

## **Robin Rigby Trust Collaborative Coastal Research Report**

### **Impact of Environmental Degradation on Fishers' Livelihoods – The Case Study of a Brazilian Mangrove Community, Vila dos Pescadores.**



#### **Report on field research conducted at Vila dos Pescadores, City of Cubatão, São Paulo State, Brazil (July 14 to September 2, 2014).**

Cintia Gillam, Master's Student in International Development Studies, Saint Mary's University, Halifax, Nova Scotia, Canada

Supervisor: Dr. Tony Charles

#### **Acknowledgements**

I would like to express my deepest gratitude to The Robin Rigby Trust for funding my research trip, and my supervisor, Dr. Tony Charles, for advising me while staying in Brazil and through my Master's program. Finally, my thankfulness to the research partners who contributed to my research without any financial compensation, in trust of my research.

I also would like to like to thank the community of Vila dos Pescadores and the City of Cubatão municipal workers for their help on my research activities. In particular, I would like to thank the Secretary of the Environment of the city of Cubatão, Pedro Hidelbrando da Silva, who allowed me to participate in events and field trips related to environmental issues in the city, and Romeu Magalhães, advisor to the secretary, for making me aware of some many environmental and social issues in the city of Cubatão, and the community leader of Vila dos Pescadores, José Arnaldo dos Santos (Vadinho) who introduced me to fishers and other members of the Community.



## **Introduction**

This field research trip conducted in the Vila dos Pescadores, city of Cubatão, Brazil is part of my Master's thesis in International Development Studies at Saint Mary's University, Halifax, Nova Scotia, Canada, entitled: "Applying the 3-dimensional wellbeing concept to the development of sustainable artisanal fisheries. A case study of a mangrove community in Southeast Brazil, Vila dos Pescadores." This research aims to explore the various social and environmental factors that lead to livelihood insecurity and poverty among fishers at Vila dos Pescadores and possible options to revert these fishers' situation through an analysis of the 3-dimension wellbeing framework (McGregor and Sumner 105).

Environmental factors such as industrial and urban pollution lead to the decline of fisheries, and in consequence, fishers rely on informal labour. In order to maintain their livelihoods these fishers have to combine fishing with informal labour such as construction work. As a consequence, there is the decline of fishers' job satisfaction and overall wellbeing. Fishers at Vila dos Pescadores enjoy the nature of fishing and being their own boss.

## **General chronology of the data acquisition and Methodology**

The methodology adopted included participant observation, informal conversations, video interviews and voice recorded semi-structured interviews. Overwhelmingly amount of information was obtained with informal conversations during the period between July 15 and August 30, 2014.

Data presented for Vila dos Pescadores comes from a research project in which 42 semi-structured interviews was conducted with artisanal fishers about their fisheries, livelihoods, and other economic and sustainability aspects of their lives. In this study, a semi-structured questionnaire was applied to assess how fishers in these communities perceived the sustainability of their fisheries and livelihoods, and environmental and political barriers to make a living from their fisheries activity.

There were countless informal conversations with Vila dos Pescadores community members, fishers, municipal government employees, and a visit to the company Unipar-Carbocloro. During this visit, I observed the working conditions of workers, especially the ones who work in the mercury cells in the area, who are often contractors.

In August I met three researchers from the São Paulo Government Fisheries Institute (Instituto de Pesca). One of these researchers is Ingrid Machado, who will do research with Vila dos Pescadores. I introduced her to the community leader, Vadinho, in the end of August. She booked a car and driver from the Santos Fisheries Institute to take me where crab gatherers sell crabs by the highway on August 30th, but it was cool that day and no crab gatherers and sellers would be found by the highway.

## **Problems Encountered on Field Trip**

Prior to arriving in Brazil, I intended to research crab fishers at Vila Esperança and Vila dos Pescadores, both communities located in the city of Cubatão. Due to political reasons, it was not possible to work with the Vila Esperança community. As fishers at Vila dos Pescadores

rely on fish and shellfish harvest for survival, it was necessary to interview fishers in general, instead of only crab fishers. Most fishers at Vila dos Pescadores don't specialize in one species, but rely on artisanal fish and shellfish harvesting year round.

Another field research trip issue was the lack of availability of the industries for an interview. I contacted the persons responsible for the environmental area of the companies Petrobras, Brazilian Company of Styrene, and Usiminas. The environment related people from these companies recommended me to send my interview questions by email. Once I sent it, I've never got an answer.

In the beginning of the field trip, the president of the Community Association of Vila dos Pescadores, Jose Arnaldo dos Santos (Vadinho) introduced me to fishers in their dock area. Sometimes it was difficult to meet them either because they were fishing, or they were in their house. Initially, fishers wanted the Robin Rigby Trust funds to be used to fix their dock. Due to political divergences between fishers and their leader, it was not possible to use the RRT funds to fix their dock. Thus, there is a lack of trust in scientists who do field work there, and this is one of the reasons why it was difficult to interview fishers in the beginning of my research.

### **Successes Achieved**

Due to circumstance mentioned above, I decided, together with the community leader Vadinho, to invest the Robin Rigby Trust funds in the Community Centre instead of investing it in fixing the dock. Vadinho and I, with a fisher, Robson, went to a store in Cubatão and another one in Vila dos Pescadores and bought a new freezer, a vapor pressure washer, two 85 W bulbs, two toilet flushes, seats, mirror, kits for bathroom, two bathroom locks, two latches, three hinges, one breaker, one 46 W bulb, six tubes of paint, thirty bags of cement, three brooms, two squeegees and one dustpan, various cleaning supplies, three iron bars and two roofing tiles. The Community Centre is a space used by the Vila dos Pescadores community for events such as dance classes, distribution of food for low income families, rental space for weddings, and may other activities. Fishers are users of this space, and Vadinho (president of the Community Association of the Vila dos Pescadores) plans to repair the older freezer for storing fish and shellfish for fishers.

I made many connections with Cubatão's municipal employees, including people who work in the municipal library, archives, and the secretariat of the environment of the city of Cubatão. This opportunity of networking started when I was invited by the Secretary of the Environment of Cubatão, Pedro Hildebrando da Silva, to join the SHEWC 2014, XIV Safety, Health and Environment World Congress in Cubatão, from July 21 to 23, 2014. SHEWC provided participants with recent information in health, safety, and environment fields, having Brazilian and international scientists giving lectures, plenary sessions, presentations of papers and workshops. This congress gave me a great opportunity for networking and relationship building with policymakers and employees from the municipal government, and local scientists from CEPEMA (Centre for Training and Research in the Environment of the University of São Paulo).

Among other activities offered by the Secretary of the Environment, I visited the Ecological Perequê and Cotia-Pará parks, a tour in Cubatao's industrial park, and a tour on the SABESP (State Water Company) water collection and treatment area in the Serra do Mar State Park with the Secretariat of the Environment Advisor Romeu Magalhães.

On July 25, 2014, I was invited by the Secretary of the Environment to join a meeting on implementing selective waste collection in the city of Cubatão, including Vila dos Pescadores. The launch of the recycling collection in the City was on August 4th, 2014. The Association of Collectors of Recyclable Waste of Cubatão was present. I shared some information in how recycling and waste disposal is applied in Halifax.

The presence of a Canadian researcher in Cubatão attracted the attention of many people in the City. One of these people was a historian from the Cubatão's Archives who contacted the City's media to interview me. The interview was published in three Brazilian Newspapers (below):

[http://correio.rac.com.br/\\_conteudo/2014/08/ig\\_paulista/200158-cubatao-e-tema-de-mestrado-para-universidade-canadense.html](http://correio.rac.com.br/_conteudo/2014/08/ig_paulista/200158-cubatao-e-tema-de-mestrado-para-universidade-canadense.html)

<http://www.cubatao.sp.gov.br/noticias/8979-cubatao-e-tema-de-mestrado-para-universitaria-brasileira-radicada-no-canada/#.VBORgC5dXIQ>

<http://www.jornaldaorla.com.br/noticias/15265-cubatao-e-tema-de-mestrado-para-universitaria-brasileira-no-canada/>

### **Vila Esperança Community**

Although Vila Esperança didn't become a research partner, one of Vila Esperança's community leaders, Sebastião Ribeiro do Nascimento, better known as "Zumbi" gave me a video interview. He created the NGO Cubatão de Bem com o Mangue (Cubatão is Well with the Mangrove), which promotes environmental education activities, offers English classes, literacy and technical courses for the population of Vila Esperança and fights for the urbanization of the community. Vila Esperança has its own currency, the "mangue" (mangrove). The "mangue" bills are accepted in local stores. The ballots are the size of a business card and very similar to the real (Brazilian currency), each with a picture of the mangrove area native animals. The scheme works as follows: the Vila Esperança residents collect recyclable materials that are dumped into the environment or used in their homes and bring them to the headquarter of the NGO. This recyclable material is exchanged for the "mangue" currency according to the amount of recyclable materials.

### **Successes of the Field Trip**

People in Cubatão were amazingly friendly and helpful to my research. One unforgettable moment was a boat trip in August 2014 when I took a boat tour to an illegal chemical waste dumping pipe underneath one of the Cubatão's industries. The company dumps chemical waste underneath their platform in the Santos estuary mangrove area, where nobody can see. We had to lower our heads inside tunnels so I could record and film this pipe releasing chemicals. The community members say that what this water is killing the fish. Cubatão is a

very powerful industrial hub where these companies have a lot of power over all government levels. People in general told me facts off camera that they are frustrated by how a super-rich city such as Cubatão is filled with slums and criminality (fishers live in slums). It is in the interest of the industries not to have fishers anymore, and of the government at all levels to have poor fishers and people living in slums so these uneducated people can vote for them (voting is mandatory in Brazil). During the same trip, mangrove trees were seen being illegally cut down by workers (mangroves are national protected areas in Brazil). I video recorded this devastated mangrove area.

### **What I have learned from the Field Trip**

The main lesson I've learned is that communities are not a homogenous group as many researchers think. Vila dos Pescadores, with Northeastern migrants, with different cultural backgrounds, often suffer from a lack of communication, leading to cultural divergences in the Community. Thus there is a hierarchy of power in the Community. This can be seen amongst fishers as it is difficult for them to get united to fight for their rights.

The amount of corruption is rampant in Brazil. It was a quick and necessary learning process for me to "read through people" to ensure that I was doing research with honest people. Luckily Vadinho is a very honest community leader. His character could be seen by how he presents and documents all the donation Vila dos Pescadores Community Association has received from local companies, the City of Cubatão, Robin Rigby Trust and other partners.

Brazil is a country of contrasts, and at Vila dos Pescadores and Cubatão in general I found the most caring, helpful, warm and amazing people in my entire life. There people told me about how the industries have been polluting the environment, how politics contributes to mangrove invasions, how fishers work so hard to barely make a living, having to rely on informal work to supplement their income, and many other extremely useful information for my thesis. The situation of these migrants requires the analysis of their conditions of inequality as a consequence of the capitalist labour exploitative relations, power imbalances, and social and political situations in Cubatão, and in Brazil in general.

The complex ways Brazilian politics are involved in every citizen's life is amazing. Once well connected with people in Cubatão, I learned how many local politicians get involved with community members in slums to gather votes, and once elected, most of these politicians rarely serve the communities who elected them.

One great lesson learned is that in order to work in a developing country, it is necessary to have a strong background in social science, and get deeply involved with the community under study, following the local culture and practices. In my research trip, it was necessary to emotionally get involved with people in order for them to be close to me. Some degree of ethnographic learning was necessary to blend into the community and gather the most reliable information possible. At a personal level, I've made good friends at Vila dos Pescadores and Cubatão, achieving a great amount of personal gratification.

Another issue was that I had to eliminate some of the interview questions due to lack of trust from fishers. For example, when I asked if the fishers received any cash from government cash transfer programmes, many of them (fishers) were afraid to lose their benefit if they

said to me that they attained income from fishing and also from the cash transfer programme “Bolsa Familia.” Although confidentiality is guaranteed in my research, if partners wished so, I eliminated more sensitive questions that could make interviewees feel uncomfortable.

The Robin Rigby Trust (RRT) funding was a key factor in the success of my field trip at Vila dos Pescadores. When fishers heard about funding for their dock, it was the moment I could connect more closely to them and became able to interview more fishers. Without this funding it would be much harder to connect to the Vila dos Pescadores fishers and other community members. Thus, by using the RRT funds to help the community, I was perceived as a trustworthy person and still now I receive valuable information about the community. The RRT funding was a sort of “wake up call” for the fishers as they could miss other financial opportunities for their association due to an unpopular current leadership. One of the communications I received by Facebook in the past two weeks is that the fishers in the community elected a new fishers’ association, “José Tobias Barros”.

### **Future Academic Plans**

The 3-Dimension human wellbeing framework relates to material, relational and subjective dimensions of wellbeing (McGregor and Sumner 105). On my master’s thesis, I will focus on fishers’ wellbeing and the role the 3-dimension wellbeing approach in the significance of the relational and subjective dimensions of wellbeing for the development of fishers’ sense of belonging and identity. The study of the 3-dimensional wellbeing framework is a tool to analyse what means to be a fisher in terms of maintaining their livelihood. At Vila dos Pescadores, fishers suffer from social exclusion and from the loss of their identity and self-esteem by not being able to fish as they would in the past, and consequently, by becoming workers in the informal sector.

The generation and reproduction of poverty leads to material deprivation, but also to loss of dignity, as fishers slowly have been losing their livelihoods due to environmental degradation. Fisheries policies must address fishers’ wellbeing as a reason to encourage artisanal fishers to support their livelihoods.

### **Conclusions**

A striking income concentration that afflicts millions of Brazilians, poor education, violence are expressions of the level of the social inequalities in Brazil. Along with the Brazilian economic development itself, also increased poverty, social disparities in education, income, health, etc. also have been increasing. In this pool of inequality, fishers in a slum area are not the priority of any of the three levels of government, federal, state and municipal.

Fishers are a barrier to the port and industries, as the port of Santos needs expansion and many people in power want to use the area where Vila dos Pescadores is located and transform it in port in the future. Conservation measures are needed for the long term, but with the economic pressure in the estuary (the largest port in Latin America - Santos, and the industrial hub) fishers tend to be forgotten by a lack of political priorities by all three government levels.

Fishers at Vila dos Pescadores want clean water to fish, want help from the government and industries to clean up the mangrove, but because they believe this will not happen, they want more opportunities for their children to work in the industries so they can have a better future.

There is an urgent need to help these fishers to support their livelihoods at this moment, but there are many powerful actors who are barriers for these fishers, such as government policies favouring economic development over social conditions. With all these barriers, the Vila dos Pescadores community has over two hundred fishers and a significant amount of fishing.

It is fundamental that more reliable data is available on pollution and a deeper understanding of the artisanal fisheries in Santos Harbour from the social sciences point of view focusing on fishers' needs to be available. The difficulty to reconcile environmental protection with economic and social development projects is a weakness in the current management of the industrial hub of Cubatão. When companies do commit to the preservation, maintenance or recovery of protected areas (corporate social responsibility projects), often fishers are left behind.

Possible solutions to the problems of environmental degradation in Cubatão are investing in public policies for environmental education in slums and the industrial hub, and intensification of dialogue on the environmental and sustainable development among government, business and civil society.

## References

- City of Cubatão. Economic Aspects – The Port and Agriculture. (2014). Web. 14 Sept. 2014.  
<<http://www.cubatao.sp.gov.br/historia/cidade/aspectos-economicos/>>
- Fagundes, Lucio et al. "Aspectos Produtivos da Pesca Extrativa na Vila dos Pescadores, Cubatão, Estado de São Paulo." [Productive Aspects of Extractive Fishing at Vila dos Pescadores, Cubatão, State of São Paulo]. *Informações Econômicas*, 42.6 (2012): 23-32
- McGregor, Allister and Andy Sumner. "Beyond Business as Usual: What Might 3-D Wellbeing Contribute to MDG Momentum? IDS Bulletin, 41,1 (2010): 104-112

**Expenses between July 14 to September 1, 2014**

<b>Category</b>	<b>Description</b>	<b>Details</b>	<b>Total (\$)</b>
Communication	Prepaid cell phone credits, Internet, printing	1 ½ months	132.61
Rent	Rent	1 1/2 months	757.64
Transportation	Car rental, taxi from the airport, gas, plane ticket	1 1/2 months	1572.52
Food (per diem)	Lunch and sometimes supper	49 days	1274.00
Materials for the Vila dos Pescadores Community Centre	Iron, roof, paint supplies, 30 bags of cement, lights, 4 fans, roof, 2 bathroom taps, wires, electrical tapes, accents for bathroom, 1 breaker and 3 hinges, 6 brooms and dust pans, freezer and pressure vapor water	Construction materials	2351.18
<b>Total expenses</b>	(not including the trip to Brazil in April 2015).		<b>6087.95</b>



## Photos – Vila dos Pescadores

Photos taken by Vadinho – materials bought with The Robin Rigby Trust funding. Vadinho posted these photos on his Facebook page named “Vereador Cubatão no Limite” public page with 1,196 members. He thanked the Robin Rigby Trust for the donations to the Vila dos Pescadores Community Association on his Facebook page (with more than 1000 friends). Among his Facebook page members there are many policymakers in the city of Cubatão.

One of the communications I received by Facebook in the past two weeks is that the fishers in the community elected a new fishers’ association, “José Tobias Barros”.



Toilets were broken, but Vadinho fixed them, and installed other accents in the bathrooms (toilet hangers, etc with the RRT funds.).



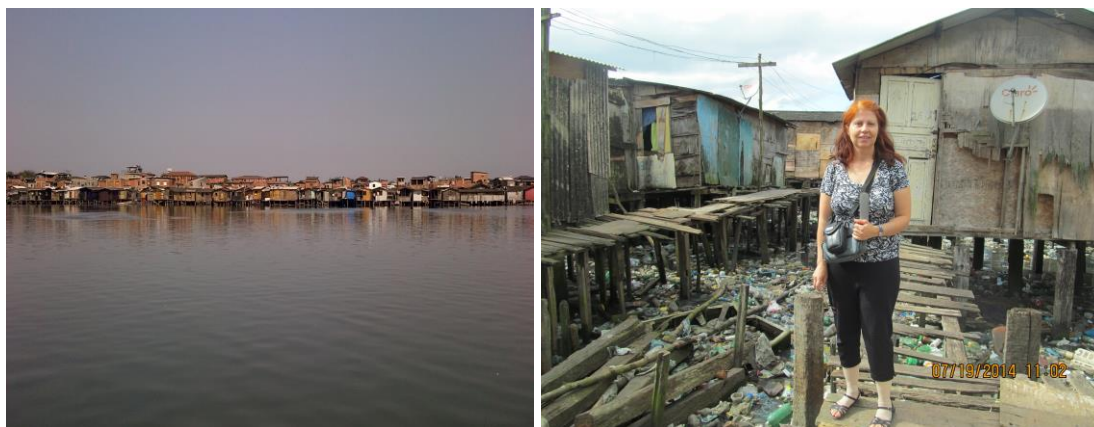
Much needed fans for the summer.



Cement bags bought with the Robin Rigby Trust funds to fix the Community Centre's floor.



Final touch with painting. A Brazilian company, MRS Logistica, helped the Vila dos Pescadores Community Association with more construction materials to finish building the Community Centre.



These shacks are permanent homes in the Vila dos Pescadores Community.

Map of Cubatao. Retrieved from:

<http://noticias.bol.uol.com.br/ultimas-noticias/brasil/2013/05/24/prefeita-e-vice-de-cubatao-sp-tem-mandatos-cassados-mas-seguem-nos-cargos.htm>