Plataforma are totally unaware of tax duty on the activities developed by them. In Canabrava that percentage increases to 50%.

There is another relevant issue to be raised: the enterprises' location. It's invariably on the owner's residence. In Plataforma, 60% of the interviewed produce, 32% are involved in trading and 32% sell their goods and services at their house. These enterprises, run mostly by women, seem like an extension of the home tasks[22], with no productive unit, commercial spot nor service offer profiles.

In order to illustrate this issue it is worth to describe Ms. Lizete's working conditions. She lives in Plataforma on '*Rua dos Tecelões*'. Her position is considered as one of the most stable among all others. Although her house is divided in 1st and 2nd floor, it's notorious the manner that the home is merged with the business area, not only through the telephone line, but also by the clothes line installed at the customers lounge.

[22] Many already cook, sew, make disserts, etc – thus they try to sell what they already make and use their house as facility for selling goods or providing services such as haircuts, manicure, etc. It is informal and their clientele are people from the neighbourhoods and their advertisement are done by word of mouth.

Box # 2 – Dressmaker (Plataforma)

The house is divided up in two areas: the home is on the 1st floor and the dressmaker's office is on the 2nd floor, also known as "laje" (flagstone). The dressmaker spends most of her time on the 2nd floor, which is still under construction – noticed due to the unfinished rooms, unplastered walls and bare columns, with their exposed ironware. There are two rooms on the second floor: one for cutting, one for sewing and an uncovered space with a clothesline. The remains of construction – rocks, bricks, wood – lye all around. The floor is made of cement and the cover is made of asbestos tiles (this material is condemned all around the world for causing cancer and other diseases). There are six tables in the sewing room – five of them are used to sit the electric sewing machine – and a lot of bags on the floor. Some are open and contain tags, trims and cloth. One can find many seamstress magazines, which customers pick up and choose styles and patterns, and a mirror on the wall to be used when the customers try on their clothes. In the cutting room there is a large table, mannequins all around, iron shelves and an old and broken sewing machine. This upstairs area also has a bathroom with a toilet and a door that leads to a backyard with plants. Economic lamps (fluorescent) are present in all rooms and remain turned off all day long up to dusk, when it becomes mandatory to turn them on, since the dressmaker works up until 11 p.m.

As a means of comparison, the following is an overview of the Barber/beauty parlour located at '*Rua Artemiro Castro Valente*', in Canabrava, whose owner, Eduardo, runs it along with his brothers:

Box # 3 - Barber Shop (Canabrava)

The barbershop is located on one of the busiest streets in the neighbourhood, among many other shops. There is a car wash across the street and a bus stop nearby. One can immediately notice that the establishment is well located in the neighbourhood. The barbershop is 25 square meters large, the floor is covered by ceramic and wall tiles cover the walls. There are four turning chairs along with covered boxes for the customers to rest their feet. There are also five chairs disposed next to the entrance so that people can wait, with a magazine porter on the side.
One can find mirrors on the walls so as to provide a complete view of the job in execution. The electric installations are well made, without any wire exposed. The illumination consists of ten fluorescent lamps around all walls and other two lamps next to ceiling fans. A television and a radio device alternate in entertaining the clients. The place is quite clean, because the barbers constantly take turns on sweeping the floors. Each barber has his own face towel, scissors, spray, alcohol bottle, talc powder, hair and shaving cream, comb, duster, razor and dispensable blades. Electricity is used in the feeding of shavers, illumination, fans, TV set and radio. There is a hierarchical division of labour, in which the boss is the landlord.
Commissions worth 50% of their daily profit do the payment of the other hairstylists. It is a family business in which all four brothers work. The boss (the older brother) lives on the first floor of the barbershop, while the others live with their mother.

The enterprise, managed by men, is notably public, even though the owner lives upstairs above the barbershop. In fact, this is only known after a talk with one of the hairstylists. There is no indication of a 'family life' at Eduardo's barbershop.

Observing the data together, Table 31 indicates that only six of those interviewed have a legally operating business, registered with the appropriate public entities. Of these, five are run by women and one by a man. Of the informal businesses run by women, 30%

have been operating for more than 1 years, 27.5% between 1 and 2 years and another 27.5% over 5 years. The greater part of the unregistered businesses run by men has been open less than 2 years. Among the formal businesses, 14% were registered less than a year ago, 42% between 1 and 2 years ago and 42%, more than 5 years ago.

Table 31 - Number and percentage of family/small businesses, according to the lifetime of the business, sex of owner and registration or not of the business.

Lifetime of business	Sex of Head of Household							
	Female				Male			
	Registered		Not registered		Registered		Not registered	
	No.	%	No.	%	No.	%	No.	%
Less than 1 year	1	20.00	12	30.00	-	-	2	40.00
1 to 2 years	-	-	11	27.50	-	-	2	40.00
2 to 3 years	-	-	4	10.00	-	-	-	-
3 to 4 years	-	-	1	2.50	-	-	-	-
4 to 5 years	-	-	1	2.50	-	-	-	-
More than 5 years	4	80.00	11	27.50	1	100	1	20.00

Calculating the sale price of a product or service is of fundamental importance in obtaining profits and guaranteeing the survival of a small enterprise. Table 32 shows that, among the female entrepreneurs, 41.6% of hairdressers and 87% of seamstresses calculate their sales price based on their production costs. In the food and beverage segment, however, the majority (52%) of the women stated that they determined the price of their products based on the market price. All the male entrepreneurs use market prices as their reference in determining the sales price of their products/services. In a relatively large number of women-run enterprises, the person being interviewed did not know how sales prices were determined. One reason for this may be that the person being interviewed was not directly involved in determining prices. Another explanation may be that these small-scale entrepreneurs rely on a day-to-day decision making process based on their own sense of what is reasonable, without using calculations or taking into account the competition. If this is so, the risk of the business running a loss is high.

Table 32 - Number and percentage of family/small businesses, according to the way in which sales prices are calculated, type of business activity and sex of the owner.

Calculation of Sales prices	Type of business activity											
	Production/sale of food and beverages				Hairdresser				Seamstress/Tailor			
	Female		Male		Female		Male		Female		Male	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Based on costs	7	28	-	-	5	41.67	-	-	7	87.50	-	-
Based on market price	13	52	3	100	3	25.00	1	100	-	-	2	100
Doesn't know	5	20	-	-	4	33.33	-	-	1	12.50	-	-

Table 33 contains the average monthly revenue of the family businesses, according to the type of activity and the sex of the owner. By far, the majority of the enterprises earn less than R$500 per month; among businesses run by women, this includes 64% of the food and beverage enterprises, 58% of the hairdressers and 75% of the seamstresses. This low revenue proves that these are in fact, very small businesses with limited scopes. When

questioned about the motive that led to establishing their own business, 31% declared that it was to be able to work with what they enjoy, 15% stated that it was out of necessity and a means of survival, 13% did so in order to complement the family income, 11% said that it was simply a practical activity with a product that was readily saleable. The remainder had answers such as: getting ahead in life, helping the husband out, because of unemployment, etc.

Table 33 - Number and percentage of family/small businesses, according to average monthly revenue, type of business and sex of owner.

Average monthly revenue (R$)	Type of activity											
	Production/sale of food and beverages				Hairdresser				Seamstress/Tailor			
	Female		Male		Female		Male		Female		Male	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
< 500	16	64.00	1	33.33	7	58.33	-	-	6	75.00	1	50.00
501 to 1000	-	-	1	33.33	1	8.33	-	-	1	12.50	-	-
> 1000	1	4.00	-	-	-	-	1	100	-	-	-	-
Doesn't know	1	4.00	-	-	1	8.33	-	-	-	-	-	-
Did not respond	7	28.00	1	33.33	3	25.00	-	-	1	12.50	1	50.00

Among the male-operated businesses in the food and beverage production/sales segment, Table 33 shows that one earns less than R$500, a second earns between R$501 and R$1000, and the third declined responding. The only male hairdresser earns more than R$1000; one of the tailors earns less than R$500, and the other declined responding. Notably, among women entrepreneurs, a significant number did not wish to reveal the earnings of their business. Keeping in mind that most of the businesses are operating informally, it is possible that they fear that disclosing such information may spark closer scrutiny of the neighbourhood businesses by public officials.

6.2.3. Credit

The greatest difficulty in the enterprise is financing. Nobody is able to invest and usually they have to pay in order to work'. (Ms. Lina, a Plataforma resident who buys and sells iron scraps).

Most of the entrepreneurs started up their business with their own funds. In fact, only 5.8% of those interviewed declared having made use of some type of loan or financing. The amount of the loans ranged from R$100 to more than R$1500, and were taken out in the name of the entrepreneur and obtained from financial institutions.

The lack of access to credit demonstrates how fragile these enterprises are. In Plataforma, 88% of the interviewed women had never had the opportunity to get loans. The 12% that got any kind of financial aid, acquired it from a specific kind of business that offers loans under high interest rates and the loans are never over US$ 700.00.

In Canabrava the situation is even worse. As they live in a poorer neighbourhood, the people there rarely get loans. None of the interviewed had the opportunity to get loans at all.

Credit is not only a public policy, but it demands a counter action from the one who requires it. It is mandatory that the small enterprises own an average monthly income that

is compatible with the loan they have requested. The results obtained in this research, regarding average monthly income on small enterprises, show that this is difficult information to be reached.

A significant percentage of the respondents in Plataforma (36%) answered that their average monthly income is never over US$ 200.00 and the majority (48%) refused to answer this question by saying that they don't have any idea of how much it would be. They have no idea of how much is their 'money in' and they keep on working on their enterprises, getting and paying their many debts.

In Canabrava, the average monthly income is never over US$ 200.00 as well. 84.6% of the interviewed included their average monthly income on that rate and just one person refused to answer this question.

Distress can be noticed at many points in the interviews. Many of the interviewed don't like to show that make profits with their small enterprises because they are afraid of inspections, both from the City Hall and the State Government. They are also afraid of Social Security's inspections. That is the main reason for them to omit information and to act suspicious when questioned about the subject. As an example is the small factory of *acarajés* and *abarás*[23] in Plataforma.

Box # 4 – Production of Acarajé and Abará (Plataforma)
This small enterprise is located at Rua Paissandú*, 24, in Mr. Raimundo (60 years old) and Mrs. Benedita's (55 years old) house. They live with their children Katis (34 years old), Ivonete (33 years old), Ivone (29 years old), Cristiane (29 years old), Ivan (28 years old) and Tatiane (23 years old). The enterprise is a small* acarajé*'s (fried bean cake) and* abará*'s (boiled bean cake wrapped in banana leaf) bakery manufactory. The owner doesn't accept this definition and vehemently says that he supports his family with his job as a security man (around US$ 120.00 per month) and that his profits on the cakes sales are not relevant. In his opinion the small enterprise is just a side income, "small change to buy their bread'.*
They operate with a traditional gender division of labour: business management, transportation of materials, shopping for raw material and inputs control (accounting) are handled by men. Women are responsible for food preparation and for sales both on the streets and on three different shops they own around the city. It was impossible to get more data on their business.

The lack of information regarding their rights, added to abandonment on the part of the State and the lack of appropriate public policy, keep these small entrepreneurs apart from development and improvements on the quality of life.

6.2.4. Energy Costs

The small enterprises use the three different basic sources in order to get energy, which are the ones most used in Brazil: LPG cylinders, electricity, besides gasoline and diesel oil, which are used by automotive transportation. Price variation of fuel costs impact

[23] *Acarajé* is a beans cake fried on *dendê* oil and *abará* is a bean cake cooked on banana leaves. They're both typical dishes from the afro-Brazilian cuisine and they're sold by typically dressed women on the streets and squares in Salvador.

directly on public transportation, buses in particular, which are the main means of transportation of the researched communities.

LPG cylinder is an energy resource with almost no substitutes in large Brazilian cities, such as Salvador. Besides gas, electricity is also used in urban centres, but in a smaller scale in small towns and villages in the countryside, where firewood and coal are also used. Since LPG comes from oil it has its price connected to the price variations ruled by the international market.

In Brazil, the LPG voucher (or *Auxílio Gas*) was established as a benefit in order to provide financial aid to needy families; it is supposed to help with the purchase of LPG for the families. In 2004, it became part of package of benefits provided by the government and known as *Bolsa Família*.

Nevertheless, this benefit doesn't embrace the small enterprises, as the ones researched. As such, LPG cylinder that was to be used only for the family ends up being used for businesses purposes as well. The average monthly use in Plataforma varies from 1 to 2 LPG cylinders, at US$ 12.00 each. In Canabrava, only 38.5% of the enterprises use LPG cylinder and they consume around 2 LPG cylinders per month.

The same happens with the electricity consumed by a small enterprise that is held on a family unit. The costs with this type of energy, in the cases analyzed here, are invariably inserted on the residential costs, once 96% of Plataforma's and 57.7% of Canabrava's enterprises are held in the owner's house, using only one energy meter.

From the measured electricity, 68% of Plataforma's bills do not exceed US$ 40.00 per month; however, they are equivalent, in most cases, to a fifth of the income of those earning an average of up to US$ 200.00 per month, a situation that applies to 36.6% of the entrepreneurs in the sample.

In Canabrava, 50% say that they consume up to US$ 40.00 monthly and the percentage of the ones that do not know how much they spend or do not consume electricity at all is very high: 46.1%. It is possible to notice that many of the interviewed hide the fact that they obtain electricity illegally, or by clandestine means.

In some cases the energy consumers fool the company, by making illegal electric connections, popularly known as '*gatos*' (cats), from neighbours or directly from the public illumination posts, or by altering the energy meters.

Bahia's Electricity Company (COELBA) has been systematically carrying media campaigns, targeted to combat company's losses, resultant from clandestine energy consumption. The State Government created, in 2004, a delegacy specialized in energy stealing in order to prevent this crime in a much more efficient way.

One of the small entrepreneurs, a resident of Canabrava, is one of the illegal consumers of electricity; he also exemplifies the situation of the small enterprises' owners from the poor neighbourhoods in Salvador:

'L.S. is 31 years old, married to 27-year-old J., who has a High School degree and is a housewife. They have two kids, J (9 years old) and Je. (8 years old). They live and run their business in a humble house, with bare bricks, just 3 rooms, with ceramic roof tile and a cement floor. He is in the upholstering business. They owe the house and pay around US$ 5.00 monthly for consuming water. The garbage pick up is right in front of the house. He uses an average of two LPG cylinders per month and consumes electricity only to operate an industrial sewing machine and hand drill. He doesn't have an electricity meter and solved the problem with a 'gato' installation. L.S. became very suspicious when asked about his average monthly income and refused to declare it. This enterprise is less than a year old and is not legally registered. He works when he receives an order and employs three people, but did not sign their workbook[24] as required. L.S. never borrowed money and learned his job on his own and his employees had to overcome the fact of never having taken any courses. Besides upholstering, he makes stuffed couches and armchairs, but he was not precise on how much he spends with the materials he uses. He goes buy them by bus or asks a friend to bring on a small truck.
His major form of leisure is to go to Barradão[25], *or to the Evangelic Church. His family never received any type of government benefit. For him, "well being" means being able to support his kids.*

Gasoline and diesel oil prices also affect the everyday life of Brazilians directly. They modify drastically the cost of living in poor neighbourhood. Diesel is the one that affects the poor the most because it is the energy source used for most of the transportation system in Salvador.

In Brazil, there are some benefits to people who use public transportation: the 'transportation voucher', or bus pass, to everyone with a regular job; the student's voucher, to everyone regularly enrolled in an educational institution -- it reduces the bus fare to 50% of its cost; and the senior citizen's voucher for those 60 or older who can use the transportation system for free.

As those benefits are geared towards specific target groups, they do not include free-lancers, the unemployed and the ones who own a small business. These people also need to use transportation on their daily lives and they represent a large amount of population.

In Plataforma, 24% of the interviewed said that they spend around US$ 40.00 per month on transportation, in order to shop for food, sell their products in other neighbourhoods or even to foot their families' comings and goings. In considering these costs, one should remember that this neighbourhood is located in the Railroad Suburbs, and still has train services as a means of transportation - the train fare is a third of the bus fare (US$ 0.58).

Canabrava suffers with the lack of good quality transportation, with deficient schedules and with the lack of alternative routes. The bus companies serving the neighbourhood take half of the buses off the streets on weekends. Approximately 76.9% of the people reported that they do not use any means of transportation to go to other neighbourhoods, nor to go downtown, because they cannot afford it.

[24] In Brazil, workers have a workbook in which employers register their salaries and legal rights/benefits.
[25] Soccer Stadium for the Vitória Sports Club, situated on the same neighbourhood, Canabrava.

The research tried to gather the leaderships of youth groups, community groups and professionals of the Canabrava. The research group listened to their stories related to the lack of concern by the City Hall towards their community, and they stated that the precariousness of the urban transportation system is one of their major problems, because it affects directly not only their families' life but also their business. They reported, as an example, that the bus line 'Canabrava – São Joaquim' does not run on Saturdays. São Joaquim is a neighbourhood in Salvador in which there is a big street market, and not being able to go there on Saturdays considerably impairs the small merchants who deal with fruits and produce.

Although the cost of energy has risen a lot in these last years, due to the decrease of subsides and the increase of the prices from oil products, and although there are many complaints and uncountable protests by the population of the poorest neighbourhoods of the city when bus fares go up, close to 62% of the interviewed in Plataforma declared that they do not protest nor do they fall complaints . Just a small share of the interviewed declared that they pass on price increases in energy to the pricing of their own products and services.

'*How can we charge these costs? If the price rises, we can't sell, and the people here don't have much money*.' (Antônio, street salesman – Canabrava).

During the interviews, the entrepreneurs were questioned about the sources of energy used in three different applications: processing, storage and services. Electricity and LPG were predominant. Other sources, such as charcoal, diesel, gasoline, wood and kerosene make up less than 2% of the total energy used. As seen in Figure 2, gas is frequently used in processing (27.4% of the businesses surveyed). Most food production for sale in these neighbourhood businesses takes place in the home, and the use of gas is likely for cooking food in domestic stoves. Electricity is prevalent in all three applications, used by businesses in the following percentages: 31.3% in processing, 41.4% in storage and 35.2% for services.

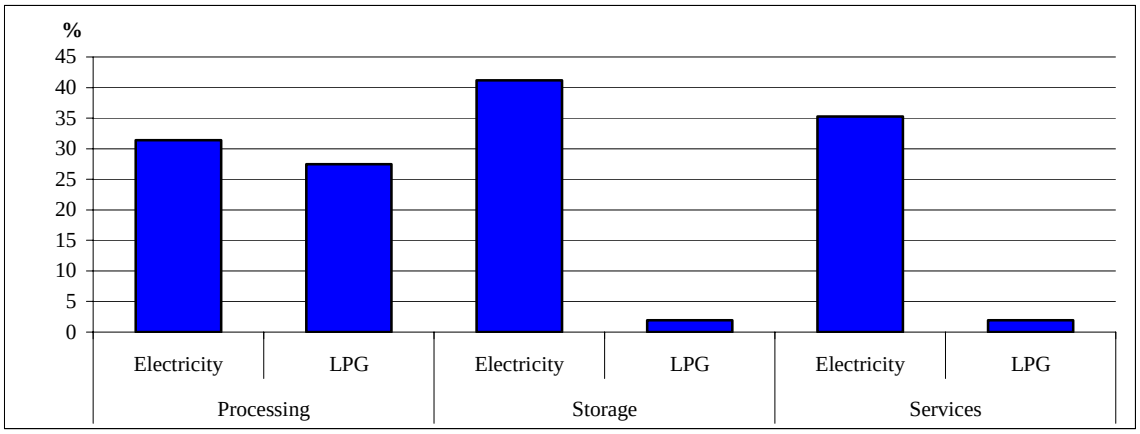


Figure 2: Percent of family/small businesses, according to energy source used in each step of the business activity.

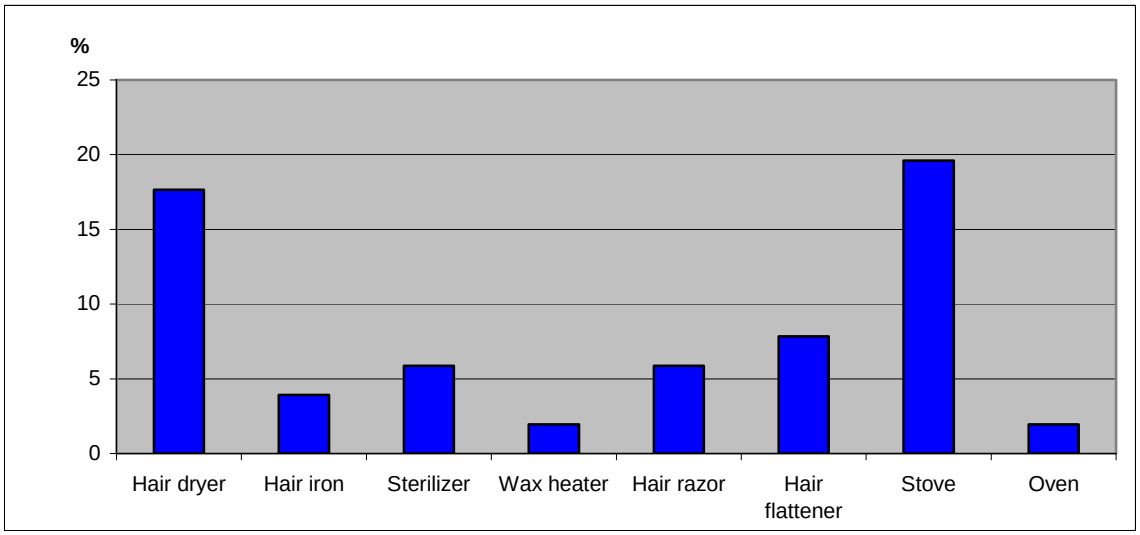
The entrepreneurs were questioned as to the monthly cost of theses two main sources of energy, electricity and LPG; results are shown in Table 6, according to the type of activity and the sex of the owner. Sixty percent of the women that run food and beverage businesses, 50% of hairdressers and 75% of seamstresses spend less than R$100 a

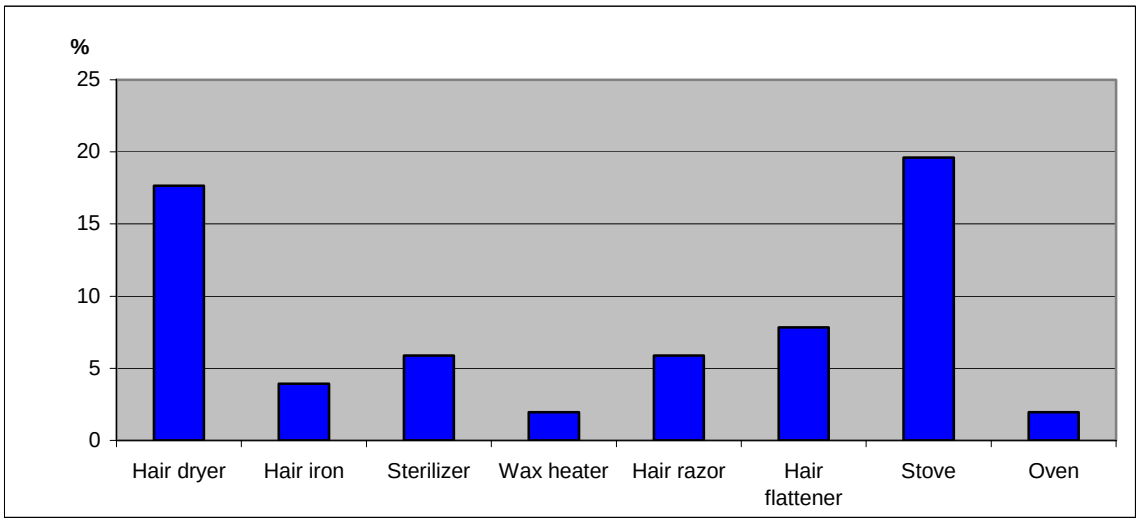
month on electricity. In light of the fact that these small businesses have limited revenues, this low level of expenditure is reasonable. Frequently, the entrepreneurs interviewed declared that they did not know how much they spent on electricity. This may be a result of the fact that the businesses operated out of the owner's home, and that the power consumption of the business is not separated from the residential use.

Table 34 - Number and percentage of family/small businesses, according to monthly expenditure, type of business and sex of owner.

Monthly expenditure with electricity (R$)	Type of business activity											
	Production/sale of food and beverages				Hairdresser				Seamstress/Tailor			
	Female		Male		Female		Male		Female		Male	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
< 100.00	15	60.00	1	33.33	6	50.00	1	100	6	75.00	1	50.00
101.00 to 200.00	2	8.00	-	-	1	8.33	-	-	1	12.50	-	-
301.00 to 500.00	1	4.00	-	-	-	-	-	-	-	-	-	-
Doesn't know	5	20.00	1	33.33	3	25.00	-	-	1	12.50	-	-
None	2	8.00	1	33.33	2	16.67	-	-	-	-	1	50.00

During the survey, the main electric equipment/machines used in the family businesses were investigated. As displayed in figures 3 and 4, the most frequently mentioned uses were appliances such as the blender, used in 29% of the small businesses and refrigerator/freezer, used in 27%. Stoves are also used by a significant portion (19%), mainly in the production of food. Appliances used in salons were also commonly cited, such as hair dryers (17%), irons (7.8%) and electric razors (5.8%). As expected, the most frequently mentioned equipment in the case of seamstresses and tailors is the sewing machine, used in 23% of the small businesses.





Figures 3 and 4: Number and percentage of family/small businesses, according to electric equipment used in the business.

Table 35 shows that 72% of the small businesses that work in the production/sale of food and beverages and that are run by women consume between 1 and 2 LPG cylinders on average per month. In this same segment, 20% of the women stated that they use more than 2 cylinders and only two women mentioned that they do not use LPG at all. It is surprising that 58% of the hairdressers and 37% of the seamstresses reported using 1 to 2 LPG cylinders when the equipment they use does not consume this energy source. Again, these responses are likely due to the fact that the businesses operate in the home and that the LPG consumption is in fact for domestic use.

Table 35 - Number and percentage of family/small businesses, according to monthly LPG consumption type of business activity and sex do business owner.

Monthly LPG consumption	Type of business activity											
	Production/sale of food and beverages				Hairdresser				Seamstress/Tailor			
	Female		Male		Female		Male		Female		Male	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
1 to 2 cylinders	18	72.00	-	-	7	58.33	-	-	3	37.50	1	50.00
> 2 cylinders	5	20.00	1	33.33	-	-	-	-	-	-	-	-
Doesn't know	-	-	-	-	1	8.33	-	-	-	-	-	-
Doesn't use	2	8.00	2	66.67	4	33.33	1	100	5	62.50	1	50.00

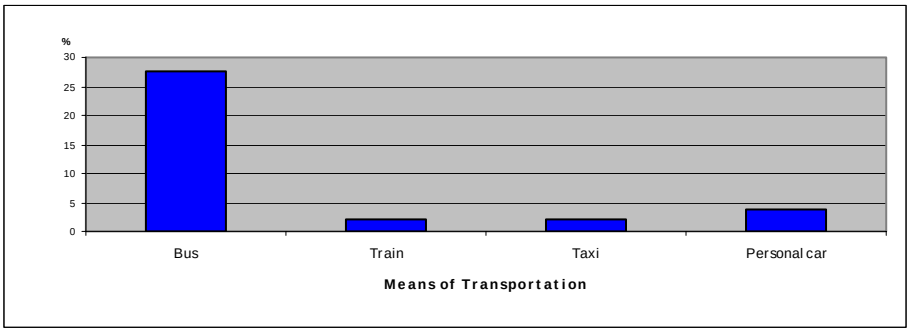
It is clear from the survey that, in addition to working out of their home, the majority of the small entrepreneurs work alone, as seen in Table 36. The greatest frequency of women entrepreneurs operating alone is among the seamstresses (75%), followed by those in food and beverage production (66.6%) and hairdressers (58.3%). Twenty-eight percent of the female entrepreneurs working in food and beverage production hire 1 to 2 employees, while those that employ 3 or more workers are insignificant. Two-thirds of the male entrepreneurs have at least one person working for them, with one food and beverage producer and the only hairdresser hiring more than 3 people each.

Table 36 - Number and percentage of family/small businesses, according to number of employees, type of business activity and sex of business owner.

Number of employees	Type of business activity											
	Production/sale of food and beverages				Hairdresser				Seamstress/Tailor			
	Female		Male		Female		Male		Female		Male	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
1 to 2	7	28.00	-	-	2	16.67	-	-	1	12.50	1	50.00
3	3	12.00	-	-	-	-	-	-	1	12.50	1	50.00
> 3	1	4.00	1	33.33	3	25.00	1	100	-	-	-	-
Works alone	14	56.00	2	66.67	7	58.33	-	-	6	75.00	-	-

During the survey, the entrepreneurs were questioned about the means of transportation used in carrying out their business activities. The answers obtained refer to transportation to points of sale, to purchase supplies and for employees. In cases where the business is located outside the owner's home, travel to and from work may be included. Figure 3 shows that 27% of the small businesses rely on public buses and 3.9% on cars, while the use of other modes, such as taxi and train, is negligible.

Figure 5: Percentage of family/small businesses, according to means of transportation used to get to work.



6.2.5. Regarding Health Related to Work

A significant share (40%) of the interviewed from Plataforma considers themselves and their employees healthy. The complaints related to poor health are consequences from lesions caused by repetitive effort and other occupational diseases, commonly diagnosed among the working classes. The most frequent complaints in Plataforma were:

- 56% of them suffer from frequent backaches;
- 56% of them suffer from sore eyes;
- 52% of them suffer from sight problems;
- 36% of them suffer from high blood pressure;
- 32% of them present some kind of allergy.

Approximately 48% of the people interviewed said that these diseases or symptoms are from the type of work they perform. At the same time, however, 76% of them say that these diseases and symptoms don not harm their business.

In Canabrava the complaints are quite the same: 34.6% suffer from backaches, 15.4% suffer from sour eye, 15% of them present high blood pressure, and 11.5% of them complain about pains in their hands.

46.2% of the interviewed said that these diseases and symptoms showed up after starting to work steadily in their business; 38.5% of them believe that these problems affect their business because they interfere with their daily business activities, causing their monthly income to decrease.

Most of the complaints were from employees, who confided them to us in private, after being questioned in front of their bosses; they denounced the poor work conditions under which they must labour.

'*The employee that operated the sewing machine said that he had almost all diseases listed above. He complained about an intense backache on his spine, especially at night and he blamed it on his job, because he works bending over all day long. He said that there are days in which he feels so bad that he can't work properly. He has always a steady cough and suffers from sinusitis.'* (Couch maker – Canabrava).

7 Discussion of Hypotheses

7.1 Hyp. # 1:"Clean and affordable energy services are key factors in creating good physical wellbeing and productivity of household members."

The near universality of access to clean energy services (electricity and LPG cylinder) among households and small enterprises in the sample, gives us no real measure of comparison to adequately test and sustain this hypotheses, at least insofar as the neighbourhoods under study are concerned. However, some observations, made during research process, and the indicators used to test this hypotheses, have given some indications that clean and affordable energy services are key factors in creating good physical wellbeing and productivity of household members.

7.1.1 Health Condition

First of all, it must be stressed that the results are based on what people declared in the application of questionnaires. As such, it is not "scientific" information. Here perhaps lie some of the apparent distortions in the results. For example, 44.0% of the people interviewed in Plataforma and 33.9% in Canabrava attested that they suffered with "high blood pressure". National statistics, provided by medical associations, place the incidence of this ailment at 20% of the population. Further studies would need to be carried out to evaluate, with greater precision, what is the real incidence of the ailment among the population under study.

The study found that despite the widespread use of "clean energy" by households in the sample, ailments which are usually associated with "non-clean" energy sources – i.e., eye irritation, cough, sinus problems, shortness of breath – were still among the major health complaints registered. In that respect it is important to stress that Salvador does not have high levels of air pollution, another possible cause of health problems of that order. Canabrava residents associate the incidence of these symptoms in their neighbourhood with the gas liberated by refuse in the Biogas plant, where the garbage dumps were located. This might be true for Canabrava; but what would explain the incidence of the same health ailments in Plataforma? One possible explanation would be work-related conditions, such as those associated with construction work, an occupation common among the male population in those neighbourhoods. Another possibility would be the high incidence of homes with asbestos roofs; but they are in the minority in Plataforma.

7.1.2 Water Purity and Sanitation

The major problems associated with ingestion of non-potable and inadequate sanitation in the sample were verminosis/parasites (13.9% in Plataforma; 17.3% in Canabrava) and diarrhoea (Plataforma 4.2% and Canabrava 4.7%). These percentages are considerable lower than statistics for states in the Northeast region of 30%. Again, it is important to stress that the data comes from the residents interviewed, not from official records for the specific neighbourhoods; indeed, no such records exist, since the local health clinics only tend to do 'emergencies'. The study did not find a significant direct correlation between these ailments and their possible causes in the sample. One may assume, as well, that

open sewages affect all residents alike, independent of the type of sewage treatment they have in their own homes.

7.1.3 Meals

The survey revealed that residents in the neighbourhoods studied cook on gas stoves and have rice, beans, and meat as their basic staple diet. It is well to point out that beans, Brazilian style, take a rather long time to cook in a regular pot (close to 2 hrs on low fire). This is why the majority households resort to leaving the beans soaking overnight and using pressure cookers, procedures which reduce cooking time to about 45 minutes, and thus help to save on LPG.

Regarding small enterprises, it was found that most of the owners and employees eat their meals at their homes. Indeed, many of the small enterprises are actually operated within the owners' homes. Besides, the employees live in the neighbourhood and walk home for lunch.

Overall close to 70% of respondents were satisfied with their diet based on beans, rice, meat, and cassava four. Greens and fruit appeared with greatest proportion as the items that people would like to include in their diet.

7.1.4 Perception of Wellbeing and Productivity

In order to avoid inducing respondents in defining wellbeing, this issue was included as an "open question" in the survey, with possible multiple definitions. In both neighbourhoods studied, having "good health" appeared with greater frequency in both cases: 54.1% in Plataforma and 53% in Canabrava. People are thus aware that, as Naila Kabeer[26] (1994:146) has noted, "health is the key to productivity among the poor": they depend on their own energy - their own bodies to make a living. Good health is thus essential. After good health, respondents prioritized "living in peace" due to the fact that they live in a violent urban context. Money related definitions only came in third place -- as pressing needs of the urban poor: to have money (25.1% in Plataforma, 21.6.2% in Canabrava) and to have a good job with good wages (21.6% in Plataforma, 38.2% in Canabrava).

It is interesting to note that when asked about the major problem affecting their families, the greatest proportion of answers was "lack or shortage of money" (44%) followed by unemployment (29%). However, as reflected above, money did not come as a priority when defining well being.

Although only relatively few of the respondents mentioned leisure activities in their understanding of well being, the study still targeted information on what members of the households in the survey did for leisure. The results confirmed what the very high proportion of households with caber TVs. Indeed, watching television is the main leisure activity of residents in both of the neighbourhoods studied: 79.2% in Plataforma and 75.2

[26] Kabeer, Nalia 1994: Reverse Realities: gender hierarchies in development thought. London.

in Canabrava (Table 19). For many of the women in the study, in fact, this is their only leisure activity.

7.2 Hyp. #2: "Social networks and relationships facilitate access to energy services."

The study did not support this hypothesis as people were not receiving information regarding energy services from local groups or acquaintances. In fact, there was little participation in both neighbourhoods to associations and these were criticized for not delivering information to the communities.

7.2.1 Information Flows about energy services

Given the near universality of access to electricity and use of LPG cylinders in the households in the sample, the real issue in this regard was information about special programs for low-income consumers. In point of fact, close to 70% of the people answering the questionnaire did not know of this program, even though it was publicized during the period of enforced rationing due to the energy crisis.

Two important sources of information on social programs in the neighbourhoods visited were schools and television. Local residents' associations are also good sources of information, but few participate in them, due to lack of interest and awareness. In Plataforma, participants of the focal group were very critical of the local association. In spite of their lack of involvement, among other complaints, participants stated that it did not disseminate information properly in the community.

It is interesting to note that though more than 30% of household heads in the samples claimed to be evangelicals, which involves participation in church activities, none cited the church as a source of information regarding social programs and benefits.

There was no entrepreneurship association mentioned in the study.

7.2.2 Ability to invest in energy services technology

Surprisingly that there were a few households that possessed high energy consuming and/or expensive equipment such as microwave oven, DVD, freezer, washing machines, personal computer, and electrical showers. Colour TV was available in 90% of the households. Overall energy sources represents up to 30% of the family budget. Still, one third of the sample did not have their electrical installations done professionally.

7.2.3 Decision-making within Households and Enterprises

According to the information gathered in the study, decision-making regarding the use of energy is in the hands of the household responsible for paying for it. In nearly 60% of the households surveyed, member whether woman headed or man headed, this responsibility belongs to the household head. It is interesting to note that in 10.2% of the men-headed households, against only 5.8% of the women-headed, this responsibility belongs to their spouses. For 22.4% of the men-headed it goes to the couple; while this is true of only 5.8% of the women-headed. More than often, in these households,

responsibility for footing these bills is divided among the different members of the household.

In the case of the small enterprises, all the decisions are up to the owner, be it a man or a woman.

It should be stressed that whereas it was found that women take considerable financial responsibilities within their home and participate on decision-making, they still are the ones responsible for domestic task such as housework and caring for children and the elderly and sick. In the absence of the mother, it is the daughters who are usually entrusted with these responsibilities.[27]

7.3 Hyp.#3: "Energy services are key factors in the sustainable livelihoods by increasing the viability of existing enterprises and enabling the establishment of new ones."

Most of the enterprises in the study were home base businesses operated in a disorganized manner. They depend on energy services at both household and enterprise levels. Even though the issue of illegal connections was not directed asked, one third of the respondents had their installation and maintenance not done by a professional, which makes it easy to infer that these are likely to be illegal connections. Those not having energy service legally done are not likely to complain or discuss issues related to energy service provider.

7.3.1 Physical Variety of Forms of Energy sources, Quantity and Reliability

The small enterprises use the three different basic sources in order to get energy, which are the ones most used in Brazil: LPG cylinder, electricity, besides gasoline and diesel oil, which are used by automotive transportation. Price variation of fuel costs impact directly on public transportation, buses in particular, which are the main means of transportation of the researched communities.

LPG, or cylinder is an energy resource with almost no substitutes in large Brazilian cities, such as Salvador. Besides LPG, electricity is also used, in urban centres, but on a smaller scale; in small towns and villages in the countryside, where firewood and coal are also used. Since LPG comes from oil it has its price connected to the price variations ruled by the international market.

In Brazil, the LPG voucher (or *Auxílio Gas*) was established as a benefit in order to provide financial aid to needy families; it is supposed to help with the purchase of LPG cylinder for the families. In 2004, it became part of package of benefits provided by the government and known as *Bolsa Família* (Family Aid).

Nevertheless, this benefit was not intended for the small enterprises, such as the ones researched. However, LPG cylinder was traditionally used only for the family, ends up being used for businesses purposes as well. The average monthly use in Plataforma varies from 1 to 2 cylinders, at US$ 12.00 each. In Canabrava, only 38.5% of the enterprises use LPG cylinders and they consume around 2 cylinders per month.

[27] See, for example, Sardenberg (1998b).

The same happens with the electricity consumed by a small enterprise that is based in a family unit. The costs with this type of energy, in the cases analyzed here, are invariably part of the residential costs. 96% Of Plataforma's and 57.7% of Canabrava's enterprises are held in the owner's house, using only one meter.

From the measured electricity, 68% of Plataforma's bills do not exceed US$ 40.00 per month; however, they are equivalent, in most cases, to a fifth of the income of those earning an average of up to US$ 200.00 per month, a situation that applies to 36.6% of the entrepreneurs in the sample.

In Canabrava, 50% say that they consume up to US$ 40.00 monthly and the percentage of the ones that do not know how much they spend or do not consume electricity at all is very high: 46.1%. It was observed that many of the respondents hide the fact that they obtain electricity illegally, or by clandestine means.

In some cases the energy consumers fool the company, by making illegal electric connections, popularly known as '*gatos*' (cats), from neighbours or directly from the public illumination posts, or by altering the electricity meters.

Bahia's Electric Company (COELBA) has been systematically carrying media campaigns, targeted to combat the company's losses, as a result of clandestine energy consumption. The State Government created, in 2004, an agency specialized in combating electricity theft in order to prevent this crime in a much more efficient way than previously, when this situation was neglected.

Gasoline and diesel oil prices also affect the everyday life of Brazilians directly. They modify drastically the cost of living in poor neighbourhood. Diesel is the one that affects these people the most because it is the energy source used for most of the transportation system in Salvador.

7.3.2 Associated energy equipment

All entrepreneurships depend heavily on use of electricity, electrical equipments, and/or LPG cylinders and transportation. Stove was the most cited followed by hair dryer, and hair flattener.

7.3.3 Demand Driven Energy Services

During the study, Canabrava residents voiced criticisms in regards to the Biogas Recycling Plant, particularly to the effect that the community did not benefit from the gas produced there, nor was if informed about the future plans toward community. In a visit to the plant, the manager not only gave a thorough tour, but also took time in recounting how the project was created. He said that in 1973, the city began to use the area of Canabrava, which at that time had very few residents, as a city dump. No efforts were taken to treat the refuse there, nor were concerns expressed to do an environmental impact study. These concerns began to be manifested in 1992; but it was only in 1996-97 that real changes began to take place. A new dump, properly prepared to receive and treat refuse was built in another part of town, while a special project geared towards

people who lived from sifting through the garbage (*bademeiros)* – approximately 1200 people, including men, women, and children – was devised. Initially, the project was a joint effort of a local NGO (Pangea) and the city government. They received support from the Canadian Government to create the Biogas Plant, start a Cooperative for the adults to do sorting of recyclable material, and a project geared to children and youth (*Projeto Criança Canabrava*), which provides them with computer courses, school tutorials, dance classes and vocational training.

The present Biogas Plant is a pilot project; it produces approximately 75 KHW/hour, enough to support close to 100 households. However, the energy generated is used to light the park that was also built on the site. At present, only part of the former garbage dump is being tapped. According to the manager, it has the capacity to generate energy to meet the needs of up to 50.000 families, at low cost, for about 18 to 20 years.

7.3.4 Price

Though Brazil is the "paradise of hydroelectric plants", the cost of electricity is relatively high for most of the population. As noted earlier, in the early 1990s, the government implemented a series of measures to reduce its role and pave the way to privatization. But interest groups prevented the adoption of measures that would drastically alter the liquid combustible policy, and the agency controlling electric energy continued to lack resources for investments. Thus, the energy price structure was altered only marginally not benefiting the poor.

The cost of LPG cylinder, the most used fuel for cooking in urban areas, has increased 550% in the last decade, over three times the inflation in the same period. The prices of diesel fuel and propane were maintained artificially low, requiring subsidies. The low diesel price was intended to keep transportation costs from increasing sharply, and social arguments were used to justify the propane subsidy. However, liquid fuel, most used for transportation of national production and people has increased 276% and public transportation in general has, during the same time period, increased 307% (twice the inflation), whereas electricity costs increased 305% in this period, twice the inflation rate.

7.3.5 Service Provider's Perception of the End Users

COELBA, the Electrical Company of Bahia has as its major concern to curtail clandestine linkages to the network, including through aggressive advertising in the media. Recently, in fact, the State of Bahia cooperated with COELBA in opening a special police station, in charge of caring specifically for crimes against the company, such as fraudulent links to the electricity network.

It is well to point out that the company does not offer meters free of charge; on the contrary, consumers must buy and install them themselves. But, according to one of the directors interviewed by the researchers, COELBA has a program through which the devices can be paid through affordable monthly instalments. However it has not been well publicized and most of people interviewed in the research did not know about it.

Since, Brazil's energy crisis in 2001, the Company has also run programs to assist low-income consumers to save on energy. They had agents inspect homes of consumers

looking for sources/cases of energy loss. In most cases, households had very old refrigerators with old rubber seals around their doors that no longer were able to properly seal the doors. According to an analyst from COELBA, the company helped many customers replace these seals.

Another problem in the waste of energy pertains to the fact that the wiring installations are not always done by professional electricians. For instance, almost one-third of the households surveyed in both neighbourhoods run this risk, in that they have not used professional services in installing and servicing their electrical structure.

7.3.6 End User's Perception of Energy Service

One of the significant findings of the study pertains to the fact that close to 50% of the residents interviewed did not know that the Electric Company – COELBA had been privatised since 1997. And among those who did know, the answers were almost equally divided among those who said that with it, the services became worse, better or did not change. But close to 40% of the respondents rated the services as being "regular", the major complaints falling on the "high prices" and instability of current in the form of the incidence of high and low surges.

7.3.7 Viable Enterprise

Though the price of energy services have increased in Brazil, informants failed to identify the effect this had on their enterprises, possibly because most enterprises were home based and their operating cost is mixed with that of the household. Also, one third of the connections were illegal. However, transportation costs were identified as one of the main problems, which in turn, have a direct impact on enterprises as it limits people's option to operate and expand their business. Thus it is safe to assume that high cost of energy services has impacted enterprises in both communities studied in Brazil.

7.4 Hyp. #4: "Energy sector reforms lead to improved access by enterprises to energy services."

Brazil has made significant improvement in providing electricity to most of its municipalities. Even though state messages about saving procedures doing energy crisis were successful, policies aiming to improve people's access to energy services have failed to reach those most in need. Requirements for registration (i.e., via internet) and dissemination have not been successful in benefiting the urban poor.

7.4.1 New Policies in Place

As discussed in the introduction of this report, the reforms – particularly the privatization of the electrical companies – have yet to bring any real benefits to the poorer population. Even the specific programs geared to the low income segments are not actually getting to them. Besides, while there are subsidies geared to big enterprises, nothing of the sort applies to small ones. No new energy service companies have started up since them for residential or small enterprises, only for large corporations. COELBA is the only company, which provides services to the large population within the state of Bahia.

7.4.2 State Institution

Privatization of the utility companies has required the introduction of new institutional structures to regulate their operations. In Brazil, regulatory agencies have been established in the major infrastructure segments such as telecommunications, electricity, oil and gas, water and so on. In the case of the petroleum sector, however, privatization has not been successful in generating more competitiveness and thus a decrease in price. This is because the regulating agency, ANP, has been subject to undue pressure from special interest groups and international price oscillations, which have prevented pricing structures favoring low-income groups. In fact, though Petrobrás, Brazil's state-owned oil company, foresees that the country will be self sufficient in oil production this year, domestic prices are keeping up with the rising international price of fuel. Clearly, neither of these factors, privatization and national self-sufficiency, has had any positive impact on affordability of fossil fuels. In this scenario of rising prices, the poor are the most affected as they already spend a significant amount of their income on transportation, cooking, and other petroleum-based products, the impact of this increase in cost is greater in proportion to their low income salary.

7.4.3 Expansion of Service Delivery

The major problems faced by small enterprises in the study were lack of credit and lack of skills, on the part of owners, for managing the businesses. Local neighbourhoods associations offer many courses for youth and young adults; but as far as the study was able to ascertain, no courses are offered at present, nor were they offered in the near past, to small business owners in the area of management. SEBRAE, a major national organization geared to small enterprises could certain offer this type of training courses.

As to credit, the federal government has started a new program of popular banks, offering credit to small entrepreneurs. Since most of the owners in the sample are women, it should be important as well to establish partnerships with *Banco da Mulher* - the Women's Bank, which is geared specifically to women entrepreneurs.

Family business in the household

8 Recommendations

8.1 Improvement in Communities

In the focal groups held during the course of the research, participants identified the major problems in their specific communities, and suggested ways of solving these problems, as follows:

a) Plataforma:

1) better transportation services, including expansion of the service hours of the commuter trains and re-activation of the boats system to and from the Ribeira boat terminal, across the bay from Plataforma;
2) lowering unemployment rates in the area, by offering training courses;
3) improving and expanding services in the local Health Centre;
4) creation of more spaces for cultural and leisure activities, such as reconstruction of local cinema and of the local factory as a cultural centre;
5) installation of a Police Post in the neighbourhood in order to curtail levels of crime.

b) Canabrava:

1) the re-activation of the Police Post in the neighbourhood (at present, the residents pay private security to curtail the level of local urban violence);
2) improvement and expansion of services and working hours in the local Health Centre;
3) Installation of more schools in the community, particularly day-care centres and a high school;
4) linking Canabrava homes to the main sewage system;
5) improvement and expansion of transportation services to the area.

It should also be added:

a) expansion of services of the Biogas plat to the local community;
b) distribution of ceramic filters to the population;
c) application of this research to needs addressed by the community regarding energy services.

8.2 Expansion of Social Benefits

The study found that only a small proportion of households received social benefits. In great, many of the residents were not aware of them. Thus, it is recommend that:

1. national television campaigns provides information about social benefits (what they are, who can benefit, how to apply); TV is recommended because more than 85% of the homes have them and watching TV is the major leisure activity particularly for women;
2. These campaigns should also be disseminated through local churches and residents' associations;
3. COELBA improves its effort to reach the pour and improve its policy by taking the results of this study to reach out to both of these communities;

4. Benefits should be more accessible to the poor – they should not have to register through the Internet, as some require, since most do not have access to this type of technology.
5. The utility company should target making illegal connections legal, rather than merely punishing consumers.

8.3 Programs for Small Enterprises

1. Management courses to small entrepreneurs, focusing on how to run a business, organization skills and financial management.
2. More access to credit – particularly through *Banco da Mulher* (Women's Bank) , to local entrepreneurs to help start up small enterprises;
3. Availability of transportation to different parts of the city in order for small enterprises to have wider option for consumers.

8.4 Further Research

1. Winrock International has accumulated in the past four years significant information on the issue of gender, energy and poverty in Bahia. Due to the shortage of research in this area nationwide, it is important to do a comparative analysis of these two research projects carried out by Winrock in both rural and urban settings to contrast the existing differences between the impacts of energy uses as they relate more or less to gender issues.

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Appendix 02 – Hypotheses & Indicators

Hypothesis	#1: Clean and affordable energy services are key factors in creating good physical well-being and productivity of household members.	#2: Social networks and relationships facilitate access to energy services.	#3: Energy services are key factors in sustainable livelihoods by increasing the viability of existing enterprises and enabling the establishment of new ones.	#4: Energy sector reforms lead to improved access by enterprises to energy services.
Indicators	1.1. Health: (a) meals; (b) water purity & Sanitation; (c) smoke HH; 1.2. Working days 1.3 Perception of well being 1.4 Involvement of child labour in the enterprise	2.1 Information flows about energy services 2.2. Decision-making within HH/enterprise 2.3. (a) Involvement of community in CBOs/NGOs; (b) membership in formal associations/clubs	3.1. Energy services and equipment available 3.2. Physical variety of forms, quantity and reliability 3.3 Demand driven 3.4 Price 3.5 Repairs – timely and availability of spare parts; 3.6 Server provider's perception of the end users 3.7 End user's (enterprise) perception of energy service 3.8 Sustainable enterprise	4.1 Financial Mechanism to facilitate access to clean energy forms 4.2. New policies in place: (a) consideration of enterprises (in energy) 4.3 Expansion of service delivery 4.4 New suppliers enter market 4.5 Quality of services

Appendix 03 – Energy-Poverty-Gender linkages to be explored within the components of the Livelihoods Framework

Livelihood Component	General livelihood related aspects	Energy-Poverty-Gender links to be explored
Household assets		
Human	Skills; entrepreneurial ability; education level; ability to work (health); security of employment; income-earner dependency ratio	**Human energy** is an important asset for gaining employment in unskilled manual work, for example, portering. This clearly related to health and nutrition. **Energy-health** related issues (lung and eye disease from smoke – women household and productive related; men productive. Illnesses associated with unboiled water). **Access to education and skills** (who within the household?) for energy service delivery creating employment opportunities formal (utilities or entrepreneur) or informal (charcoal selling; providing illegal connections).
Social	Exchange of goods and services; assistance to or from extended family networks (rural, urban, abroad); membership of community groups; nature of interaction with other households; level of social isolation.	**Networks and social relations** often determine an individuals access to resources: who can scavenge for fuel at a particular location, access to energy conversion technology owned by others (eg portable generator, sewing machine), access to knowledge and skills of others (electrician to legal wire house or make illegal connection), information about technical alternatives. Women's networks will be important for household reproductive needs; women's and men's for productive needs. How do new migrants cope? (Gender differences? Young single men – eat outside the household, young women at home?) Rural relatives bring charcoal while those abroad provide access to energy conversion equipment and devices.
Physical	Basic infrastructure for the supply of energy, shelter, water, transport and communications, production equipment and location for production and service provision (permanent structure/shop/stall/pitch)	**Access to energy** of appropriate form and quantity at affordable price directly affects livelihoods and health. **Access to energy conversion technologies** affects efficiency (technical and economic), which in turn influences health (drudgery reduction; reduced emissions, more comfortable working conditions). **Provision of energy services** (direct provision, eg charcoal, or support eg electric wiring) can be an income generating opportunity. **Transport services** need reliable and affordable energy supplies – influences entrepreneurial and employment opportunities. **Communication technologies** allow social networks to be maintained and opportunities related to production and services. Energy enables the **provision of services (**also livelihood opportunity) (eg charcoal for roadside restaurants; electricity – music). Housing quality may influence connection chances as well as spaced heating/cooling requirements.
Financial	Savings, credit, remittances, ownership of disposable assets (home, animals, means of transport eg bicycle, cart)	Many poor people are unable to get together **enough cash to invest in more energy efficient conversion equipment or benefit from bulk purchase discounts** (kerosene by the can rather than the cup) denying them cash savings. Renewable energy technologies have high up front connection costs but cheaper running costs than fossil fuels. **Privatisation** of energy services will probably bring changes to costs. Do cost changes influence the choices households make about the types of fuels they use, or do other factors play a role? Direct savings on energy expenditure and improved productivity help improve savings and reduce vulnerability. Within the household who makes the decisions on what investment, who has the assets to enable investment and who decides on how to use any savings?

		What are savings used for?
Livelihood Context		
Location	Location of community with respect to topography. Access to transport and other services. Climate.	**Location** affects choice of energy services and costs of improving infrastructure. **Access to transport** affects livelihood chances in terms of employment or goods. **Climate** influences the need for space heating or cooling and biomass combustion (wet fuel produces more smoke than dry).
Cultural environment	Ethnicity; religion; gender; urbanisation patterns.	These factors influence social networks and access to energy and other assets.
Political environment	Political parties; feelings of insecurity/uncertainty; feelings of political unconnectedness. Informal control through gangs etc., harassment by state institutions. Impact of rules, regulations and policies; access to identification documents and legal registration; taxation; zoning; regulations on informal trading.	**Privatisation and commercialisation** of energy services are a consequence of political processes which directly impact on poor peoples' lives – processes over which they may have no voice due to lack of legal recognition of urban citizenship since the poor are often squatters or lack relevant documentation proving **right of abode**. This situation can influence a utilities decision to provide a service. **Zoning** on environmental emission grounds (eg smoke) can have negative impacts on the poor (removing income generating opportunities) or positive impacts (by creating conditions which improve occupational health). **Taxation and other economic instruments** influences the affordability of energy resources and efficient conversion technologies. **Feelings of insecurity** of right of abode or entrepreneurial location will **hinder investment decisions** in energy efficient technologies. Likewise similar reactions are likely, if state institutions have negative attitudes to, or overlook the consequences of legislation and policies on, the informal sector.
Economic Environment	Macro-economic environment; urban economic base; employment and inflation trends; policies and attitudes towards informal sector activities; micro-finance.	What are the linkages between changes in the energy sector, in particular **privatisation and commercialisation policies**, and the economy? These can influence opportunities for poor people to become involved in energy service delivery, promote or hinder new enterprises and affect existing enterprises' profitability. They outcomes of such policies can also impact on poor people in other ways, such as health and time. Do energy policies recognise specific **urban energy issues**, particularly those faced by poor people? If state institutions have negative attitudes to, or overlook the consequences of legislation and policies on, the informal sector it may **hinder investment decisions** in energy efficient technologies either due to the creation of feelings of insecurity or lack of access to credit.
Institutional environment	Presence and importance of community level institutions; interaction with external organisations; control of resources by organisations; formal vs. informal institutions	While central government is responsible for creating the enabling environment, **local government** is often responsible for planning of urban energy infrastructure. Their attitude towards informal settlements and informal sector activities can be crucial in the delivery of the energy services poor people need for livelihoods to move themselves out of poverty. They can be responsible for transport infrastructure which affects the availability, reliability and cost of energy delivery costs and access to income generation and employment opportunities. They are responsible for regulation and permits associated with small-scale energy retail business (eg sale of charcoal). Often important in mobilising, organising and developing schemes to help the poor are **community based organisations and NGOs**. They can play important role in interventions to improve energy services at the local level, by identifying community needs and providing a resource base of knowledge about technologies. The **private sector**, often in partnership with central government, at one level is the supplier of conventional energy services, eg petroleum fuels, and energy related infrastructure. What are their policies

		and attitudes towards meeting poor peoples' energy needs, in particular do they recognise their problems in meeting high up-front costs? At the other end of the scale many **small and micro firms** are likely to be the main actor in the supply and use of energy services that are used by poor people (eg illegal retailers of electricity, sellers of kerosene, candles and charcoal/wood) and understand their constraints. Can they be facilitated to deliver better quality, affordable services, and more energy efficient technologies, to improve poor peoples' livelihoods?
Livelihood Strategies	Activities undertaken by each household member, level of contribution to household finances, access to employment, income generating activities, access to credit; diversification vs. dependence on single earner; flows of money, people and goods from rural areas and abroad.	Energy services can contribute to urban livelihoods in a variety of ways. **Gaining additional income** by selling energy services (fuels, such as charcoal, kerosene, LPG, and conversion technologies, such as stoves, lamps, batteries, electricity cards). **Gaining access to improved household energy services or fuel switching** (improved stoves; switching from candles to kerosene to electricity for lighting). Gaining access to improve energy services increasing production efficiency (eg through mechanisation) which in turn results in a greater ability to pay for improved energy services (who decides? Who benefits? In what way?). **Grouping with others to obtain access** to improved energy services for production, household consumption or community services (eg security lighting and communications technology) either by providing own services or lobbying utilities/govern-ment. Who makes the decisions within the household and who benefits from improved energy services in terms of health, timesaving and income are key gender issues in the urban energy-poverty nexus.
Nature of shocks	Occurrence, duration and nature of shocks; loss of assets due to shock; employment; illness.	The major energy related shocks have been associated with the availability and price of fuels, for example petroleum products due to commercialisation of prices, charcoal prices due to civil conflict, power cuts due to insufficient capacity. Rampant inflation also works against the urban poor more than rural poor since they are more integrated into a monetised economy – devaluing simultaneously their ability to buy commercial fuels and hiking fuel prices. All energy delivery systems are vulnerable to natural and man-made disasters, to war and conflict. These impact on income generation activities and have health impacts if people have to resort to lower quality fuels insufficient to meet their needs. Women are particularly vulnerable to these shocks since they are the main providers of household energy.
Livelihood outcomes.	Shelter, food, nutrition, health, water, education, community participation, personal safety.	Energy services can contribute to people achieving their livelihood goals in an number of ways: Increasing income (sale of energy services; energy related productivity gains; extending working day; access to liquid fuel based transport); increased well-being (improved street and household lighting; reduce indoor air pollution both in households and enterprises; reduced drudgery; improved information through radio, TV, telephone, internet; increased income generation opportunities through improved energy services).

Appendix 04 – Key Informants Interviewed

a) Neighbourhood of Canabrava

1. Liliane

Member of Odara Women´s Group, which is part of the *Grupo Cultural Beneficente Terreiro do Boiadeiro*, Liliane is a 25-yr-old young woman who has lived in Canabrava since she was 2 yrs old. She was one of the founders of the Youth Group ("Grupo de Jovens do Amanhã"); she was also a candidate to the Salvador City Council on the last municipal elections (October, 2004), but did not win. The Women's Group works with gender sensitizing and political and citizenship awareness, and includes women from 25 to 75 yrs of age. According to her, the neighbourhood has improved considerably since she was a child. However, a lot of problems still remain, among them, poor transportation services, absence of a 24 hr health clinic lack of security services by means of a police post, and lack of a high school in the neighbourhood. Liliane is also critical of the directors of the Biogas Plant, who have not tried to maintain a dialogue with the community. She feels that the Plant could do a lot more for the community.

2. Francisco Carlos

An on-and-off member of the Neighbourhood Council (*Conselho de Moradores*), Sr. Francisco is 51 yrs old and has lived in Canabrava for over 25 yrs. He has seen many changes in the neighbourhood, most for the better, but the neighbourhood still lacks a public sewage system, pavements in the streets, and an adequate junior high and high school. Improvements are hard to come because, as he puts it, "in Canabrava there is a war of leaders. Everybody wants to be a leader, but down deep nothing gets solved." Nevertheless, in his view, commercial establishments in Canabrava do well: "everybody who opens a little market here is doing well". He believes that, as true of other neighbourhoods in Salvador, so too in Canabrava, good jobs are hard to find. According to him, most of the men are construction workers who take on side or odd jobs.

3. Jaime Marques

President of the Neighbourhood Association (*Sociedade Recreativa Cultural Canabrava),* he has lived in Canabrava for over 27 yrs. During this period, the neighbourhood had important changes, such as piped-water services, electricity, and pavement in some streets. Nevertheless, most of the people in the neighbourhood still don't have a dignified place to live. There is still no sewage system ("there are a lot of open sewages running on the streets, people step on them"), only poor health services, precarious schools. There is no police post, security in the area comes through the individual contribution of residents, who pay for locals to ensure law and order. Likewise, public transportation is still precarious. Jobs are hard to come: Sr. Jaime is a contractor for construction work and there are always lots of people asking him for jobs.

4. Vera Lúcia

One of the founders of the Mono Odara Women's Group, Vera Lúcia has lived in Canabrava for the last 16 yrs. However, prior to moving to Canabrava, she did social work in the neighbourhood, including the creation of a day-care centre. For her, the worst problem in Canabrava is the rise of violence, which is terrifying to residents. The health clinic is also too small and too precarious for the neighbourhood, and public transportation still falls behind local needs. According to her, the school also function in poor conditions, not only in terms of precarious installations, but also in terms of the disdain and irresponsibility of the teachers. She says she was part of a group of concerned citizens who went to see the mayor and the Secretary of Education to ask for a new school, with junior and senior high grades. Supposedly, money has been released for the construction of the school but, to this day, construction of this new school has not started. The neighbourhood also lacks a community day-care centre, and a police post. But she believes that the police has to change its attitude towards local residents; policemen treat the residents as "marginal", as "criminals". Vera Lúcia also complains about the treatment given to the community by the Biogas Plant people. According to her, they ignore the community: "The work is done directly with the Mayoralty. It is Mayoralty Canada, Canada Mayoralty. The Community is marginalized, it is never asked to participate. We know about most of the things there after they are already underway".

5. Lomanto

His real name is Ubiratan, but everybody knows him as Lomanto. He is 41 yrs old and has lived in Canabrava for 27 yrs. At present, he is the Communications Director for the *Sociedade Cultural e Recreativa de Canabrava* as well as a member of the *Movimento Nacional dos Catadores*, the National Movements of Garbage Sifters. He is also working in the new Ecological Garbage Sifters' Cooperative – CAEC (*Cooperativa de Agentes Ecológicos de Catadores de Canabrava*). This cooperative sifts garbage for recyclable materials, both for sale as well as for the confection of handcrafts. In this cooperative, work both men and women, most of them people who used to sift garbage for a living in the Canabrava landfill. Mr.Lomanto was part of the group of garbage sifters who first organized to demand better working and living conditions in Canabrava. He believes that a lot of good changes have come about in his neighbourhood, however, the community still suffers with the lack of public sewage services and high unemployment rates.

6. Lília

Lília is a 25 yrs-old elementary school teacher who has lived in Canabrava for almost all her life (24 yrs). She is also one of the leaders of the local group *Grupo Cultural Bicho da Cana,* a group that has worked with nearly 180 children since its creation, two and a half years ago, in an after school program. According to Lília, the group aims at "recovering their black roots", that is, their Afro-Brazilian culture, working with traditional Afro-Brazilian music and dance. Children in this Program have classes to improve their regular school performance as well as percussion musical instruments classes, singing and dance lessons, theatre

classes, and workshops where they learn how to recycle garbage from the plant. According to Lília, the neighbourhood has changed considerably within the last decade, particularly after it ceased to be the city garbage dump. She believes now the neighbourhood is no longer discriminated against. But there is still a long way to go, still a lot of problems to face, such as lack of schools, a better health clinic and the sewage system. For Lília, the community will struggle to this; she has faith in the community, and has given the example that a lot of local residents and commercial establishments have contributed in funding 60 Christmas goods baskets to help 60 very poor families in the neighbourhood have a better Christmas.

b) Neighbourhood of Plataforma

7. D. Lina

D. Lina is a 60yrs old woman who has lived in Plataforma for over 50 yrs. She worked in the local factory until it closed (in 1963). She has also ran the Neighbourhood Association's (AMPLA) bakery, had a little grocery store with a small bakery, and, at present, deals with the buying and selling of metal pieces. She has seen a lot of changes during her lifetime in Plataforma – it had no electricity, no sewage system, and no running water in the houses when she was a girl. However, even though they now have a relatively good infrastructure in the community, they have lost in terms of security. Back then, she said, "We had happiness". She is concerned, in particular, with the rise of violence in the community, a development that she attributes to the rise of unemployment, because it leads into "drugs". Also, she believes there are not enough schools in Plataforma, and that the transportation services are leaving a lot to be desired. Though she belongs to AMPLA, she is critical of the way it is being ran at the moment. She has not been able to participate in AMPLA as much as she would like because she has been quite ill in the past few years. Besides having a heart attack, she also suffers of diabetes.

8. Sanoli F. Lima

Sanoli is 36 yrs old, and has lived in Plataforma all her life. She is D. Lina's daughter and participates in AMPLA because the "mother is ill and can no longer be in all movements". Sanoli also works as a teacher and monitor at AMPLA's day-care centre. According to her, Plataforma's main problems are related to the rise of violence, lack of enough schools and shortage of services in the health clinic. She believes that the teachers working in the public schools have no commitment to education. The community also suffers with the high rate of unemployment among the residents. Violence against women also rates high in Plataforma; there used to be group at AMPLA that worked with battered wives, but it is no longer in operation.

9. Padre Salvador Medina

Father Salvador is a native of Colombia who has been living in Brazil for 12 years, the last three working in Plataforma. According to him, Plataforma has been going through a process of impoverishment – economic, environmental,

spiritual and moral. It has become chaotic. Nonetheless, the Project Ribeira Azul, a government project, has invested in the recovery of the environment, particularly of the bay, and things are getting a little better, with the return of shellfish to the bay. They have also invested in social improvements such there are no longer houses on sticks in the water ("palafitas"), stucco houses have been built, and title to the property has been given to the women. There has also been some improvement with social intervention by NGO's in partnership with governmental agencies. The problem is that there is not the necessary articulation between programs, so there is a lot of duplication of efforts. Residents of the area are becoming more politically conscious. Yet, despite the fact that there is a Congressman and a City Councilman from the area, elected with local votes, residents do not pressure them enough. The local economy is very fragile; there are no longer factories or other big enterprises in the area. People live of the informal market.

10. Jorge dos Anjos Pimentel

Has lived in Plataforma for 25 years. He runs the local community radio, which is "gospel", that is linked to one of the evangelical churches in the neighborhood. According to him, Plataforma is a neighborhood with a long tradition, but which still suffers from lack of decent infrastructure, such as poor sanitation resources, insufficient schools, deficient health care (people are forced to go to other neighborhoods to get good care) not enough daycare centers, lack of good police support, and so forth. One of the major problems is public transportation; sometimes people have to wait over an hour for a bus to come, and it usually is dilapidated, in terrible conditions.

PARTICIPANTS IN FOCAL GROUP – PLATAFORMA

11. Cássia - Does not participate in any formal local group. Is a military policewoman (Polícia Militar). Recently, helped a neighbor who was dying at home alone; she was among a small group of people who had him removed to the hospital (he died on the way).

12. Fábio – He is Cassia's brother; he does not participate in any formal local group, but is very outspoken and was among the group of people who helped in taking the dying neighbor to the hospital.

13. D. Maria de Lourdes - She is a retired factory worker. She has worked at AMPLA (Plataforma Neighborhood Association) for 14 years teaching crochet and tapestry, but had to quit last year because of heart surgery.

14. D. Janete – Member of the Church of São Braz Association. She is a retired teacher who has lived in Plataforma for over 40 years. She was a teenager when she moved in. Although she taught at schools in the neighborhood, she said she only began to get involved in social projects in the area when she was near retirement. She does not work

with AMPLA because she believes they are too far removed from reality in the neighborhood, and to closed into itself.

15. Maria Helena - Member of the Diabetics Association and of the Church of São Braz Association. She has lived in Plataforma for over 56 years.

16. Leandro – Member of the United Group for the Prevention of AIDS. It a group of mostly young people that was created five years ago. They administer the Milton Santos Community Library, and sensitize and train young people as multipliers on human rights. He also is part of the Coordinating Committee of Koe Quilombo, which is a course to prepare black students from the neighborhood for admittance into the university.

17. Lídia Lúcia - Member of the Church of São Braz Association. Was born and raised in Plataforma. She used to participate in the *capoeira* group, but is on maternity leave. She says that she is interested in everything about the neighborhood and came to this meeting because she wants to participate.

18. Lúcia - She is a member of the Church of São Braz Association. She is also very interested on her neighborhood and believes that AMPLA is too closed into itself, nobody knows what happens in there. She states that she "believes" in Plataforma; she love to stroll through the neighborhood, for her, there is no other place to be.

19. Fabíola - She was born and raised in Plataforma. She participates in GAPA, a NGO working for the prevention of AIDS.

20. Lizete She believes that the priority for Plataforma is "union

21. Nide - From Snow White School. She is from Bahia, lived in São Paulo, but has lived in Plataforma for over 20 years. She states that when she moved to Plataforma it was a "forgotten place". She complained about the politicians from the neighborhood; once elected, they forget the former neighbors. She also claims that her street is safe, never a mugging. She has put three children through college, working as a seamstress

PARTICIPANTS IN FOCAL GROUP - CANABRAVA

22. Josemar , is a member of the Boaiadeiro Candomblé House.

23. Lucivalda, member of the Boiadeiro Candomblé House.

24. Joceval, Canabrava resident.

25. Robson Carvalho, member of the Amélia Rodrigues Prayer House.

26. Nilcéia de Freitas, member of the Amélia Rodrigues Prayer House.

27. Luis, member of the Divine Light Group.

28. Edilma , Canabrava resident.

29. Jorgina, Canabrava resident.

30. Joana Ramos dos Santos, member of the local Catholic Church.

31. Ubiratan Santa Bárbara, member of the National Movement Recyclible aterials Collector, and Bicho da Cana education group.

32. Silvonete Member of the Boiadeiro Candomblé House.

Appendix 05 – Household and Enterprise Questionnaires

HOUSEHOLD QUESTIONAIRE

1. Name
2. Address
3. Date

HOME AND FAMILY CHARACTERISTICS (to be filled out after)

4. Total family Income_____
   In minimum wages_____

5. Type of Family
☐ Individual ☐ Mother & Children ☐ Others_____
☐ Couple ☐ Father & Children
☐ Parents & Children ☐ W/other parent

6. People under 10___

7. People Over 10____

8. Head of Household: Feminine __ Masculine__

9. Occupation of Head of Household_____

10. Education of Head of Household____

11. Religion of Head of Household_____

12. Age of Head of Household_____

13. Color of Head of Household_____

HOUSEHOLD LIVE AND PHYSICAL CONDITIONS

Questions to ask:

14. Type of Household
☐ House
☐ Apartment
☐ Room (without BATHROOM INSIDE)

15. If house:
☐ Ground Floor ☐ 2nd Floor
☐ 1st Floor ☐ Back Part

16. If house:
☐ Dependent
☐ Independent

17. Type of covering:
☐ Tile, Ceramic
☐ Tile, Asbestos (inside)
☐ Paving
☐ Others

18. Wall Material:
☐ Brick work
☐ Brick
☐ Plaster
☐ Mud wall
☐ Other

19. Number of rooms _____

20. Condition of occupation
☐ Private ☐ Full
☐ Rented ☐ Other
☐ Lent

21. Land Condition
☐ Private ☐ Full
☐ Hired ☐ Other
☐ Borrowed

22. Garbage disposal:
☐ Direct collect
☐ Indirect collect
☐ Burned/covered
☐ Other

D. CONSUMPTION DE ENERGY

23. Do you have access do light services?
☐ Yes
☐ No

24.Do you have a Meter?
☐ Yes
☐ No

25. If YES, what kind?
☐ Shared
☐ Individual
☐ N/A

26. Type/System:
☐ Monophase
☐ Biphase
☐ Triphase
☐ Does not have
☐ Don't know

27. Monthly energy use - June 2004 (KW):_____

28. Who did electrical installation?
Paid professional? ☐ Yes ☐ No

29. Who does the electrical maintenance?
Paid Professional? ☐ Yes ☐ No

30.Appliances: **(READ ALTERNATIVES)**
☐ Color TV
☐ TV B&W
☐ Freezer
☐ Radio
☐ Cellular
☐ Washing machine
☐ Videogame
☐ Videocassette
☐ Microwave
☐ Blender
☐ Computer
☐ Refrigerator
☐ Electric Shower Head
☐ Stereo
☐ Computer w/Internet
☐ Ventilator
☐ Others_____

31. What did you do to save energy?
☐ Turn off appliances
☐ Reduce time appliances are used
☐ Substitute appliances
☐ Others_____
☐ Nothing

32. What do you do to save energy?
☐ Turn off appliances
☐ Reduce time appliances are used
☐ Substitute appliances
☐ Others_____

33. Is COELBA a governmental agency?
☐ Yes
☐ No
☐ Don't know

34. After privatization the services:
☐ Improved
☐ Became worse
☐ Stayed the same

35. What are the main problems with these services
☐ Inconsistent Energy
☐ Price
☐ Maintenance
☐ Don't know
☐ Others_____

36. From 0 to 10, how are COELBA's services?_____

37. Do you know what a low-income consumer is?
☐ Yes
☐ No

38. Have you heard of the 60% discount for low-income consumers?
☐ Yes (next question)
☐ No

39. Have you registered at COELBA?
☐ Yes
☐ No

40. Why not? _____
_____

41. Are you receiving the discounts?
☐ Yes
☐ No
☐ Don't know
☐ Does not apply

E. CONSUMPTIONS OF OTHER FORMS OF ENERGY

42. What do you use to cook?
☐ LPG
☐ Fire wood (if yes, fill out FIREWOOD box)
☐ Charcoal
☐ Does not cook
☐ Other _____

43. Does your family produce charcoal?
☐ Yes
☐ No

44. If YES, it is:
☐ Used at residence ☐ Both
☐ Sold

45. If sold, who gains profit from this activity?
_____

46. Do you use kerosene for illumination?
☐ Yes
☐ No

47. If YES, does the smoke bother you?
☐ Yes
☐ No

48. Fuel consumption/month **(READ ALTERNATIVES)**

ENERGY SOURCES	UNIT	QUANTITY	VALUE (R$)
Electric Energy	KW/h		
Batteries	Units/month		
Alcohol	Liter		
Charcoal	Kg		
Diesel	Liter		
Gas (LPG)	Large Tank		
	Medium Tank		
	Small Tank		
Gasoline	Liter		
Firewood	Bundle		
Kerosene	Liter		
Candles	Units/month		

FIREWOOD

49. In case of firewood usage, origin:
☐ Collected by family
☐ Bought

50. Location of collection?
_____

51. Location of firewood stove:
☐ Inside of house
☐ Outside of House

52. Is smoke present inside of house?
☐ Yes
☐ No

53. Does the smoke bother you?
☐ Yes
☐ No

F. TREATMENT & CONSUMPTION OF WATER

54. Water supply: Internal water pipe
☐ Yes
☐ No

55. Water supply:
☐ General network
☐ Water well/water sources
☐ Other _____

56. Sewer Drainage
☐ Collection network ☐ Does not have
☐ Septic Tank ☐ Other _____
☐ Cesspool _____

57. Where do you store drinking water?
☐ Clay Pot ☐ Barrel
☐ Cistern ☐ Others_____
☐ Refrigerator

58. The drinking water is:
☐ Purified (bought) ☐ Boiled
☐ Filtered ☐ Other _____
☐ Without treatment

59. Where does the family do laundry?
☐ At home
☐ At the community laundry reservoir
☐ River/lake
☐ Other _____

60. Do you have a water pump?
☐ Yes
☐ No

61. How much is spent/month on water? R$_____

62. EMBASA is: ☐ Public
(READ ALTERNATIVES) ☐ Private
☐ Don't know

63. From 0 to 10, EMBASA´s services are: _____

64. EMBASA´s main problems:
☐ Lack of water ☐ Maintenance
☐ Price ☐ Others _____

G. WELL BEING

65. Which food is part of your family's diet:

☐ Rice	☐ Bread	☐ Milk
☐ Beans	☐ Vegetables	☐ Sweets
☐ Manioc flour	☐ Legumes	☐ Pasta
☐ Meat	☐ Fruits	☐ Chicken
☐ Others_____	☐ Eggs	☐ Fish

66. Do you consider this satisfactory?
☐ Yes
☐ No

67. If NO, which items are missing?

☐ Rice	☐ Bread	☐ Milk
☐ Beans	☐ Vegetables	☐ Sweets
☐ Manioc flour	☐ Legumes	☐ Pasta
☐ Meat	☐ Fruits	☐ Chicken
☐ Others_____	☐ Eggs	☐ Fish

68. How is your family's heath?
From 0-10? _____

69. Is there a physically-challenged member?
☐ Yes
☐ No

70. Type: _____

71. Who? _____
_____

72. Which are the most frequent illnesses in your family?
(READ ALTERNATIVES)
☐ Respiratory Problems ☐ Parasites
☐ Coughing ☐ Tired eyesight
☐ Hoarseness ☐ High blood pressure
☐ Sinusitis ☐ Eye irritation
☐ Back pain ☐ Others_____
☐ Diarrhea

73. In the family, who gets sick more often?
(READ ALTERNATIVES)
☐ Children ☐ Adults ☐ Elderly

74. Main problems that affect your family at the moment?
☐ Lack of Money ☐ Drugs
☐ Illness ☐ Other _____
☐ Family Conflicts _____
☐ Unemployment
☐ Violence

75. What does "well-being" mean to you?

76. What type of leisure does your family enjoy?
(READ ALTERNATIVES)
☐ Watch TV
☐ Play Sports
☐ Go to parties
☐ Talk with friends
☐ Videos
☐ Beach
☐ Videogame
☐ Others

77. Does your neighborhood have options for recreation?
☐ Yes ☐ Don't know
☐ No

78. If YES, what kind of recreation?

79. What options are missing in your neighborhood?

80. Are there community programs in your neighborhood?
☐ Yes
☐ No
☐ Don't know

81. If YES, which ones?

82. From 0 -10, how are the conditions in your neighborhood: ___

83. In your opinion, what is the main problem in your neighborhood?
☐ Lack of service ☐ Drugs (legal/ilegal)
☐ Lack of Infrastructure ☐ Other
☐ Security/Violence

H. ACCESS TO GOVERNMENT BENEFITS FOR THE FAMILY

84. Have you received any type of government benefit?
☐ Yes ☐ Don't know
☐ No

85. Which one? **(READ ALTERNATIVES)**
☐ PETI ☐ Vale gás
☐ Bolsa escola ☐ Bolsa família
☐ Bolsa alimentação ☐ Others
☐ Does not apply

86. Have you registered for the Bolsa Familia program?
☐ Yes
☐ No
☐ Does not apply

87. If YES, are you receiving the benefit?
☐ Yes
☐ No

88. How did you find out about these programs?
☐ Friends ☐ TV/Radio
☐ Neighbors ☐ Escola
☐ Government Agent ☐ Other Sources

89. How do you use the money from the benefits?
☐ Food
☐ Clothing
☐ Home use
☐ Recreation
☐ Others
☐ Does not apply

90. If you had more benefits, how would you use the money?
☐ Food
☐ Clothing
☐ Home use
☐ Recreation
☐ Others

IN YOUR RESIDENCE, WHO DECIDES ABOUT:

	Chief	Spouse	Couple	Son(s)	Daughter(s)	Other Relatives	Other Person	N/A
91. Who should work								
92. How to spend the family income								
93. Children's Education								
94. Where to Live								
95. Energy Usage								
96. Leisure Expenses								

IN YOUR RESIDENCE, WHO IS RESPONSIBLE FOR:

	Chief	Spouse	Couple	Son(s)	Daughter(s)	Other Relatives	Other Person	N/A
97. Household chores								
98. Taking care of children								
99. Taking care of sick and elderly								
100. Rents and home improvements								
101. Paying for gas and light								
102. Paying for food								
103. Paying for healt costs								
104. Paying for education								
105. Paying for clothing								

IN YOUR RESIDENCE, WHO PARTICIPATES IN:

	Chief	Spouse	Couple	Son(s)	Daughter(s)	Other Relatives	Other Person	Nobody N/A
106. Association of Residents								
107. Church Groups								
108. Recreation Clubs								
109. Groups with Similar Interests								
110. Sport Clubs								
111. Political Parties								
112. Cooperations								

J. IDENTIFICATION OF ENTERPRISE IN RESIDENCE

113. Does someone has an enterprise?
☐ Yes
☐ No

Who? _____
_____
_____

114. Sex?
☐ Male
☐ Female

115. Position in the family _____

116. Type of activity _____

117. In the residence?
☐ Yes
☐ No

(If positive, please fill out questionnaire "B")

118. Did someone had an enterprise before?
☐ Yes
☐ No

Who? _____
_____
_____

119. Sex?
☐ Male
☐ Female

120. Position in the family _____

121.Type of activity _____

122. Why did it stop? _____
_____
_____
_____

Enterprise Questionaire

A. IDENTIFICATION OF ENTERPRISE/FAMILY BUSINESS

1. No. of questionnaire: _____
2. No. of household questionnaire: _____

3. Age: _____
4. Sex: M 01 / F 02

5. Type of business:

	Yes	No
Commerce	01	02
Production	01	02
Services	01	02

B. CHARACTERISTICS OF ENTERPRISE/FAMILIY BUSINESS

Business location

	Residence	Independent	Street
6. Production	01	02	03
7. Sales	01	02	03
8. Service	01	02	03

If independent:

Type

	Mobile	Fixed	N/A
9. Production	01	02	09
10. Sales	01	02	09
11. Services	01	02	09

Location

	Own Neigborhood	Other Neigborhood	Central Region	N/A
12. Production	01	02	03	09
13. Sales	01	02	03	09
14. Services	01	02	03	09

15. Do you pay rent?
Yes 01
No 02

16. If yes, how much ren R$ _____

17. How long has the business been in existence?
Less than 1 year 01
1 to 2 years 02
2 to 3 years 03
3 to 4 years 04
4 to 5 years 05
More than 5 years 06

18. Is your business legally registrated?
Yes 01
No 02

19. If yes, for how long?
Less than 1 year 01
1 to 2 years 02
2 to 3 years 03
3 to 4 years 04
4 to 5 years 05
More than 5 years 06

20. Do you work alone?
Yes 01 No 02

21. If you don't work alone, what is the number of employees?
1 to 2 01 More than 3 03
2 to 3 02 N/A 09

22. Work schedule: _____

Days of the week	Yes	No
23. Monday	01	02
24. Tuesday	01	02
25. Wednesday	01	02
26. Thursday	01	02
27. Friday	01	02
28. Saturday	01	02
29. Sunday	01	02
30. Holidays	01	02

31. Average hours/day _____

32. Is your business seasonal?
Yes 01
No 02

33. If seasonal, what period of the year do you function? _____

34. Does your business function only when their are means/capital?
Yes 01
No 02

C. TABLE OF EMPLOYEES

35.

Sex		Age	Relative		Is he/she paid		How much?						Hours of work per day	Legally registrered?	
F	M		Yes	No	Yes	No	- 1S	1SM	2SM	3SM	+ 3SM*	N/A		Yes	No
01	**02**	**(open)**	**01**	**02**	**01**	**02**	**01**	**02**	**03**	**04**	**05**	**09**	**(aberta)**	**01**	**02**

* SM - Salário Mínimo (Minimum Salary)

D. EDUCATION AND TRAINING COURSES

36. How did you learn your profession?
Family 01
By yourself 02
Courses 03

37. If other, specify: _____

38. In case of courses, list the most recent one(s)

Name of course	When? Month/Ye	Technical/ Manageme	Organization	Number of hours	Value (0-10)	Did it contribute to your business	How?

E. TAXES AND IMPOSITIONS

(to be answered only in case of a legally registered business)

39. Do you know the taxes you need to pay for?

Yes	01
No	02
N/A	09

40. Do you have an accountant?

Yes	01
No	02
N/A	09

41. Do you use the option of Simple Ta

Yes	01
No	02
Don't know	10
N/A	09

* Simple Tax is a Brazilian option for micro and small businesses that joins all taxes in a single one.

Are the taxes being paid on time?

		Yes	No	N/A	Don't know
42.	Simple Tax	01	02	09	10
43.	ICMS (for commerce)	01	02	09	10
44.	ISS (for services)	01	02	09	10
45.	Cofins (Social Security Contribution)	01	02	09	10
46.	PIS (Social Integration Program)	01	02	09	10
47.	Social Contribution	01	02	09	10
48.	Income Tax	01	02	09	10
49.	License for operating	01	02	09	10
50.	Firemen tax	01	02	09	10

F. FINANCES

51. Did you acquire a loan?

Yes	01
No	02
Don't know	10

52. If yes, how many times?

1	01
2	02
3 or more	03
N/A	10

What is the value of the most recent loan(s)?

		-100	100-500	501-1000	1001-1500	>1500	N/A
53.	1st	01	02	03	04	05	09
54.	2nd	01	02	03	04	05	09
55.	3rd	01	02	03	04	05	09

The loan(s) where in name of:

	56. 1st	**57.** 2nd	**58.** 3rd
Own name	01	01	01
Husband	02	02	02
Wife	03	03	03
Father	04	04	04
Mother	05	05	05
Sons	06	06	06
Daughters	07	07	07
Other relative	08	08	08
N/A	09	09	09

Source of loan(s)

	59. 1st	**60.** 2nd	**61.** 3rd
Credit institution (Bank, financial enterprise)	01	01	01
Goverment	02	02	02
NGO's, cooperatives, associations	03	03	03
Relatives	04	04	04
Friends	05	05	05
Loan shark	06	06	06
N/A	09	09	09
Don't know	10	10	10

G. INCOME AND EXPENSES

62. Average monthly income:

63. Main product/services

Identification Product/Service	Quantity	Time unit (day/week/month)	Sales price

64. Main expenses:

Identification Expenses (drinks, ingredients for sandwiches,	Quantity	Time unit (day/week/month)	Purchase price	Place of purchasing

65. How do you calculate your sales prices?

Based on the costs	01
Based on the price at the market	02
Don't know	10

H. ENERGIA/TECNOLOGIA

What energy sources are used in every process phase of the enterprise?

	Electricity 01	Battery 02	Alcohol 03	Charcoal 04	Diesel 05	LPG 06	Gasolina 07	Firewood 08	Kerosene 14	Water 15	N/A 09	Don't know 10	None 13
66. Production													
67. Storage													
68. Service													
69. Transport													

70. If other forms of energy are used, specify:

71. If the price of one of these types of energy increases, what will you do to compensate?

Production

Storage

Service

Transport

72. Electricity meter:

Apart from the household	01
The same of the household	02
N/A	13

73. Type of electricity installation:

Monophase	01
Biphase	02
Triphase	03
N/A	09
Don't know	10

74. Equipment that is used in your enterprise that requires energy input (electric, combustible etc.)

I. Monthly consumption

75. How much electric energy do you use per month (kW/h or in R$) in your

76. Monthly consumption of LPG (litres)

1 to 2 big conteiners	01
More than 2 big conteiners	02
1 to 2 medium conteiners	03
More than 2 medium conteine	04
1 to 2 small conteiners	05
More than 2 small conteiners	06
Don't know	10
N/A	13

77. Monthly consumption of gasolina (litres)

10 to 30	01
More than 30	02
Don't know	10
N/A	13

78. Monthly consumption of firewood (beams)

5 to 10	01
More than 10	02
Don't know	10
N/A	13

Comsumption of other sources of energy:

		1 to 5	More than 5	Don't know	N/A
79.	**Battery**	01	02	10	13
80.	**Alcohol**	01	02	10	13
81.	**Charcoal**	01	02	10	13
82.	**Diesel**	01	02	10	13
83.	**Kerosene**	01	02	10	13

J. ILLNESSES AT WORK

84. How is the health of your employees? From 0-10?

Bad (0-4)	01
Average (5-7)	02
Good (8-9)	03
Excellent (10)	04

85. What are the most frequent illnesses amoung your employees?

	Yes	No
Respiratory Problen	01	02
Coughing	01	02
Hoarseness	01	02
Sinusitis	01	02
Back pain	01	02
Diarrhea	01	02
Parasites	01	02
Tired eyesight	01	02
High blood pressure	01	02
Eye irritation	01	02

86. If there are other illnesses, specify:

87. Are one of more of these illnesses related to the work?

Yes	01
No	02
Don't know	10

88. Do(es) the illness(es) harm your business?

Yes	01
No	02
N/A	09
Don't know	10

89. If yes, how?