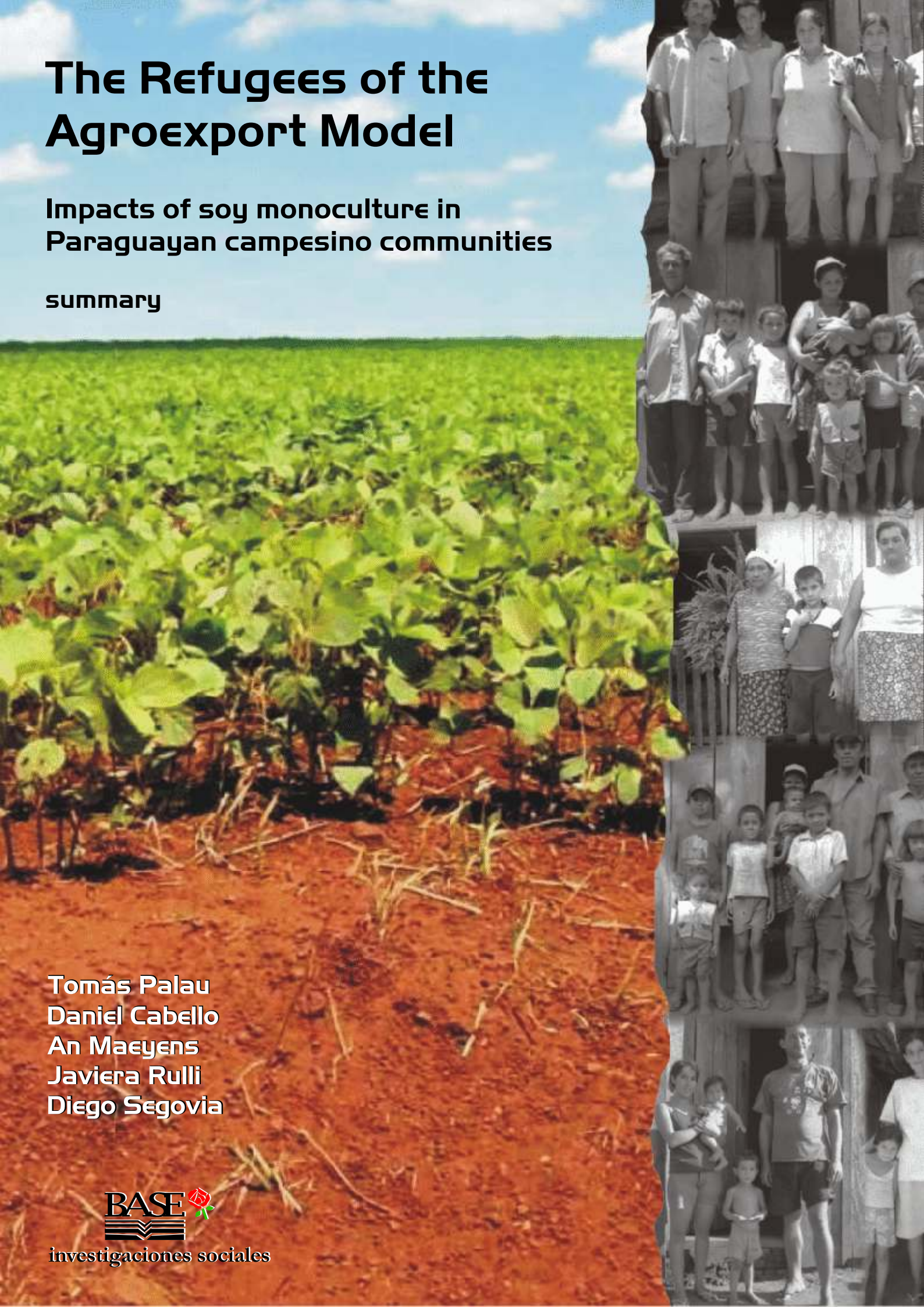
The Refugees of the Agroexport Model

Impacts of soy monoculture in Paraguayan campesino communities

summary



Tomás Palau
Daniel Cabello
An Maeyens
Javiera Rulli
Diego Segovia

BASE investigaciones sociales

CONTENT

THE REFUGEES OF THE AGROEXPORT MODEL
Impacts of soy monoculture in Paraguayan campesino communities
SUMMARY

e-mail: baseis@baseis.org.py
telephone: 595 21 451217
fax: 595 21 498306
www.baseis.org.py
Ayolas 807
baseis@baseis.org.py

This publication has been made possible with the support of Diakonia (Christian Development Organization),
ICCO (Interchurch Organization for Development Cooperation) and
A SEED (Action for Solidarity, Environment, Equality and Diversity)
and with colaboration of GRR Argentina (Grupo de Reflexión Rural).
Asunción-Paraguay
Cover and design: Violeta Doldán
Edit: Lisy Mijnhardt and Anton Pieper
Translation: Kregg Hetherington, April Howard, Jessica Weisberg, Jorge Minguet, Elly Janssen and Oliver Brock
The digital version can be found on www.lasojamata.org

Preface

This publication is a summary of the book *The refugees of the agroexport model: Impacts of soy monoculture in Paraguayan campesino communities*[1]. It was realized by BASE Investigaciones Sociales, supported by Diakonía (Sweden), A SEED Europe and ICCO (The Netherlands), with contribution from GRR (Argentina). The primary data of the research, which this book is the result of, was gathered between October and February 2007.

In this summary the emphasis is put on the analysis of the situation of *campesinos*[2] that have had experience with soy cultivation, but also on the ones that were expelled from their communities by the effects of an agricultural model based on soy monocultures. The book elaborates on the general effects on the campesinos (who do or do not cultivate soy themselves) of this new form of dependence on primary exports which Paraguay has been submerged in for a number of decades (based on the technological package of genetically manipulated seeds).

1. The original title of the publication in Spanish is *Los refugiados del modelo agroexportador. Impactos del monocultivo de soja en las comunidades campesinas paraguayas.*
2. *Campesino* could be translated as peasant. The authors, however, prefer using the term campesino as this involves a very different connotation.

1. Introduction

1.1 General Characteristics of Paraguay

Paraguay is a small country of only 406.700 km^2, situated in the heart of the Southern cone of South America. It is divided by the Paraguay river into two large ecological regions. The eastern or Chaco region covers 61% of the national territory, and is home to only 3% of the population. The western region or *Oriental*, once covered by the Paraná Atlantic Forest, houses the majority of the Paraguayan population and is the agricultural heart of the country. The best arable soils are found in this region, concentrated in the departments of Alto Paraná, Canindeyú, Amambay, San Pedro and Caaguazú.

Paraguay has a population of approximately 6.7 million inhabitants, with another 1,2 million living and working abroad. With a per capita GNP (4800 USD), the country ranked 136th in 2006.

46,4% of Paraguayans live below the poverty line, and 21% live in extreme poverty (DGEEC 2004). In the countryside these percentages are even higher. In 2002 (the date of the last census), 43.3% of the population lived in rural areas, a drop of 6.3% over the previous seven years. Out of every thousand children 37 die at birth, and 31 die before the age of five.

Map 1. The Paraguayan Territory

1.2 The origins of soy monoculture in Paraguay

The first soy boom began in Paraguay at the end of the 1960s, following the immigration of Brazilian farmers along the country's Western border. These farmers arrived as a result of the Green Revolution in southern Brazil. During that period, the Brazilian military government quickly modernized agricultural production, sending small and medium producers to seek their fortunes on the border lands of their small eastern neighbour Paraguay (Palau and Heikel, 1987). Large Brazilian companies appropriated, through questionable means, vast tracts of land in this region, and contracted Brazilian labour to transform the forest into land fit for extensive monoculture.

This first expansion of mechanized agriculture displaced old and recent settlements populated by Paraguayan campesinos with the help of the Paraguayan Institute for Rural Welfare (IBR)[3]. This period was marked by the appearance of landless campesinos, both Paraguayan and Brazilian, who lived informally on land until it was cleared, at which point they were replaced by mechanized farms. The appropriation of these lands by Brazilian settlers (practising mechanized agriculture) played into Brazilian international relations as well as the Paraguayan National Security Doctrine[4], as it helped to debilitate the campesino resistance in Paraguayan rural areas[5].

Photo 1. Soy monoculture surrounds left over plots in Itapúa

3. The IBR or Institute of Rural well-being was the governmental institution responsible for land reform programs and as such for the settling, forming and legalizing of settlements for landless peasants.
4. At that time this doctrine, driven in Brazil by Goldbery de Couto e Silva, had a wide repercussion on president Stroessner's policies. The latter studied in the Military College of Brazil.
5. This is the main reason for the settling model: a reticule grid of a main road with side-streets every two kilometres, right and left. Each plot is 20 ha: 200 metres along the main road and 1.000m deep. The entry of every street was controlled by a family with close ties to the governing party. They acted as informants to the authorities, closely watching every movement in the area.

The beginning of the new millennium Paraguay saw the second soy boom[6], this one being produced by the introduction of genetically manipulated seeds from Argentina and Brazil. During the 1999/2000 harvest, the annual growth of soy farms reached 170.000 hectares. The infrastructure for export was built, controlled by multinationals, including agrochemical manufacturers Monsanto, Syngenta, BASF, Bayer, Dow AgroSciences, Pioneer, and the international grain and oilseed traders Cargill, ADM and Dreyfus.

Since there is no more state owned land for soy producers to expand on, the growth of these mechanized farms comes at the expense of campesinos' lands, pasture and what is left of the forest. The serious environmental impacts of this latest expansion are aggravated by the razing of the last swatches of forest and the uncontrolled use of pesticides. Just as dramatic are the social consequences in this country, already in a long economic recession, now facing the eviction of masses of campesino families from their lands.

Campesino culture vs. industrial farmers

The traditional campesino production differs historically from modern farm production, which aims at growing crops at a large scale. Traditional agriculture consists of a diverse small scale production to provide for the family and local market needs. The main crops are cassava, peanut, sweet potato, corn, courgette and a variety of beans, vegetables and fruits such as bananas, guava, mango, pineapple. Land is ploughed either with oxen or manually. In addition, a variety of livestock, such as cattle, pigs, poultry and ducks are kept. Traditionally, the jungle was a source of additional food; fruit gathering, hunting and fishing. The benevolence to the climate, the abundance and fertility of the subtropical wild-rural landscape generated a cultural pattern of campesino communities where the pillars of the social ethics were solidarity, equality, reciprocity, redistribution and no accumulation. Historically the campesinos called themselves *mboriaju rybata* - "bellyful poor".

On the other side, Brazilians and colonial settlements in Paraguay implemented a mechanized agriculture similar to that of farmers in the US and Canada. Following the practices of the Green revolution and today's genetic engineering, the production is based on income export crops, where commodities to assist international demand have replaced the production of food for local markets. Farmers' communities are characterized for being highly religious, strict, closed, and based on a protestant ethics where the austerity, work and effort are the main moral pillars.

Transgenic soy is today the main farmer crop, with a productive cycle of two yearly harvests and a winter rotation with green pastures. Production is made on great areas and size is a priority, for what riverside forests and green corridors are deforested. This production system is highly dependent on capital needed to buy seed, pesticides, and vehicles. The economic efficiency of the system is based on the minimal needs to employ workers. This agriculture substitutes labour for capital in the form of machinery and chemical supplies.

1.3 The soy expansion

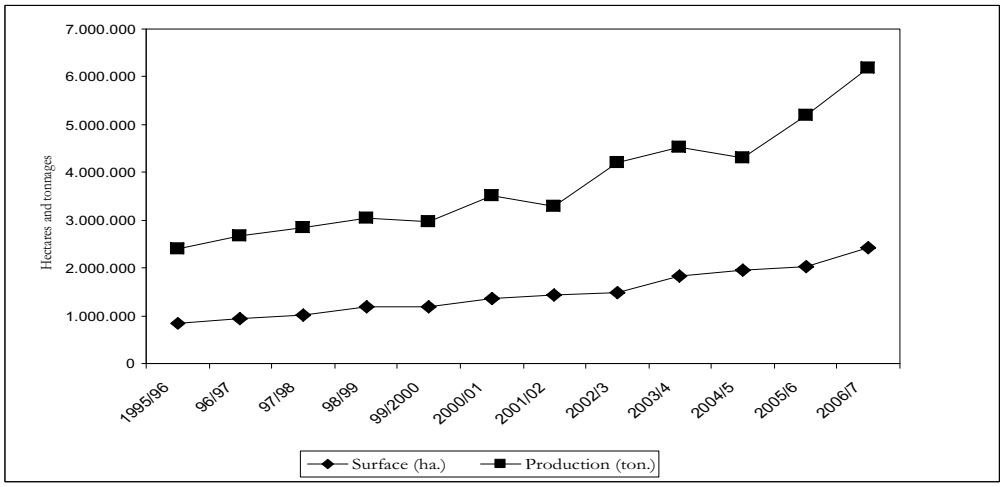
In the last decade, Paraguay has climbed to fourth largest soy exporting country in the world and fifth soy producer, contributing 2.2% of the global total production. It closely follows the United States, Brazil, Argentina and India, all countries with dramatically larger territories than Paraguay.

During the 1995-2006 period, soy crops expanded an average 125 thousand hectares per year, a growth of 191% in one decade. During this period, the surface covered by soy monocultures grew roughly to 1.593.000 hectares. It is estimated[7] that approximately half of this area consists of cattle ranches that converted to oilseed production, the rest once belonged to campesino families and was appropriated through sale, rent or eviction.

So assuming that half of this land was previously owned by campesino families and that the average family consists of seven members, it means that the total expulsion of campesinos due to expanding soy production reaches nine thousand campesino families per year. If the soy expansion were to continue until it covered four million hectares[8], another 143.000 campesinos would be displaced in the coming years. This amounts to more than half of the farms under 20 hectares registered in the 1991 agricultural census.

6. In the year 2000, the European Union prohibited the use of animal feedstock due to the mad cow disease. To avoid the questioning of the industrial meat production in the EU, the necessary proteins were substituted by the soy cake left from soy oil production, mainly produced in the Mercosur countries.
7. Last agricultural census was done in 1991.
8. As stated by Mr. Jure Junis, former President of the Paraguayan Chamber of Cereal and Oleaginous (CAPECO).

Graph 1. Paraguayan soy production by area and tonnage



Soy production accounts for over 38% of national agricultural production, 7% of GDP and 37% of all exports (Pedretti 2006:8). With the record harvest of almost 6,2 million tons in 2006/2007, and the increasing demand for oil and biodiesel from the European Union, we can expect this expansion to continue accelerating. The surface covered by the 2006/2007 harvest showed an impressive jump of almost 400,000 hectares over the previous year, reaching a total of 2.426.000 hectares.

Soy production is concentrated in the departments of Alto Paraná, Itapúa, Canindeyú and Caaguazú. Since 2003, soy production has increased by 49% nationally. In the departments of most rapid frontier expansion, that increase has reached 170% (74.475 ha in San Pedro, 80% (194.766 ha) in Canindeyú, and 68% (194.776 ha) in Caaguazú. The initial boom of 2000 happened primarily in the border departments of Alto Paraná and Itapúa, but in subsequent years it has moved into Caaguazú and Canindeyú.

Table 1. Production growth by department

Area of soy cultivation (hectares)										
	Harvest		**Harvest**		**Increase**	**Harvest***		**Increase**	**Total Increase**	
Departments	**2003-04**	**%**	**2004-05**	**%**	**2003-04**	**2005-06**	**%**	**2004-05**	**2003- 06**	**%**
Alto Paraná	584.396	39,1	674.460	36,1	90.064	722.602	32,4	48.142	138.206	24
Itapúa	328.982	22,0	455.000	24,3	126.018	465.013	20,9	10.013	136.031	41
Canindeyú	244.236	16,3	313.000	16,7	68.764	439.012	19,7	126.012	194.776	80
Caaguazú	150.572	10,1	150.000	8,0	-572	252.252	11,3	102.252	101.680	68
San Pedro	43.856	2,9	72.000	3,9	28.144	118.331	5,3	46.331	74.475	170
Caazapá	77.287	5,2	107.000	5,7	29.713	108.843	4,9	1.843	31.556	41
Amambay	49.983	3,3	65.000	3,5	15.017	87.432	3,9	22.432	37.449	75
Misiones	3.652	0,2	12.500	0,7	8.848	15.060	0,7	2.560	11.408	312
Concepción	6.993	0,5	15.000	0,8	8.007	9.791	0,4	-5.209	2.798	40
Guaira	4.353	0,3	6.000	0,3	1.647	9.143	0,4	3.143	4.790	110
Total	**1.494.310**	**100,0**	**1.870.000**	**100,0**	**375.690**	**2.227.479**	**100,0**	**357.519**	**733.169**	
Total Increase (%)					**20**			**16**		**49**

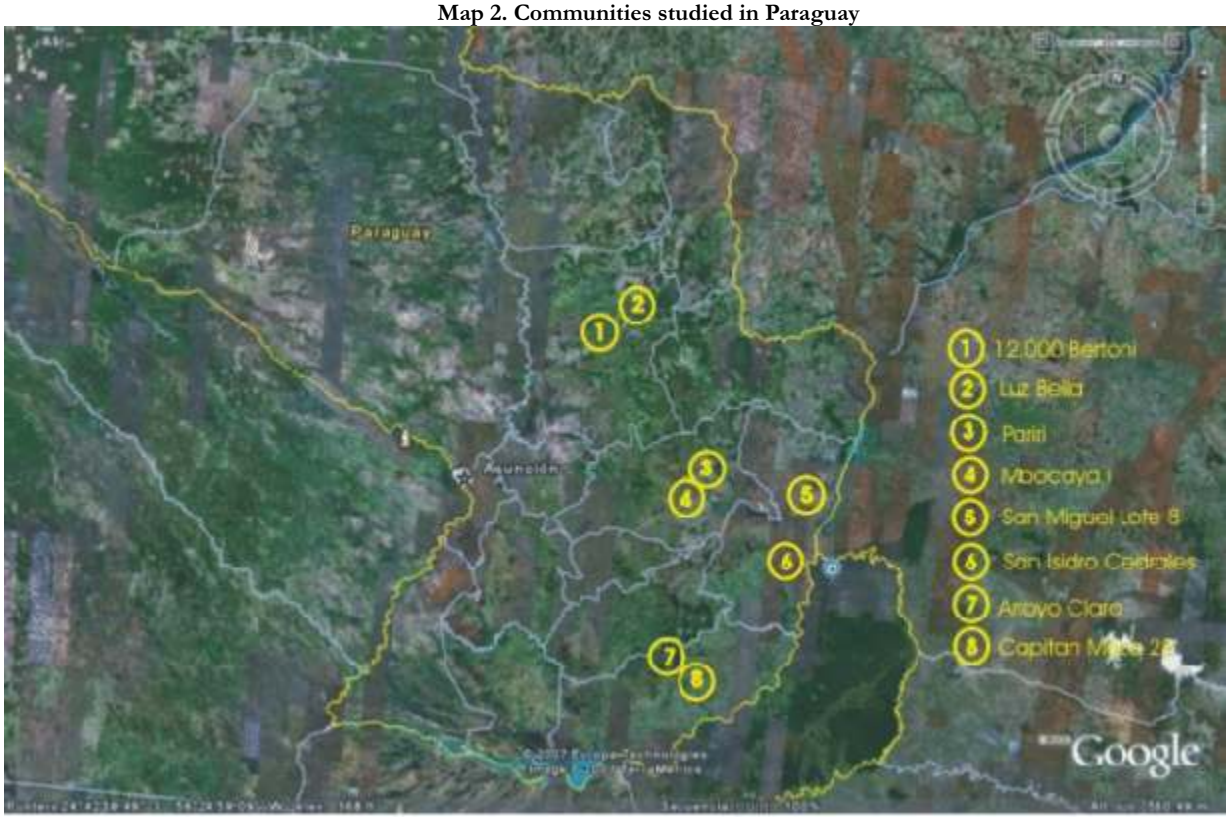
* Capeco (http:\\www.capeco.org.py)

2. Methodology

The primary goal of this study was to understand the dynamics of campesino displacement, and the socio-economic and cultural impacts of the advance of soy monoculture in Paraguay. The idea was to understand the interaction between different aspects of the soy expansion, as well as their impact on the campesino population. We also sought to map out the socio-economic characteristics and trajectories of the migration, focusing primarily on poverty and gender.

Throughout, we tried to identify the most common factors leading to displacement or emigration, including the types of displaced families, the amounts of money received for the sale or lease of land, and what the money was used for. We also compared the living conditions (to Economical, Social and Cultural Rights) in the places of origin to those of the migratory destinations. We also identified cultural changes in the way of life (the experience of rootlessness of campesino population of their lands).

Map 2. Communities studied in Paraguay



For the purposes of this study, a differentiation was made between campesino communities that had come into contact with soy before the 1999/2000 harvest and those that had only encountered soy after that date, when the appearance of Monsanto's Roundup-Ready soy transformed the nature of the harvest production cycle. After that year, the use of genetically modified beans, agrochemicals (particularly the herbicide Roundup), and no-tillage techniques increased astronomically. We therefore divided communities studied into 'old' (communities that had been coexisting with soy fields for several decades) and 'recent' (those that entered into contact with soy monocultures since the 1999/2000 harvest). We also differentiated between communities with strong campesino organizations and those without, based on the hypothesis that those with a stronger organizational base would be better equipped to resist the advance of the soy frontier.

Photo 2. House in the bañado (slum) of Asunción, zone of Cateura, the garbage heap of the city

Table 2. Sample communities by length of contact and level of organization

	'Old' communities	'Recent' communities
Higher levels of organizations	Capitán Meza 28 (Itapúa) San Isidro (Alto Paraná)	San Miguel Lote 8 (Alto Paraná) Mbocaja'i (Caaguazú) Luz Bella (San Pedro)
Lower levels of organization	Parirí (Caaguazú)[9]	Arroyo Claro (Itapúa) 12.000 Bertoni (San Pedro)

We carried out surveys with migrants residing in four urban areas in Paraguay (the Metropolitan Area of Asunción, the city of Caaguazú, Ciudad del Este and Encarnación), that had been displaced due to the soy model. We used a snowball sample which began by asking families in the communities whether they knew where to find neighbours who had migrated out of the area.

The primary data were obtained from consultations with two specific groups of families; those that remained in rural communities (144) and those that have abandoned their land and settled elsewhere, primarily in urban areas (48). We also interviewed approximately ten informants in each community where we carried out the survey, of which two interviews with neighbourhood leaders in the communities of displaced people and six with other specialists on the subject (see table below). The field study in the communities took place between October and December of 2006. The posed questions that the study tried to respond to, are as such based on interviews with families still living in rural communities, already displaced families and other key informants.

Table 3. Families and informants by type of data collected

Sample	Quantitative data	Qualitative data
Families residing in communities	Questionnaires with closed questions	
Families already displaced from rural areas	Questionnaires with closed questions	
Qualified informants in the communities*		Semi-structured interviews with representatives of various social sectors
Other qualified informants **		Open interviews on specific themes

* Municipal functionaries, church representatives, professionals from the health centres and schools, and social leaders from the communities where the questionnaires were distributed.
** Neighbourhood leaders, academics and specialists.

Table 4. General characteristics of the communities studied

Department	Community	Soy Presence*	Population (families)	Year of occupation	Community size (hectares)	Size of peasant lots (hectares)	Distance (in metres) from soy fields
Alto Paraná	San Isidro	3	620 - 4000 ps	1989	3.530	10 - 20	Surrounding and inside
Alto Paraná	Lote 8	3	42	1989	260	5	Surrounding and inside
Itapúa	Capitán Meza	3	57	1972	500	10	Surrounding and inside
Itapúa	Arroyo Claro	3	240	1992	1.500	5 - 10	Surrounding and inside
Caaguazú	Parirí	3	39	1975	803	5-10	Surrounding and inside
Caaguazú	Mbocaja'i	2	57	1970	600	10- 15	Surrounding and inside
San Pedro	San Francisco, barrio Luz Bella	1	56	1973	2.000	20-50	2000
San Pedro	12000 Bertoni	1	58	1970	20	7	20

* We have classified the communities on the basis of their level of soy penetration into High (3), Medium (2) and Low (1). The scores indicate the level to which soy monoculture dominates the region, the proximity of soy to the peasant plots, and the frequency of soy cultivation within the communities.

9. The inhabitants of Parirí recently started to organize themselves to confront the expansion of soy cultivation in their community.

3. Living conditions in campesino communities

During this study we explored in as much detail as possible the living conditions and forms of production of campesino families in order to better understand the complex impacts of the expansion of soy.

3.1 Land and campesino subsistence

The rootedness of campesino livelihoods is strongly based on the right to maintain their identity. This implicates the possibility to sustain their own culture, customs and ways of living, with the existence of independent means of production, social networks and collective ways of organization. Land tenure is a vital part of this, but goes beyond the simple titling of land. In this study we treat land tenure as a holistic concept, that intrinsically links possession and appropriation of territory to the history and permanence of the family, as well as the mode of production and political, socio-economic and political context in which land tenure operates.

Surveys in the communities revealed that most settlements were created when landless campesinos[10] occupied unused land with the support of larger campesino organizations. They only became legal colonies after years of collective struggle. Of the families surveyed, 33% still did not legally own their land, and their tenure is therefore not backed up with full legal security. Moreover, smaller plots were more likely to lack title than larger ones. Finally, the areas with least formal regularity in land ownership were in Alto Paraná and Itapúa, the two departments where soy has been present longest. We can take this as a first indication of the effect of soy expansion on campesino agriculture. Accessing land is hardest in Itapúa, where we encountered plots only big enough for a small house, and families living entirely from day-labouring.

There were significant differences between the communities studied. For instance, in San Miguel 28, Capitán Mesa (Lote 8), Arroyo Claro and Parirí, more than half of the families surveyed, each possessed less than 5 hectares of land. In communities like Luz Bella and Mbocaja'i, more than a third of the families possess more than 3 hectares per family member. On the other hand, in San Miguel, Capitán Mesa 28 and Arroyo Claro, more than two thirds of the families have less than 1 hectare per family member. In Capitán Meza 28 the situation is particularly bad: 61% of families live with less than 5 hectares per family member. While the poor access to land was the largest impediment in all communities to the campesino family economy, we didn't find any correlation between farm size and the desire to migrate.

Nevertheless, the campesino leaders all suggested that youth are most likely to migrate because it is they who face the largest difficulties in finding land. They have two possibilities: migrate to the city or, if they want to stay in the countryside, occupy new lands. Family plots tend to be too small to subdivide for future generations, which is why youth migrate in search of seasonal work.

Finally, the survey also revealed the double-edged nature of land titling. A campesino leader from San Isidro put the dilemma this way: "*land titling is not necessary for development, it's necessary for commerce (…) Titling is really about land speculation, which is not something which serves development for the campesino. My father has had his title for fifty years, and I've never seen him progress economically.*"

Photo 3. Campesino plot sown with cassave

10. For the moment Paraguay counts approximately 300.000 landless campesinos.

3.2 Production on a campesino plot.

Interviews show that campesino families have a lot of difficulties in the production and the commercialization of their products. Some of the problems related to cash crops are the low prices, soil degradation and lack of technical assistance to diversify production. Financing schemes and actors behind them are a huge problem for the economy of the campesino families.

Campesino leaders highlight that the process of degradation and abandonment of subsistence agriculture has accelerated since 2000. All families traditionally cultivate land to produce their own food, but there is a significant difference between families producing these crops as their main or second crop as cash crop.

The following table shows the relation between the number of hectares dedicated to soy (out of the 21 families that are growing this crop) and the surface dedicated to production for self subsistence.

Table 5. Hectares dedicated for self subsistence crops vs. soy

		Hectares of self subsistence (in categories)			
		Up to 1	1 to 3	More than 3	Total
Hectares of soy (in categories)	Up to 1	2 50%	2 50%	- -	4 19%
	1 to 3	5 62.5%	2 25%	1 12.5%	8 38.1%
	More than 3	- -	4 44.4%	5 55.6%	9 42.9%
	Total	7 33.3%	8 38.1%	6 28.6%	21 100%

The average of available land, on the total amount for the eight studied communities, is 10,7 hectares per family. The average area of land for subsistence crops is 2,1 hectares, which means that 19.6% of the total is used to maintain the family. Campesino families destine between 3.600 and 4.600 m^2 per person to grow their own food. This relative homogeneity reflexes a relatively inelastic pattern of land demand by campesino families for self subsistence.

Photo 4. Cotton plant

Due to the fact that the sample is among campesino families, as expected (for Paraguay) the most and more spread commodity crop is cotton. However it should be noted that this crop is low spread. On a national level, about 240.000 farms cultivate cotton in areas smaller than 20 hectares. Out of the 140.000 cotton producers, 58% are small producers. Within the sample, this percentage is considerably lower, probably due to the high number of families belonging to campesino organizations which are particularly reluctant to cotton cultivation[11]. The interviews relate the abandonment of cotton to the low prices offered. The low relative amount of producers that cultivate soy as a main export crop draws attention: hardly 8% of the total sample. Soy producers are grouped mainly in communities of the departments Itapúa and Alto Paraná: Capitán Meza, Arroyo Claro, San Isidro and Lote 8.

11. The campesino organizations that participated in the study are prone to encourage self subsistence crops. However, that is not the general trend of all campesino organisations in Paraguay.

The problems often mentioned by campesinos regarding production have to do with climate change. 90.7% state that there are more droughts than before. At the same time, 28.1% believe that rain, storms and wind are more frequent. 64.1% say that lately the heat is excessive and 7.7% affirms that there are longer periods of cold. Summing up, campesinos perceive climate as much more unstable, varying between droughts, floods and extreme temperatures. When asked about the future of their farm, 16.5% express preoccupation due to the climatic uncertainties.

Another problem mentioned is the low price paid for cash crops. 8.7% states that low prices are tilting the balance in favour of self subsistence crops. The main reasons for the failure of the soy crops in the last three years are the low harvest performance of monocultures at small scale, consecutive indebting, not being able to pay previous debts and the impossibility of obtaining new credits. In general no one wants to go back to cotton because of the low prices. There is a general feeling among campesinos that the expansion of monocultures implies the degradation of their economy and they express a sense of threat because of the risks of being forced to abandon their community. 20.5% of the campesinos interviewed, affirm that their crops were less productive over the last few years. Another 3.9% experienced losses with their soy and cotton crops. The communities most affected by these problems are:

Table 6. Most important production changes in the last few years by community

	Pariri	Mbocaja'i	San Isidro	San Miguel	Arroyo Claro	Capitán Meza	Bertoni	Luz Bella	Total
Crops are less productive	4 23.5 %	5 29.4%	1 6.3%	3 18.8%	5 33.3%	4 22.2%	3 25.0%	1 6.3%	**26** **20.5%**
More is planted for own consumption / because of low prices	1 5.9%	1 5.9%	1 6.3%	3 18.8%	- -	1 5.6%	2 16.7%	2 12.5%	**11** **8.7%**
High losses on cotton and soy crops	- -	1 5.9%	1 6.3%	1 6.3%	1 6.7%	1 5.6%	- -	- -	**5** **3.9%**
None of the three previous changes are mentioned	12 70.6%	10 58.8%	13 81.3%	9 56.3%	9 60.0%	12 66.7%	7 58.3%	13 81.3%	**85** **66.9%**
Total	**17**	**17**	**16**	**16**	**15**	**18**	**12**	**16**	**127**

If the average income of all the households in the sample are added up considering all sources, the following figures are obtained: 39% correspond to cash crops; 22% to outside farm work; 17% to the sale of animals; 9% to leasing of land; 8% to remittance (funds transferred by family members working outside the community) and 5% by the sale of secondary products. The average income of a campesino family for the sale of cash crops is 3 million Guaraníes per year (587 USD). This value however, hides important differences between families. The commercialization of home made products and animal derivates is another source of income for 22.2% of the sample. The average annual income obtained from this is nearly 1,5 million Guaraníes (293 USD).

Photo 5. Oven for baking chipas **in campesino plot**

3.3 The entrance of soy

"*Small producers get caught in the framework of agroexport production. So they apply for credit, the company gives them credit, all means of production and the seeds and they plant soy. If soy does not perform, they are left with a huge debt. When they cannot pay the debt because of failed production, then people from the silos come and offer themselves as guarantors to refinance the debt. Later, if the small producers are still not able to pay, the people from the silo pay their debts but take possession of their land. Therefore, all those inside that agroexport framework are taking the risk of losing their land."* Peasant leader of Alto Paraná.

Though the introduction of soy cultivation expanded gradually in the different regions, the interviews showed a direct relationship between the spreading of soy and a strong productive and psychological impact on the campesinos.

Table 7. Soy introduction period by community

Locality	Farms which currently plant soy. Period in which they started to cultivate.			
	1961-1978	1992-1998	2000- 2006	**Total**
Pariri	-	1	1	**2**
Mbocaja'i	-	-	2	**2**
San Isidro	-	1	2	**3**
San Miguel	-	-	4	**4**
Arroyo Claro	-	5	3	**8**
Capitán Meza	4	1	6	**11**
Total	**4**	**8**	**18**	**30**

Leaders claim that the soy system entails impoverishment and degradation for the campesino families in the short term. It was found that when campesino families started soy cultivation, there was a tendency to displace self subsistence crops, by which these families become more dependent on market factors outside of their control.

Campesinos interviewed agree that soy cultivation requires a lot of capital and that the small producer loses out in the long term. The costs of implementing mechanized soy monoculture together with the consumables required are too high for family agriculture. This weakens the cohesive family patterns because the food auto sufficiency is discontinued in the long term and there is a trend to look for outside farm work or to migrate temporarily. This phenomena does not occur with cotton growing families, among other reasons because of the high labour requirements of the activity, which provides employment among the family members, limits the cultivated area and favours the continuation of the auto consumption crops.

Table 8. Percentages of area used for soy and cotton in relation to auto consumption by community

Locality	Auto-consumption /Soy	Auto-consumption /Cotton
Pariri	0,05	1,41
Mbocaja'i	0,40	1,58
San Isidro	0,83	3,20
San Miguel (Lote 8)	0,95	2,33
Arroyo Claro	0,62	2,20
Capitán Meza 28	0,76	2,79
12000 Bertoni	-	2,78
Luz Bella	-	1,40
Total	0,70	2,12

In the same way, the study registered that 65,5% of soy and cotton growers applied for credit in public banks, private banks or financing companies. Less frequently (34,5%) they turned to family, friends or an acquaintance. Similar percentages are obtained among those who applied for credits for other crops. However the total number of growers that applied for a loan is much lower. On the interviews, soy showed up as the crop that entails most debts; from the total number of indebted people surveyed, 23,7% of debts were related to soy cultivation. In the same way, out of the 30 people interviewed that grew soy at some point, half had debts compared to 15,8 % of people growing cotton.

Table 9. Percentages of crop cultivation for those who obtained credit

Crop	%
Soy	23,7
Cotton	39,5
Sesame	7,9
Others	23,7
Auto consumption	5,3

Most of the endebted producers are located in the regions dominated by soy cultivation. The research pointed out that these areas have the highest number of campesinos cultivating soy. The amount of debts varies and differs from case to case, but in 75% of the cases it climbs to 9 million Guaranies (1935 USD).

Table 10. Average amount of debts and amount of producers in debts by locality

department	locality	producers in debts	medium	standard deviation
Itapúa	Arroyo Claro	8	2.771.875	2.000.268
Caaguazú	Pariri	6	4.475.000	3.760.818
Caaguazú	Mbocaja'i	4	4.001.500	6.008.018
Alto Paraná	San Isidro	4	3.675.000	2.534.265
Itapúa	Capitán Meza 28	3	7.300.000	11.089.189
San Pedro	12.000 Bertoni	3	833.333	404.145
Alto Paraná	San Miguel – Lote 8	2	4.100.000	3.394.113
San Pedro	Luz Bella	2	3.350.000	2.333.452
Total		**32**	**3.710.344**	**4.259.109**

The survey reveals that consumables for the production are often given as credits which creates a dependency on these products. A San Isidro leader states: *"Credits are given part in cash and part in consumables; for example, for a two million credit half a million is received in cash and the rest in seeds and agrotoxins. But later the credit has to be paid in cash plus the interest. This is not a credit, it is rather consumables and money to produce what the silo wants."* In most cases the consumables given have higher prices than those sold in the market. "*Big producers take consumables for 2.000 hectares, but only cultivate 1.000 hectares. The rest is sold to small producers at a higher price. Small producers hand in the harvest to Brazilians and are paid a lower price than what is paid at the silo. And when the drought comes, Brazilians have insurance for a 2.000 hectares area and the campesinos loose everything for not having one"* informs a national leader.

The easy access to finance for soy seems to be one of the main factors that induce the start of this cultivation by campesinos. At the same time, those interviewed complained that public and private financing goes only to monocultures, specifically soy and cotton. The 2003 – 2006 droughts caused that most campesinos cultivating soy were left with accumulated debts in several institutions[12]. The situation of the campesinos that gain access to credit seems to be in continuous deterioration. A campesino leader from Alto Paraná denounced the operations of private financing companies as *"a way to speculate with money; normally most people from silos and private institutions offer credits to small producers asking for the land as a guarantee, knowing that he will not be able to cover the expenses. Then, a year later, the land is taken away; the real interest is just to take the land."* San Isidro leaders estimate that due to the 140 families with debts in the community, in the next two years as much as 1.500 hectares could be lost. According to them, a high rate of land loss is due to seizures. It is said that most of the local silo owners have land that was expropriated from small producers *"because those who had to sell in order to pay their debts, later migrated."*

Case study: Indebtedness sequence in Arroyo Claro

The testimonial of the neighbour's commission president from Arroyo Claro clearly illustrates the indebtedness dynamics of soy cultivation. This person estimates that at present, most families within the community have debts with diverse financial institutions. This community suffered a three year long drought and consequently the production dropped drastically down to 0.5 to 1 ton per hectare. This provoked the deterioration of the family's economy.

According to him, traditionally the production was financed just with the "Authorized Agro Credit" (Crédito Agrícola de Habilitación), a government entity that worked with campesinos[13]. But when the soy harvest failed in the first year of drought, people could not pay the acquired debts. That year, the drought affected as well the cotton harvest and the Agro Credits were not paid by the families dedicated to cotton cultivations. Next year silos assisted people. For example, CARGILL and ADM, among others, conceded credits to soy producers. In this way the debts with Agro Credit was left as a passive account. That year, the soy harvest failed again and producers could not pay their credits. In the third year, a new institution, INTERFISA, financed the communities in Arroyo Claro. This financing company conceded credits in an easy manner to campesinos but for the third time the soy harvest failed and the credits could not be paid. The deal with private financing companies is done in general through the grain stockers acting as guarantors, especially when the campesinos do not have land titles and do not qualify to apply for credits.

12. In the 2006 harvest a total of 1.9 million tons were lost out of the 5.5 million tons forecasted. About one million hectares of early soy production, 55% of the total cultivated surface (La Nación, suplemento Campo, 27-03-2006).

13. The goal of the CAH (agricultural credit) is to provide credits and technical services. Organized people e.g. in cooperatives and associations who have difficulties receiving aid from other credit agencies are benefited (Echarte, 2001).

3.4 Outside farm work

"Mechanized soy technology does not generate employment. A single person can be in charge of 500 hectares and his salary can reach up to 1.500.000 Guaraníes (290 USD). In some cases, farm workers are natives of Paraguay because the producer needs to have a good relationship with the local community. However in most cases, Brazilian producers bring over labour from Brazil and pay them subsistence salaries. During the 90`s, many more people were employed in soy cultivation than today. The producer generated a source of income and employed his family, friends and neighbours. However, the technological advances developed which meant the end of employment." Leader from Alto Paraná.

A trend among small farmers was observed in all visited areas to look for employment at other farms in order to increase one's low income due to the poor productivity of their own harvest. On average, 41% of those polled worked outside their own plots in the past year.
The lowest employment is registered in Alto Paraná and Itapúa, the principal soy areas. The implementation of the technological packages of transgenic soy and the mechanization of monocultures implied a drastic reduction of employment offered in the dominant soy areas. Of all families polled, 25,7% have a member that has worked for the soy producers. In general, men can access temporary work on silos or on fumigation tasks.

Table 11. Employment behaviour in different towns since entrance of soy

Employment behaviour since the irruption of soy by tow		Communities sampled								
		Pariri	Mbocaja'i	San Isidro	San Miguel	Arroyo Claro	Capitán Meza	12000 Bertoni	Luz Bella	**Total**
	Increased	1 5.9%	3 17.6%	- -	1 5.6%	4 26.7%	1 6.3%	1 7.1%	3 18.8%	**14 10.7%**
	No variations	3 17.6%	6 35.3%	2 11.1%	2 11.1%	2 13.3%	- -	3 21.4%	9 56.3%	**27 20.6%**
	Decreased	13 76.5%	8 47.1%	16 88.9%	15 83.3%	9 60.0%	15 93.8%	10 71.4%	4 25.0%	**90 68.7%**
	Total	**17 13.0%**	**17 13.0%**	**18 13.7%**	**18 13.7%**	**15 11.5%**	**16 12.2%**	**14 10.7%**	**16 12.2%**	**131 100.0%**

Silos only provide employment a few months a year, from December to March coinciding with soy harvest. Workers above 30 years old are not employed in silos. Young workers are required for their good physical condition in order to load the grain rapidly. A young worker from Plot 8 describes this as "*a direct exploitation of the young*". In the community of Pariri, in Caaguazú, 22 young workers are employed in high season on the Toledo town silos. The work is exhausting; the average workload is unloading 1.000 tons per day and the work shift lasts 10 hours. Tasks include unloading, grain selection and feeding the drying ovens. Health and safety conditions are lacking and most workers have breathing problems due to dust and agro-toxins present in grains. The daily pay is 30.000 Guaraníes (6,35 USD). No protective equipment is provided for fumigation work.

3.5 Letting of land

Another way of generating income in the soy dominated areas is by letting the land to soy producers. The study shows that this only occurs in the soy sector and corresponds with the low performance and lack of competitiveness of the campesino production. The campesino lets out the land when he does not trust his own production capacity, if consumables are too expensive and/or when he is highly indebted. Generally the land is let out to producers outside the community and often to foreigners. 11,9% of the families interviewed are letting part of their land to other producers. The average price for renting a hectare is approximately 700.000 Guaraníes (137 USD), although it varies from one community to another. Rent agreements usually last for a year but vary from just one agricultural cycle to five years.

In the Department of Caaguazú most of the producers that rent land are Brazilians. In the two communities of Alto Paraná, following the rules imposed by the local campesino organization which forbids the sale or letting of land to foreigners, the land is let to Paraguayans. 100% of the Brazilians that rent land implement extensive methods of cultivation. The campesinos that let the land usually have more land than most of their neighbours. In the sample group, 97% of the group with less than 5 ha. of land did not let their land. This percentage drops to 64,3% of the group with more than 20 ha.

Table 12. Rented area over the total area of the community by department

Department	Community	Rented area (ha.)	Community total area	Estimated percentage
Caaguazú	Mbocaja'i	150 - 200	1800	10
	Parirí	150	850	15
Alto Paraná	San Isidro	500	3530	14
	San Miguel Lote 8	100 - 110	260	60
Itapúa	Capitán Meza 28	100	5000	2
	Arroyo Claro	300 - 600	2000	20 - 30
San Pedro	San Francisco (Luz Bella)	0	2000	-
	12000 Bertoni	0	1000	-

* The information in this table are estimations provided by campesino leaders from the sample communities.

The main reasons why campesinos let the land to soy producers seem to be indebtedness and/or the need to increase income and the slim perspective of obtaining enough return with their own production. Letting secures an income once a year and is also a last resource of income for family emergencies, but the amount received never reaches total expenditure needs. With letting the land, the situation of the family changes drastically. Their economic dependence cannot be solved due to the lack of local employment. The impoverishment generated by letting the land leads to the tendency to migrate. Among the families that have no members that migrated, only 6,9 % let out land whereas among those that have members that migrated, a much higher percentage, 19,6 %, let their land.

In the long term, letting the land results in impoverishment because it implies the inability to supply food to the family. Indirectly it causes the dismembering of the family as some members must look for employment and migrate. In a situation of indebtedness several years' rent can be demanded to cover the debt.

The main social problem related to the letting or sale of the land is the rupture of the communitarian family agriculture dynamics. Letting for soy implies spending on an agricultural package of consumables. That breaks the community ties and bonds. The main problem with letting is generally the contamination of the neighbouring lands. Letting to foreigners, according to campesino organizations, is the main factor generating violence and tension in the community, not only for their eagerness to speculate with the land but also because it is very difficult to talk to producers about their indiscriminate fumigation.

Due to the drought that affected the country between 2003 and 2006, farmers devoted to soy and cotton were, at the time of the consultation, highly indebted especially because of soy because it is the crop that requires most capital. There is a tendency to go back to subsistence farming after the failure of the harvest during the three years of drought. This tendency could have reverted in the 2006/7 harvest due to the favourable conditions of the season. However, the accumulation of unpaid debts in many families is an obstacle to go back to growing soy. For this reason the only possibility left for many campesino families is to let the land for a percentage of the harvest.

3.6 Land sale

"The Brazilians buy a small parcel, then another one and if one is left in the middle it cannot resist because they come with poisons(....) eventually one sells his land besieged by the toxins." Campesino leader from Caaguazú.

The experience of the soy boom, around the year 2000, affected the communities at a large scale through the sale of land for monocultures and the migration of campesinos. In general, Brazilians enter the communities renting and buying land, mostly 10, 15 and 20 ha (with only usufruct rights). The accelerated soy expansion can generate feelings of insecurity and abandonment in the campesinos, and a process of community domain loss over the territory.

Table 13. Migration and land sale in communities

Community	Family members that sold land for soy cultivation.		
	Yes	No	Total
Parirí	11 61.1%	7 39.9%	18 13.3%
Mbocaja'i	4 23.5%	13 76.5%	17 12.6%
San Isidro	8 47.1%	9 52.9%	17 12.6%
San Miguel - Lote 8	3 16.7%	15 83.3%	18 13.3%
Arroyo Claro	7 41.2%	10 58.8%	17 12.6%
Capitán Meza 28	7 41.2%	10 58.8%	17 12.6%
12000 Bertoni	- -	14 100.0%	14 10.4%
Luz Bella	1 5.9%	16 94.1%	17 12.6%
Total	**41** **30.4%**	**94** **69.6%**	**135** **100.0%**

Coinciding with the presented data, Alto Paraná, Caaguazú and Itapúa are the Departments with the highest figures for land sale and disappearing communities. Campesinos tell that a great deal of the sale transfers concerned usufruct rights of public land (of the IBR colonization programme) that got mainly sold to foreigners (Brazilians, Japanese and Germans). An Alto Paraná leader explains: *"With the lack of attention and the extreme poverty, the campesino feels isolated. There, they (the soy producers) come offering 10 millions (1950 USD) per hectare catching them (campesinos) between the devil and the deep blue sea. In this way campesinos are stripped off their land. Campesinos then leave with that amount of money (...) an amount he has never seen in his whole life."*

Case study: The community of Parirí

This community started towards the end of the sixties. It reached a population of 130 families at the end of the eighties but today only 39 remain, due to the sale of land. Most inhabitants have at least one soy field next to their home. Soy producers are not only cultivating the land they buy (some with property titles, some with only usufruct rights) but are also renting plots from community members. Ironically, most families let the land for soy cultivation with the objective of getting capital to be able to acquire land titles, pay studies or migrate to a foreign country. Soy producers lend money to campesinos to pay for land titles in exchange for using the lands for several years.

The total community area of 803 hectares is divided in 61 plots, 37 of which were sold to Brazilians: a total area of 592 hectares. Out of the other 24 plots, approximately 250 hectares, one half is let out for soy cultivation.

From the total 592 ha. of the community that is planted with soy (74 % of the total area), 57 % has been sold. Out of the 39 families, about ten live in plots lend by family members with no access to cultivate a piece of land. Another nineteen families produce cotton in small 1 to 3 ha. plots, about 30 ha. in total. Only three families produce soy in a 30 ha. area.

This unfavourable situation has been reported several times to the INDERT. The neighbourhood organization asked for the cancellation of the land property rights that got into the hands of Brazilians and demanded an audit on land possession. The organization looks forward to the re-appropriation of 400 misappropriated hectares of public land. According to this commission, most land titles were issued in an irregular way by district INDERT agents[14].

14. In February 2007 a group of young landless people from the community and the district, with the support of the neighbourhood commission and the local campesino organization, decided to recuperate a plot of 14 ha. It was registered as a public plot destined for the recolonization programm but currently found in the hands of a Brazilian soy producer. This action halted the irregular titling of this plot.

Map 3. Situation of plots in the community Pariri

Reference:

Yellow: sold land, covered with soy
Green: rented land, covered with soy

* This data was collected with the collaboration of a neighbourhood committee and based on an INDERT monitoring map.

3.7 Community disappearance and landscape destruction

In general, all communities have experienced an important landscape change with the soy expansion: destruction or fragmentation of the natural wild and rural ecosystem that previously surrounded the community. The study shows that landscape destruction has a strong influence on the well-being and the dynamics of the campesino community. Massive deforestation, community disappearance and isolation provoked by monoculture expansion have been registered. All these factors determine the settling and future perspectives of the campesino community residents. The interviews reveal that residents of the last campesino areas have the sensation of being constantly threatened and condemned to extinction.

Those interviewed in the regions Alto Paraná, Itapúa and Caaguazú, tell about their own community becoming fragmented, and the disappearing campesino communities in their localities. Soy expansion has not only caused the displacement of thousands of campesino families but also the disappearance and/or abandonment of schools, health centres, churches and even cemeteries.

3.8 A campesino expelling economy

The information gathered in this study managed to identify the dynamics of the degrading campesino society and the loss of community land. The last wave of soy expansion, initiated in 2000 with buying and renting of land by large producers, started a process that undermines the communal cohesion and the campesino community, resulting in the exodus of small producers in the long term. The sale of land in many communities is linked to property speculation and civil servant corruption. The exponentially increased value of land, valuated in dollars, is caused by soy cultivation. It is an irresistible temptation for a campesino and leads to the migration of campesino families.
The corruption at INDERT regarding the transfer of land to soy producers, much criticized by all campesino organizations, is related to the intrinsic corruption of many state institutions in Paraguay.

Photo 6. Landless campesinos destroy soy monoculture to install their 'resistance' camp in Pariri

Table 14. Disappearance and dismembering of campesino communities in districts and departments

Department	District	Community	Testimony
Alto Paraná	Minga-Porá	San Francisco	In the year 2000, the community consisted of 50 families and today there is only a school surrounded by soy.
		Quinta línea	This community of 30 families, was replaced by a soy plantation.
		Cuarta línea	Of 40 families today only 20 families are left.
	Los Cedrales and surroundings	21 de Septiembre	The titling of the community land was paid by INDERT. However, despite being legally titled land, all of it ended up in Brazilian hands.
		Puerto Irala	Belonging to a company that was bought by INDERT and handed to campesinos. At present, there are no campesinos left there.
		Franceskue	Community next to San Isidro with 1.100 ha. The government bought the land of the original owner and gave the land to small producers. The community disappeared when all small producers sold the land to Brazilian producers.
		Italiano Kue	In this community mechanized soy was introduced in 2004. This reduced the number of Paraguayan families to 20 in a 2000 ha. area (mostly cultivated with soy).
		2 de Mayo	Today, only a few families are left.
		Yakarekua	Today, only a few families are left.
Itapúa	Capitán Meza 28	Barrio 3 Colores	In the past there used to be more than 20 families; now only two or three houses are left surrounded by soy crops.
Caaguazú	Mbocaja'i surroundings	Nueva Brasilia	This community consisted of 37 to 40 families and today only a closed school is left.
		San José	Between this and Nueva Brasilia communities, only ten families are left, all from Brazil. San José used to be inhabited by 40 families.
		Calle Jardín	With the introduction of mechanized soy crops in 2000, forty families disappeared completely.
	Pariri surroundings	San Roque	Used to be inhabited by 75 Paraguayan families. This community does not exist today. All the land is being cultivated with soy.
		Adrizkue	Only sixty Paraguayan families remain from a total of 250 in a 2500 ha. area.
		Plancha de Julia	One Brazilian producer owns the total community land inhabited in the past by 40 Paraguayan families.
		Santa Clara	Today seventeen Paraguayan families are left with no land for cultivation, only for housing, and are completely surrounded by soy crops belonging to Brazilian producers.

The entry of the soy economy into the community, both through renting and/or saling of land, is a degrading factor for the communitarian cohesion for the following reasons: it generates enmity and competence among neighbours, implies the entry of large scale producers into the community, affects the health of inhabitants (see part 4), affects neighbouring campesino production due to harvest failure and loss of animals. It is not common to compensate losses caused by soy fumigation.

Local civil servants interviewed show little interest and capacity to cope with these problems. They behave as public entities at the service of the agro businesses. When the campesino organizations demonstrate against fumigation, the response is generally violent and the authorities tend to criminalize the actions.

When families feel besieged by soy cultivation there is a marked tendency to sell the land and migrate to poor, remote, but more populated campesino areas. This is confirmed by campesinos we interviewed. It demonstrates that the population feels cornered by the monoculture model and that they prefer to keep their campesino identity and aspire to reside in a rural society that protects them. Offered very little choice, most end up migrating to cities.

Monoculture keeps expanding and affects work dynamics. Campesinos clearly differentiate the work conditions between traditional soy monocultures, which required local labour for weeding and harvesting and the mechanized model. At present, 1.000 ha. of transgenic soy can be managed by one to three people thanks to the combination of direct seeding and the herbicide '*Round-Up*'. Most interviewed perceived less employment on offer since the entry of the mechanized soy model. People do not consider the soy sector a secure source of employment. The high unemployment in rural areas is one of the key motivations for campesinos to move to cities. A higher tendency to migrate is observed among those who identify a decrease of employment offer since the introduction of soy in the community.

Apart from the lack of job creation, the study shows that soy expansion generates huge debts that impact on the familiar economy and disrupts campesino subsistence. Inhabitants tell how soy cultivation is promoted by the large soy producers. They object to using credit in a way that expels small farmers from their land in the long run. Campesino organizations have rejected massive financing plans to cultivate soy with soy buyers acting as guarantees. The financial contracts are fraudulent. In some cases, the debtor does not even get a copy of the original lending agreement. This sets of a speculation spiral; first the campesino sells his cattle to repay the loan and when that is not sufficient, he ends up letting his land to the same soy buyer guarantor. Eventually he leaves the community looking for work elsewhere.

Community leaders consider the debt mechanism as one of the main methods of gradually taking possession of the campesino lands. Debt as a lever to expulsion is confirmed by the displaced population study, where a third of displaced persons showed some level of debts. The high level of debts and the inability to pay was confirmed in the soy areas. The only thing that will save campesinos from losing their land is not having official property right of their lands.
The World Bank projects (2007) fomenting fast entitling of land as part of agrarian reform, will put an end to current irregular land tenure in most communities, but could easily lead to a massive land transfer from campesinos to the agribusiness sector. International financial institutions such as BID (Inter American Bank) and World Bank, promoting micro-credits and supporting private financing agencies, are accomplices of the agribusiness and must equally held responsible for the rural expulsion process.

4. Environmental and Human Health

"We see the consequences of agrotoxins have on our community. Every season, our animals become sick - just when they start cultivating the soy, our animals, chickens, ducks, all die. When they spray the herbicide on the soy plants, it affects the animals and the people. We have found that many children have diarrhoea and stomach problems, men have liver problems, and women miscarry." Leader of Lote 8.

Environmental Health refers to how human beings interact with their environment, trying to look at the complete, dynamic system that affects human life – including everything from economics to politics, from technology to cultural issues. The concept of environmental health looks at how all of the varying aspects of the environment that affect human health; for example the correlation between environmental degradation and stress levels. It is concerned with a variety of factors that affect the basic quality of human life.

One leader of the county of Alto Paraná summarized the destruction of the environment by the ever-growing soy monoculture in the following way: "*Naturally, the production of soy affects everything from the ground to the air. There's no way to escape its effects. Our land has become dry, it's practically like a floor. It affects the whole environment. There's no way to escape it.*"

Photo 7. Fumigation on soy monoculture in Alto Paraná

The destruction of the forests means that the population can no longer survive as subsistence farmers. Everything is in low supply – from game to fish, from wood to wool, from medicinal plants to honey. The lack of wood is a great concern to the local population who depends on this wood for building homes.

We have discovered a depletion of the riverbeds, and contamination of ground waters in soy-growing regions and lowering water-levels in family wells. We recognize these phenomena as consequences of toxic exposure. The expansion of soy monoculture has dried out the humid forests.

4.1 Unlimited spraying

"Many times, at around noon, when I am walking to school, I find the tractors that are spraying poisons on the mechanized fields and when I pass I instantly have a headache. They apply agrotoxins at whatever hour, regardless of the temperature or wind levels." Teacher Lote 8.

This reveals the absence of infrastructure and health services necessary to confront this situation of constant pesticide exposure. The situation leads to the degradation of the small farm-economy and a lack of economic resources to allow people to afford doctors. The contamination caused by the agrotoxins makes people sick and forces them out of their homes.

Photo 8. Soy monoculture with remaining tree trunk, Caaguazú

In the eight communities studied, 78% of families interviewed said that they suffered from a health problem that coincided with fumigations; 63% said they were always sick, and were constantly affected by the soy fields and plantations. 60% of families interviewed are 'displaced', many because the water in their community is contaminated with toxins. We found that the majority of displaced families considered fumigations to be one of their reasons for leaving their homes as well as the absence of protection and lack of infrastructure in rural areas – such as educational and health resources.

The most common health problems in these communities are related to fumigations: ailments of the respiratory and digestive systems and headaches. Also, in the course of our research we heard many speak of miscarriages, birth defects (such as children born without arms or legs, with lungs outside their body, hydrocephalia, hare-lip, etc.) The contamination also results in the deregulation of the metabolism, malnutrition, stress, gastritis, and psychological problems. These problems are treated by rural health centres where there is a lack of resources and training.

Acute intoxication and the appearance of complex diseases take its toll on the entire family – often bringing the family further into debt and causes more economic impoverishment. The high levels of chronic intoxication pointed out in this study give ground to call for a state of alert of public health in these communities.

Photo 9. Child with malformation in campesino community in Caaguazú

Table 15. Perception of how soy cultivation affects human health

REPORTED SICKNESS OR NOT FEELING WELL	Cases	% *
Not at all	**31**	**22,3**
Symptoms related to chronic intoxication		
Headaches/migraines	80	57,6
Vomiting	39	28,1
Stomach Ache	34	24,5
Diarrhoea	24	17,3
Dizziness / Fainting	23	16,5
Fever / Cold /Throat Pain	13	9,4
Eye pain/vision problems/ Conjunctivitis	12	8,6
Skin problems/rash	12	8,6
Respiratory Problems	5	3,6
Fatigue / weakness / tiredness	4	2,9
Deformations / Malformations	3	2,2
Swelling	3	2,2
Panic attacks, anxiety , shaking	3	2,2
Nose Bleeding	1	0,7
Hepatitis	1	0,7
Children hunger	1	0,7
Symptoms related to severe intoxication		
Vomiting	39	28,1
Dizziness / Fainting	23	16,5
Panic attacks, anxiety , shaking	3	2,2
Nose Bleeding	1	0,7
Blindness	1	0,7
Death	1	0,7
Total 139 answers out of 291 valid cases	**291**	

* The percentages were calculated from 139 families.

In communities in the states of Itapúa and San Pedro (not in the states of Alto Paraná and Caaguazú) we asked residents for the distance between soy fields and their homes. In the table below you can see that more than half of the families we interviewed in Itapúa and San Pedro, lives less than 50 meters away from a soy field[15]. The large majority of families believe that the fumigations affect their health (72%) and that there's a relationship between proximity to soy fields and the illnesses they described having.

Table 16. Sickness reported symptoms in relation to distance from soy fields

Distance from soy fields	No symptoms	One or more symptoms	Total
Less than 50 metres	8 20%	32 80%	40 55,5%
More than 50 metres	12 37,5%	20 62,5%	32 44,5%
Total	**20** **27,8%**	**52** **72,2%**	**72** **100%**

The fumigations aggravate the poverty of families through forcing them to leave their land. The interviews show that the soy growers do not respect any of the minimum security parameters to protect the homes of farmers. The soy fields are found near homes, schools, and cemeteries.
Farmers' organizations hope to talk to soy growers about respecting their homes and schools. Many schools are found encircled by soy-fields. The barrier distance ought to be between 20 and 30 meters, but in the majority of cases there is not even a curtain of trees available.

The indiscriminate fumigations are the number one reason for the death of farm animals in rural communities. 50.4% of families admitted that they had lost their animals, such as cows, birds and pigs.
The fumigations have affected 60.4% of the campesino plots and of these 58.5% expect fumigations weekly, 35.4% monthly, and 6% daily. They say that the fruit trees have also been affected by the fumigation - the fumigations stunt the maturation of the flowers and the trees don't develop fruits. The economic pressure pushes the farmer to let the majority of their land to other farmers, often for cultivating soy – which means that soy is being cultivated even closer to their homes.

Photo 10. Self subsistence crop (cassave) affected by soy fumigation

Table 17. The effects of the fumigations on animals and plants by community

	Caaguazú		Alto Paraná		Itapúa		San Pedro		Total
	Pariri	Mbocaja'i	San Isidro	Lote 8	Arroyo Claro	Capitán Meza	Bertoni	Luz Bella	
Affected Crops *	15 88.2 %	4 22.2 %	8 47.1%	12 70.6%	9 60%	9 50%	18 100%	9 50%	**84** **60,9%**
Affected Animals	13 72.2%	4 25%	9 50%	11 64.7%	8 47.1%	10 55.6%	9 52.9%	6 33.3%	**70** **50.4%**

* The total number of communities is not always 18, because "no answer" cases were excluded.

The indiscriminate fumigating is a result of the transgenic technology that is currently being applied. The intensification of the monoculture at a huge scale, along with transgenic technology, and the lack of a rotation cycle generate an ecosystem that does not permit coexistence with other crops or other farmers. While the soy grower tends to live in

15. Possibly this percentage is similar to the one that would have been found in the comunities of the two other departments. Even to that of other campesino communities that border soy fields over the country. In Paraguay precautionary measures and distances are not respected. Safety curtains are not established which exposes the families directly to agro-chemicals.

towns that are significantly more protected, the small farmer is continually exposed to the derivatives of the toxins and contamination of the environment. 53.6% say that their own farms have been affected by the fumigations, and that the herbicide that's most commonly used is Round-Up. The plants most affected tend to be subsistence crops that are crucial for the family nutrition. One person from Itapúa explained "*There are many that sell their lands, then the large farmers spray herbicide and this kills the cassava and then you can't produce anything.*"

Table 18. Principle crops affected by fumigations

Affected crops	**%**
Cassava/Rama/Sweet potato	48,6
Various Beans	29,3
Peanut / Corn	21,4
Fruit trees	17,1
Cotton	10
Vegetables	6,4
Others	2,8

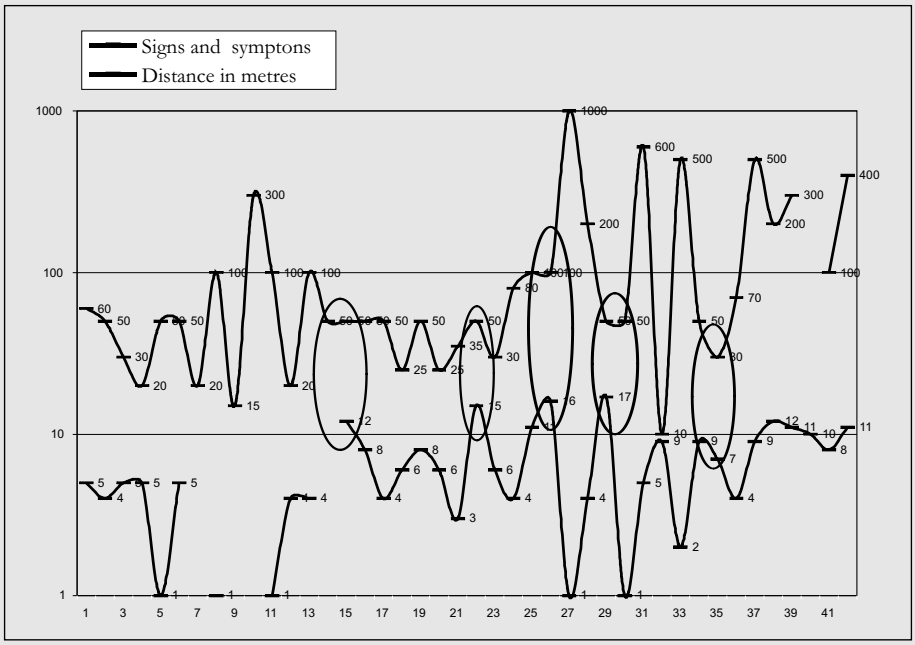
Casestudy: Diagnosis of environmental health in Lote 8

In the community of Lote 8 in Minga Pora, Alto Paraná, there are 60 families living in an area of 240 hectares. The community is located in a ditch surrounded by soy fields. The lowest altitude of the communities is 241 meters while the soy fields are located at an altitude of 260 meters, which means that the herbicides quite easily drizzle onto the farmers' lands.

In 2006, the local farmers' organization coordinated an environmental health survey, led by Dr. Rafael Vega. He interviewed all of the families in the community, and collected geographic information to do a land and water analysis. In the interviews 264 symptomatic signs of possible intoxication were registered and ordened following 18 different symptomatologies. The most frequent symptoms were headaches, gastritis, stomach problems, and blurred vision. He asked whether they thought they had ever been exposed to the toxins, 17 responded that they had, 26 people said they knew people who had suffered from toxic exposure. His research showed that plant life and animal life has been dramatically affected by the agrotoxins, with 28 species of ill plants and 26 ill, 29 dead, and 17 deformed animals.

This interviews show and important correlation between the appearance of symptoms and distance from soy fields.

Graph 2. Relationship between intoxication and water well distance to soy field
The circles indicate peak symptoms in cases of short distances between the well and the soy monocultures.



5. Soy cultivation and violence against rural communities

The interviews reveal that the arrival of soy has meant violence of various kinds in the community. Half the families consulted claim that violence increased in their communities. The perception in the communities of the intervention of armed forces after the introduction of soy is much clearer, especially in the case of military personnel and police: in every community at least half of the families have this opinion. In the same way, the presence of armed civilians, thugs, or paramilitary groups as they are sometimes known, is seen to be greater since the introduction of soy production.

In many of the communities visited, the theme of militarization – and militarization in relation to the introduction of soy – is particularly noticeable. In general, the intervention of armed men has occurred where the population has protested against fumigations. The results have always been unfavourable for the settlements, whose inhabitants have in some cases been arrested for trying to defend their houses and their crops.

Table 19. Perception of the increase in violence on the part of police, military and thugs

	Pariri	Mbocaja'i	San Isidro	Lote 8	Arroyo Claro	Capitán Meza	12000 Bertoni	Luz Bella	Total
Increase in acts of violence	5 29,4%	9 52,9%	15 83,3%	12 66,7%	7 43,8%	4 23,5%	12 70,6%	5 27,8%	69 50%
Increase in presence of military personnel and police	10 55,6%	12 66,7%	16 88,9%	11 68,8%	8 44,4%	16 88,9%	8 50%	15 83,3%	96 68,6%
Increase in presence of armed thugs	12 66,7%	13 72,2%	11 61,1%	8 44,4%	13 72,2%	17 94,4%	4 22,2%	10 55,6%	88 61,1%

Another tract of violent incidents can be seen in the context of the illegal sale of plots of land of the rural population to soy impresarios, where this has led to rural organizations reacting by taking the land back. On these occasions, the authorities have acted in defence of the soy producers and the communities have suffered numerous attempts to evict them. It is noticeable that in both types of response to the actions of the rural organizations, these organizations have chosen the path of direct, non-violent action. They have supported this with formal complaints and legal action, but few of these have yielded positive responses.

The most violent reactions to the rural uprisings were recorded in 2004, when the organizations were coordinated on a national level to occupy more land and protest against the fumigations which were affecting the communities[16]. This rural uprising, in which the fight against the soy production model was one of the main slogans, was severely repressed by the authorities, leading to the militarization of the countryside. The result was 3,000 arrests, 1,000 without cause, and a number of fatalities, as well as the hundreds injured in the protests. This wave of violence affected the communities profoundly, spreading fear and demobilization. This atmosphere could still be felt at the time of this investigation, at the end of 2006, when the problems of fumigation remained but the inhabitants no longer dared to protest actively, as they did some years ago.

The expansion of soy has aggravated the struggle for land; from minor access to land for young campesinos to the criminalization of the campesino organizations and even the domination of the interests of the soy sector on agriculture in the country. A peasant leader explains *"big land owners and their private property, sown with soy and maize, are backed up by the police (…) and even if the police doesn't come, the Brazilians arm themselves and protect their production"*. From 1989 to 2006, 93 campesino deaths have been registered, of which 33 took place between 2000 and 2006. The majority of the killings have been a result of ambushes by armed civilians[17].

16. The National Front in Defense of Sovereignty and Life declared itself to be in a state of national mobilization, upon receiving no response from the Executive to its eleven points of protest laid out in 'Landless rural populations': no to the invasion of national territory by foreign entrepreneurs; no to the use of toxic fertilisers and genetically modified seeds; land and agrarian reform; no to the privatization of public companies, natural resources, and education; a public bank for development; a social tariff on family consumption; a fixing of base prices for cotton and other agricultural products; no to the relaxation of labour laws; insurance for all unemployed persons of the country; social security with universal coverage; free, quality public education; an urgent response for those affected by the floods caused by the construction of the Yacyretá dam; no to the criminalization of social action. (OSAL, 2004 N° 15)

17. List of dead campesinos/as between 1989 and 2006 related to the struggle for land by *Centro de Documentación y Estudios* (CDE). www.cde.org.py

5.1 Absence of the state and abandonment of the campesino population

The interviews denounce the absence of public policy designed for the campesino population. In general, the campesinos experience a feeling of abandonment and negligence by the Paraguayan state.

In response to the 'agrarian reform programmes' (in fact, colonization) the work of the INDERT is being denounced by the majority of the communities. The agents of the INDERT are considered to be speculation agents in the selling of campesino plots destined for the programme of land distribution to landless campesinos. As such, a mechanism to obstruct the legalization of the communities and land titling is exposed. According to campesino organizations the precariousness of land titling of campesino land, and the lack of services and infrastructure within the communities are mechanisms established to favor land transaction and real estate speculation.

Photo 11. Protest against second Round Table on Responsible Soy, Asunción, August 2006

Banner "Soy is responsible for the death of 30 campesino comrades over 4 years"

The lack of developed public policy for the campesino population stands out. The state is absent in providing infrastructure and service centers for the communities. Faced with highly degraded health conditions within the rural population, the inhabitants point out the seriousness of the situation created by the absence of health posts and emergency services.

In regards to education, a better situation is registered in comparison to that of health services, but even then there is insufficient budget for the teachers as well as for the provision of educational materials. In some of the communities, school absence was attributed to poor economic conditions of campesino households.

5.2 The importance of campesino organization for community cohesion

The investigation shows that campesino organizations, faced with the absence of public policies, are effectively supporting the work and coordination needed to sustain the communities. They are the institutions that follow-up the legal steps that need to be taken to legalize the settlement and the process of land titling. They are also the ones that, in some way, try to cover health and educational issues by demanding more budget and developing, in some cases, alternative schooling and capacitation programmes for the inhabitants. Despite the fact that in the majority of the communities not all of the inhabitants participate in a campesino organization, and even have a certain fear of participating in them, there seems to be a passive agreement to entrust these organizations with contact to governmental institutions.

As such, and according to their capacities, campesino organizations develop programmes to strengthen production, generally from the perspective of encouraging self-subsistence and organic agriculture. Also, these organizations generally, on one hand, take care to support the denouncements issued by inhabitants affected by pesticide spraying and, on the other hand, coordinate protests with the people neighbouring the soy fields.

The main effort of campesino organisations is directed at keeping the campesino population in their communities of origin. Faced with hardening living conditions in these communities, there is a clear difference in the future prospects of the members of the campesino organizations. They show tighter bonds of cohesion in the community and hence feel more supported. Not belonging to a campesino or communal organization in the place of origin is directly linked to the major probability of being displaced. This indicates that rural organisations play a key role in the maintenance of campesino populations within their original communities.

Faced with the soy boom that took place in the communities through the selling of plots, some campesino organizations took diverse forms of popular action with the aim of halting the fragmentation of the communities. One of the results was the recuperation of plots sold with only usufruct rights by the means of land occupation. These recuperations base themselves on the illegality of selling lands destined for decolonization to foreigners who are not qualified according to the Agrarian statute. That is why land occupations generally occur alongside legal denouncements aimed at the INDERT administration.

Another type was seen in the region of Alto Paraná, where, in 2002-2003, neighbourhood commissions prohibited its inhabitants to let or sell land to foreigners. According to the leaders, this halted the community destruction that began in 2000 with the massive impact of soy introduction. The rule determines that if one wants to sell a plot *"one has to sell it to a Paraguayan and it has to be a farmer."* In this way they managed to stabilize the density of the population as well as the production dynamic. But the fundamental essence of this rule points to the importance of securing and fortifying community identity and cohesion.

6. On the process of expulsion

"*The first ones sold due to health problems. Here in the country we don't have resources, and if there is a sickness, no one is going to let their family die. If they don't have resources, they have to find everything they can to save a life. Others sold because they saw what was happening to the people in other places and they got a head start to escape the things that were coming with the expansion of the soy*." Resident of Pariri.

6.1 Profile of those who leave the community

Most migrants in the Paraguayan cities are campesinos or of campesino origin. In analyzing the destination of the migrant families of the sample community of our study, one observes that the greatest number of emigrants is displaced within the borders of the country, which would indicate that internal migration is more common to this sector of displaced people than international emigration. Among the most frequent migrant destinations are Asunción, Encarnación, Cuidad del Este, Caaguazú and, abroad, primarily Argentina and Spain.

The volume of displaced people estimated in this study can be considered significant given that out of 144 families considered in the sample of the communities, 39.6% has at least one member who has migrated. Though it would be risky to make generalizations regarding the profile of the typical family or displaced individual, a few common tendencies have been found.

In the first place the set of factors that finally provokes the displacement of the campesino families is complex and varied, the economic motivations must be understood as only one factor. This is confirmed as the most common answer to the question "Why did you leave your community?", was "due to a lack of future prospects", much more frequently than "due to economic problems".

The presumption that youth are more likely to migrate is verified in the sample study, out of the total number of emigrants classified by the families, 85.6% were younger than 25 years old when they left their community.

In terms of education, it is perceived that, in general, the displaced family members have a higher education than the head of the household in the community. Of the displaced people interviewed in the urban zones, it was found that 87.7% had not studied beyond the 6th grade and 12.2% had never been to school. This indicates a low level of access to education in the communities of origin. In reference to gender, women displaced from the country to the city will present in general, levels of education that are considerably lower than those of men, which will predictably complicate her entrance into the urban labour market.

6.2 Characteristics of the migration flow

The majority of the families that still reside in the rural communities do not have any member with the intention to migrate. When that intention exists, in more than half of the cases only one family member would do so, independent of the family size.

In effect, the first indicative fact is that in 81% of the families, no member intends to migrate, and in the remaining 19% at least one member wants to leave the community. Of this sub group, in 61% of the cases only one of the members wants to migrate.

The polls demonstrated that migration is produced with greater intensity in the communities with higher levels of soy and principally after the year 2000. 58.6% of the families of those polled who had migrated had done so after that year. When two more years are added to this period, which is to say, if migration is considered since 1999, it is considered that 72.1% migrated in following years. This period coincides with the entry and expansion of genetically modified agriculture in the country.

Table 20. Level of entry of soy in the community and migration

	Parirí	Mbocaja'i	San Isidro	San Miguel	Capitán Meza	Arroyo Claro	12000 Bertoni	Luz Bella
Level of soy[18]	3	2	3	3	3	3	1	1
Migration between 2001-06	11 13.4%	8 9.8%	16 19.5%	19 23.2%	7 8.5%	13 1.9%	6 7.3%	2 2.4%
Migration out of total	16 11.4%	18 12.9%	35 25%	27 19.3%	14 10%	13 9.3%	13 9.3%	4 2.9%

When the entry of the soy and the tendency to migrate are compared, a clear difference can be seen between the Departments of San Pedro and Alto Paraná. The former has lower rates of migration. This coincides with the fact that the lowest levels of soy entry are registered in San Pedro, and the highest levels are registered in Alto Paraná. Caaguazú and Itapúa are located in mid levels of migration, in spite high entry rates of soy in Itapúa. However, the migration in those last two departments has grown quite a lot in the last few years.

It can be affirmed, then, with a certain grade of precision, that the entry of soy in the communities is an important factor that drives the migration of its residents. The campesino population that is affected by the expansion of soy, does not leave due to personal motivation, which is to say, because they are attracted to another place. Rather this population is forced to leave, obliged by circumstances; either they need to sell or let their land to gain profit for maintenance, to be able to pay debts for production financing, or to directly escape fumigations or paramilitary groups that work for the soy farmers. In this respect, all of the "already displaced" confirmed that their houses in their places of origin were located relatively close to some mechanized soy plantation.

Table 21. Living distance from soy plantations

Distance	N / %
Inside soy plantation	4 9.5%
10 meters or less	7 16.7%
11 to 50 meters	9 21.4%
51 to 100 meters	8 19%
101 to 500 meters	10 23.8%
More than 500 meters	4 9.5%
Total	**42 100%**

18. This index was constructed out of direct observation in the communities, the interviews and other data as maps and cultivated surfaces by the investigators. The highest values represent a higher level of entrance of soy in the community.

The table above shows that two thirds of the total of the displaced lived 100 meters or less from a soy plantation. As well, 39 people out of the total 42 polled in urban areas, identified soy as the crop that was most fumigated in the community. Practically 60% point out that the water ways in their communities were found to be contaminated, to some degree, due to the fumigations. The majority attribute their exit from the community in some level to the fumigations on soy monocultures. Equally, it is interesting to observe that, according to them, 33.3% of the lands they left in their communities, are presently planted with soy.

Table 22. Exit from the community due to the fumigations

Fumigation and expulsion	N / %
No	17 41.5%
Yes, to a great extent	8 19.5%
Yes, to some extent	5 12.2%
Yes, exactly for that reason	11 26.8%
Total	**41** **100%**

It is important to emphasize how the majority of the displaced perceived a decrease of job offers in the community linked to the entry of the soy crops. Exactly two thirds of those consulted thought that there was less work in the area since the entry of the monoculture. This is in sharp contrast with the discourse held by the government and involved business groups that job vacancies increased with the "modernization of agriculture."

Table 23. Job vacancies since the entry of soy in the community

Jobs and the entry of soy	N / %
No soy entry	2 4.8%
Increase	7 16.7%
Did not vary	2 4.8%
Decreased	28 66.7%
N/A	2 4.8%
Don't know	1 2.4%
Total	**42** **100%**

The displaced, in majority, did not belong to an organization in their place of origin. Even though the majority of the sample is not organized, the percentage among the displaced is a lot higher (75%) in comparison with the campesinos still residing in the communities. This is consistent with the discourse of the campesino organizations, that aim for the retention of the campesino population in their communities of origin.

Table 24. Membership in a community organization

Organization	N / %
None	30 75%
National Campesino Federatión (FNC)	4 10%
Farmers Association /CECTEC/ Producers Cooperative	2 5%
Others	6 15%
Total	**40** **100%**

The borders of the soy monocultures advance by means of the strategy of appropriation of rural territories. This generates new social situations in the communities that remain bordering on or within them. The polls in the communities demonstrated that the families that perceive fewer threats of the soy model are those that are least likely to migrate, while, insofar as the perception of threats rises, the intention of migration rises as well. A rate was developed to measure the tendency to migrate in relation to the factors of expulsion that soy monoculture generates.

The aim of this is to measure, for each case, the threat that soy represents in the community. To obtain the rate, the following indications were considered[19]:

- Decrease in job availability since the entrance of soy
- Acquaintances with health problems
- Personal health problems related to the fumigations
- Fumigations affecting small animals
- Pollution of water sources by fumigations
- Neighbours that left the community due to fumigations
- Problems after fumigations that caused neighbours to migrate
- Changes in hunting in recent years
- Changes in fishing in recent years
- Increase of acts of violence linked to soy
- Soy producers are mainly responsible for these acts of violence
- Increase in the presence of assassins or armed police with the entrance of soy

Table 25. Relationship between the factors of expulsion and tendency to migrate

Factors of expulsion	Members considering migrating				Total
	0	1	2	More than 2	
1	32 88.9 %	3 8.3% 21.4%	1 2.8% 16.7%		36 100% 25.2%
2	60 85.7% 51.7%	5 7.1% 35.7%	2 2.9% 33.3%	3 4.3% 42.9%	70 100% 49%
3	24 64.9% 20.7%	6 16.2% 42.9%	3 8.1% 50%	4 10.8% 57.1%	37 100% 25.9%
Total	116 81.1% 100%	14 9.8% 100%	6 4.2% 100%	7 4.9% 100%	143 100% 100%

As one may observe in the table, as the perception of threats related to soy monoculture increases, the proportion of family members who want to migrate increases.

6.3 Conditions and difficulties of displaced people

Once the displaced person is set up in his migratory destination, as well as suffering the typical disadvantages related to abandoning a home, in the majority of cases he maintains in a situation of not fulfilling his economic, social and cultural rights (DESCs). In this sense, it is significant that of the group of displaced people that was interviewed in the urban areas, 57.2% declared that their lives were equal to, or worse than before migrating.

Comparing the kind of dwelling the displaced occupy in their places of migratory destination with the kind of dwelling they had in their community of origin, it can be stated that emigrated families in the city live in dwellings of poorer quality but with more commodities than their original homes.

19. When the response of the interviewee coincided with the original hypothesis (the existence of the threat) the response was given the value 1. When the response did not coincide, it was given a 0. A new variable was developed by means of the creation of three categories for the rate (from 0 to 4, from 5 to 8; and from 9 to 14 with corresponding values 1, 2 and 3) and that was cross referenced with the families' propensity to migrate.

The kind of work to which the displaced person usually has access, as well as being generally precarious, is in many cases informal and always low. After analyzing the interviews carried out in the communities, a significant 34.5% of interviewees find themselves occupied in the "domestic employee or nanny" sector, as this is the labour that employs the most emigrant families. For the men who migrated to cities, the most common work is that of construction.

Photo 12. Garbage heap recyclers working on the garbage heap of Cateura, Asunción

Table 26. Work of migrated family members in their place of migratory destination

Occupational Category	N / %
Does not work	6 4.2%
Studies	10 7%
Domestic Employee / Nanny	49 34.5%
Nurse	1 0.7%
Construction / Woodworking	11 7.7%
Small Business	7 4.9%
Office Employee / Public Employee	5 3.5%
Ranch work / Agriculture	21 14.8%
Charburner	1 0.7%
Transport / Trucker / Delivery/ Taxis	7 4.9%
Rural street vendor	1 0.7%
Seamstress in shop / Dressmaker/ Factory	4 2.8%
Other	9 6.3%
No Specific Occupation	10 7%
Total answers	**142** **100%**

Regarding the question of the possible loss of identity of the displaced person, it was confirmed that 62% of the interviewed city residents continue considering themselves campesinos. This seems to prove a logical conflict between the feeling of the farmer and the negation of the relationship with the earth that the city imposes.

Information has also been obtained about remittances sent by the displaced.[20] It was found that 47.2% of the displaced sent money to their families regularly. 36 families are beneficiaries of these remittances, which constitute 25% of the

20. Of the total 156 identified members that have left their communities, precise information has been obtained about 147.

families in the study, or 63.2% of those with a migrated family member. Translated to monetary values, the average monthly support of each emigrant is 64,000 Guaraníes (approx. 10 USD). The irregularity and average quantity of the remittances hints that the economic situation of the displaced people cannot be considered buoyant. From this, it can be inferred that the sending of money supposes, in many cases, an enormous effort that aggravates the precarious situation of the displaced person.

A fundamental question regarding the situation of those displaced to cities, and which is directly related to the cited statistics of urban poverty, is the fact - corroborated by the interviews of the displaced people and the different interviews with qualified informants – that the great majority of the campesinos displaced to the cities end up living in the so-called "marginal neighbourhoods". The process through which the displaced end up passing through to become part of these "neighbourhoods" can vary according to each case. In this way, after the explanation of Father Oliva, member of the Youth Parliament and a great expert on the southern zone of the great *bañado* of Asunción (banks of the Paraguay river populated by marginal neighbourhoods): *"In the bañado everyone comes from the countryside. Some 60,000 residents in the entire bañado of Asunción. The displaced people direct themselves in the first place to the metropolitan zone, renting some space with the money that they have saved or have from the sale of their lands. But because they have few resources, in little time they find themselves obligated to move to the peripheral zone, coming to integrate into the number of people that live in the bañado."*

A process of double expulsion can then be discussed, in the first place one which causes the campesinos to move to the city, and in the second place, one wich pushes them to leave the city to integrate themselves into the shanty towns. The commentary of Ilda Conradi, who forms part of the coordination at a national level of the Pastoral de Movilidad Humana, is also interesting in this respect: "*When the migration is individual, normally they rent rooms in the city. Now, when complete families come, generally they go directly to the shanty towns on the periphery of the city*."

So, it is to be supposed that a great part of the campesinos that come to the city in search of a better life feel enormously deceived when faced by the overwhelming reality that pushes them toward worse living conditions, when they find themselves obligated to move from the city to the shanty towns, as Father Oliva indicates: "*Many, in this lapse of time, realize that they are not really going to improve their living conditions, and they regret, but it is too late to return to the countryside, as they have already left everything and they have nowhere to return to (…) the* bañado *was no illusion for anyone; a terrible poverty."*

Photo 13. Protest against second Round Table on Responsable soy, Asunción, August 2006

7. Conclusion: violation of Economic, Social and Cultural Rights (DESC) as a main factor for the expulsion of the rural population

Photo 14. Children playing in front of garbage heap Cateura, Asunción

According to the results of this investigation, the different impacts of the advance of the soy model on the Paraguayan campesino society could be identified in the general frame of *Economic, Social and Cultural Rights* (DESC by its Spanish acronym) violations that repeat themselves along the degradation process of the living conditions and the expulsion of campesino population in the agro-export model. The displacement of the rural population that abandons their community of origin, should be considered as the most visible of the extreme consequence of the complex process of loss of rights in Paraguay generated by the expansion of the monoculture model of mainly soy crops for export. Families and individuals that are expelled from their communities because of the degrading living conditions are often suffering denial of the most basic rights.

The advance of the current model of agriculture based on monocultures is inherent to the DESC violation process. Any attempts to reaffirm campesino rights should start by a firm questioning of this actual model.

This view requires drifting from the identification of the migration process as an ill on its own. The decision to migrate, when taken in freedom and not forced by the basic rights violation of an individual, is reasonable and should be accepted and defended. It is precisely in DESC rights denial where the migration should be understood as a forced expulsion process, an inevitable consequence of the slow degradation of the living conditions in the place of origin. Therefore, expelled rural population should be considered as refugees of the agro-export model.

These forced displacements of campesino families, whose basic rights have been violated, have important consequences for the rest of Paraguay's inhabitants. They are the ones that produce market food products to sustain the population. In this way rights violation advances from the expelled to the rest of the population whose basic right to a healthy diet is denied in the long term.

The transgenic soy monoculture transforms agriculture into an industrial process that converts the countryside into an uninhabitable production territory that is not compatible with traditional family agriculture. Campesino leaders clearly identify fumigation as the main factor for expulsion. The soy monoculture model does not respect the rural population health rights, fundamental and essential to be able to exercise all other basic human rights. The right to health must be interpreted as an inclusive right that not only covers the appropriate health attention but also the access to clean drinking water, adequate sanitary and environmental work conditions, the supply of healthy food and diet, appropriate housing, access to education and information and questions related to health. The State should take preventive action regarding the exposure of the population to toxic chemical products and specifically protect the right to live in a healthy habitat.

Agribusiness promotes a production system based on a land empty of population and culture which undermines the principles of self-determination and control over the natural resources of the territory.

Inhabitants agree that the lack of public policies and State interference cause the main problems affecting the community. Most of those interviewed believe the State does not care about their community and it is often affirmed that Government action has a negative effect on the population.

A common preoccupation is the complicity of civil servants to the illegal expansion of the mechanized production model through the sale of usufruct rights. In many interviews the behaviour and illegal business of the INDERT regional agents have been criticized. From this can be deducted that the Paraguayan State is the main accomplice of the illegal land transactions of public land originally assigned to a local re-colonisation programme. They are responsible for the disappearance of campesino and indigenous culture.

The campesino and indigenous populations should organize themselves in order to remain in their traditional territories, strengthening the community, recomposing the productive basis and the social cohesion and demanding public policy that respects and protects the rural population. As an Alto Paraná inhabitant puts it: *"Unless the agribusiness expansion is reverted, the Paraguayan rural population faces a dark horizon, leading directly to its disappearance. With this system, the campesino community has no future, not a chance to survive in a settlement. When people say that the only way to make money from a piece of land is planting soy, in one way or another, a community will disappear from the system."*

Photo 15. Campesino gathering in the community of Tekojoja, Caaguazú

Banner "2 million ha. of soy = 2 million poor people in Paraguay"

Bibliography

CAPECO (2006). *Producción de soja 2006*. Asunción: Cámara Paraguaya de Exportadores de Cereales y Oleaginosas (CAPECO).

DGEEC (2004). *Encuesta Permanente de Hogares EPH/2003*. Fernando de la Mora: Dirección General de Estadística, Encuestas y Censos.

Echarte, Luis (2001). *El Mercado y el Marco Regulatorio de Microfinanzas en Paraguay*. Asunción: SIC desarrollo.

Garibay C., Ma. Guadalupe and Curiel B. Arturo (2005). "Salud Ambiente, campo de la complejidad ambiental." in *Revistas Ideas Ambientales 2.*

OSAL (2004). "Cronología de conflicto setiembre–diciembre 2004. Paraguay" in *Observatorio Social de América Latina 15*.

Palau, Tomás and MariaVictoria Heikel (1987). *Los campesinos, el Estado y las empresas en la frontera agrícola.* Asunción: BASE-PISPAL

Pedretti, R. (2006). *Expansión futura de la soja en Paraguay: Implicaciones para la seguridad alimentaria, desarrollo rural y políticas agrícolas*. Asunción: Versión preliminar para discusión.


With the support of
A SEED Europe
diakonia
ACCION ECUMENICA SUECA
ICCO
With collaboration of
GRR