

UPSTREAM, DOWNSTREAM: FISHERMEN, RIVER AND RISKS IN LOW SÃO FRANCISCO RIVER

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1 Introduction

Water-related risks have become more relevant lately; they have been creating new ways to handle the matter, mainly at hydrographic basin level. Water management based on risk handling due to vulnerabilities and damages within uncertain scenarios deals with real risks deriving from technical records and from socially constructed perceived risks. The perceived risks are one of the pillars to reduce vulnerabilities; therefore they became emergent (GRAH; MITJAVILA, 2011; CARVALHO; SANTOS, 2016; MAÑEZ *et al.*, 2016; HOPKIN, 2017; WORLD ECONOMIC FORUM, 2017).

São Francisco River basin was herein assessed, mainly the so-called Low Sao Francisco. A regulation system composed of Federal Constitution (articles 1, 5 and 225); Law n. 9.784/1999 (article 2); Law n. 9.433/97; Resolution n. 181/2016 from Hydric Resources National Council (CNRH, 2016); São Francisco Basin Ten Year Plan (CBHSE, 2016) accounts for developing actions aimed at fighting possible risks in Brazil and in the aforementioned basin. However, it is necessary to take into account the uncertainty and degradation scenario, because there are evidences that the São Francisco Hydrographic Basin Committee (CBHSF) has not been able to achieve its main purposes, namely:

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protecting watersheds in the São Francisco Basin and contributing to its sustainable development (ZELLHUBER; SIQUEIRA, 2016; CBHSF, 2017).

The research was based on a survey comprising fishermen from Low São Francisco; thus, the socially constructed risks were assessed based on previous experiences of this social actors. The aims of the study were (i) to outline a short profile of fishermen as social actors and understand their relationship with the river; (ii) to explore meanings related to environmental, political, socioeconomic and cultural risks in the Low São Francisco region; (iii) to unravel the emergent meanings of the possible “death” of São Francisco River and the meanings of its “prevention”; (iv) to present elements that can help creating a risk prevention model for institutions acting the in Low São Francisco region; (v) to relate the meanings of emergent risks in Low São Francisco region to a broader reflection about water degradation.

Different generations of fishermen acted as important elements to fight for the river’s preservation, since they experienced several changes in “Old Chico’s”⁶ water use. Uncertainty about the future influences the reproduction of fishermen’s social conditions, a fact that forces them to abandon their profession (REZENDE; OLIVEIRA, 2015).

Besides the deep changes caused by the constructions of hydroelectric dams (CBHSF, 2013), one of the most important episodes in Low São Francisco region in the recent history, is the approval of the river’s water transposition, which went against the decision made by the Hydrographic Basin Committee. Although most national newspapers spread news about the need of the transposition to favor economic development, a large number of local newspapers in Sergipe and Alagoas states (Low São Francisco region) informed the local population about the “sick river” and the “death of the river” in order to put the population against the transposition project. Ideas such as “lack of water”, the rivers’ transformation into a “*cacimba*” (a brook) and “river death” emerged throughout the transposition-approval process. The “river death” argument emerged from the symbolic universe of those who had a hard time navigating the São Francisco River (LIMA, 2011; BECKER; SANTOS, 2014).

A political battle started in Low São Francisco region when the transposition project was approved. Despite the protests, the São Francisco Basin Committee deliberation and the lawsuits against the project, the water transposition began. Many elements have shown that community representatives abandoned the committee after the transposition process was consolidated, a fact that has weakened the movement against the project (BECKER; SANTOS, 2014; EMPINOTTI, 2011; ARAÚJO, 2012; HENKE, 2013; SIEGMUND-SCHULTZE, 2015; PIRES, 2016).

Assumingly, the transposition experience, mainly its decision-making process, increased the sense of risk in fishermen’s lives. Such situation impaired risk prevention policies, and decision-making at different dimensions and aspects. A phenomenological method based on the subjectivity of being in the world was adopted. The experiences of fishermen were taken into account, according to them: “at the root of all our experiences and of all our reflections, we find a being who immediately recognizes itself” (MERLEAU-

6. As the river is tenderly known

-PONTY, 2011, p. 497) and that reality is based on shared experiences, “consensus and individual constructions, including the investigators’ constructions” (HOWELL, 2013 p. 87).

The research was based on two main theoretical axes: the sense of meaning, which is a polysemic term used to understand the perception about lived experiences capable of revealing the essential structures of a transcendental subjectivity (HUSSLER, 2012); and sense of risk, mainly of environmental risk, which is defined as the likelihood of an event to occur and its consequences due to men’s actions in nature (HOPKIN, 2017). The present article was divided into five sections: introduction, assessment on the social construction of the risk phenomenon, methodology, results and conclusion.

2 Social-construction risk phenomenon

Risk is an important element nowadays, and it can be applied to situations or events that can cause damages, harm, injury or impose danger. The sense of risk is inversely related safety, its opposite, and such reversed association strengthens the need of understanding risk experiences and perceptions about them. Risk involves uncertainty and fear, it emerges as lack of control over the future (LUPTON, 2013; HUSSLER, 2012; BECK, 2015).

There are many attempts to create risk typologies; according to Lupton (2013), and Burzyński and Burzyński (2014) risk is classified both by the possibility of its occurrence and by the nature of perceptions about it. Overall, risk is *real* when it is measured based on technical and objective methods, regardless of narratives, social and cultural processes and of the subjectivity of the ones who have experienced it. Therefore, it is possible assuming that risk derives from a *strong constructionism* when narratives and practices are assessed within the contingent construction of a historical, social and political context. This possibility of a *strong constructionism* brings about some “hard” variables such as social class, status, economic situation, demographic trends, settlement patterns, technological development and organizational forms (LUPTON, 2013; BURZYŃSKI; BURZYŃSKI, 2014).

Finally, risk can derive from a *weak constructionism* focused on the symbolic and phenomenological perspective of sociocultural context. This approach is based on moving away from “hard” images and going toward the image of a “soft” field in the social tissue, which is seen as a fluid pattern that is in constant movement, as a matrix of human actions and interactions centered on meanings, symbols, rules, values, codes, frameworks and narratives. Accordingly, the “social reality” triggers intentional exchanges in cultural resources that, in their turn, result in the collective construction of the intersubjective universe of social practices (LUPTON, 2013; BURZYŃSKI; BURZYŃSKI, 2014), which were herein adopted due to inspiration from the phenomenology.

The risk phenomenology conceives risk as a cognitive category that shapes the sense of identity and allows individuals to face challenges and to acquire knowledge both about oneself and about the world. Therefore, knowledge about risk results from shared formation about meanings given to different worldviews (LUPTON, 2013; BURZYŃSKI; BURZYŃSKI, 2014).

According to Burzyński and Burzyński (2014), risk is always experienced in groups, in other words, the evaluation and definition of natural and man-caused dangers are followed by the intense need of socialization in order to turn experiences into a matter of community speech. Therefore, dealing with risk is not just an individual subjective experience or judgment, it lies on engaging in interpersonal communication processes, as well as in negotiations regarding meanings and values. Risk acceptance and management depend on consensus building, on a certain *modus operandi* that creates collective perceptions and common coping strategies.

Based on the intersubjective nature of risk, social totalities, cultural forms of interpersonal interaction and social order models have crucial explanatory functions. Therefore, the conceptual category 'risk' is a social construct that aims at defending moral orders by reinforcing the values, rules and lifestyles of certain communities or institutional environments. The moral and interpersonal quality of risk experiences are evident in social movements, such as in the one that preceded the federal government decision to carry on with the transposition of Sao Francisco River's water. According to Douglas (2013), risk awareness becomes a strong social force capable of changing individualized perceptions about experiences into interpersonal processes of collective action. Thus, it is necessary to better understand risk contexts and meanings to help developing the necessary prevention actions for these contexts.

Social construction can be an important approach for new risk-prevention practices; however, it brings along many challenges. The risk-constitution process is always contextual, it embodies aspects of human life as a measurement and the basis to understand the meaning of being-in-the-world. The omnipresence of risk cannot be interpreted as the way to evidence that all individuals remain equal when it comes to uncertainties brought by different situations. Risk is evenly distributed and follows social patterns resulting from different experiences with social inequities-related uncertainties. This statement means that uncertainties are connected to social position, which, in its turn, determines the likelihood of being exposed to certain contingencies of reality, or to real risks. According to a phenomenological sense of unity, such contingent realities create an "imaginary community" (HOLSTEIN; MILLER, 1993; LUHMANN, 1993; HUSSERL, 2012; BURZYNŃSKI; BURZYNŃSKI, 2014).

María Mañez, María Carmona, David Haro and Susanne Hanger (2016) broadened the aforementioned perspective by proposing a multifactor assessment of the *context-meaning* relation. They identify the existence of an individual dimension, which is influenced by cognitive-affective values, as well as of a collective dimension, influenced by socio-political and cultural factors. Meanings attributed to risk result from learning processes and from individual and collective experiences lived in different contexts. Meanings given to different experiences, and their contexts, get interconnected and express themselves through multiple dualities such as future/present, known/imagined, symbolic/concrete (HUSSERL, 2012).

Overall, risk-based policy makers implement programs developed to understand the link between perception and the lived environment. In a risk exposure scenario, Socioeconomic and cultural experiences in a risk-exposure scenario can influence com-

munication, trust and the ability-to-act of the involved actors. Experiences can have impact on the adherence to, and involvement in, a shared risk prevention project; they can be incorporated to the need of rationalization, management and planning (MAÑEZ *et al*, 2016; HOPKIN, 2017; BURZYŃSKI; BURZYŃSKI, 2014).

3 Research methodology

The *phenomenological method*, based on Husserl, as proposed by Patricia Sanders (1982), was adopted to conduct the present empiric research by taking in to account the nature and goals of the study. The aim was to return to the world of experience in order to make it possible associating the world of life, nature and social subjects. This method was chosen because of its subjectivity, since it allows new observations and a lesser atomized approach – this approach was validated by different knowledge fields (SANDERS, 1982; ALVESSON; SKOLDBERG, 2000; HURSEL, 2012).

There are many ways to approach the subjective dimension of water-related risks. Assumingly, researchers have to be as faithful as possible in the ways research participants experience a phenomenon. Thus, assessment categories based on participants' answers were outlines and compared to models proposed by Mañez *et al* (2016), according to Lupton (2013) and Burzynski, and Burzynski (2014). All these authors were influenced by Husserl (2012).

Overall, phenomenological-design research have three components, namely: fixing the limits of what and who is going to be investigated, data collection procedures and phenomenological design assessments (SANDERS, 1982). The *Low São Francisco* basin and fishermen living in its surrounding areas were the object of the present research. This river is essential for the Brazilian Northeast semi-arid region and for the lives of the aforementioned social actors. Caninde de Sao Francisco, Propria (Sergipe State) and Piacambucu (Alagoas State) counties were selected based on geographic criteria. Caninde de Sao Francisco is located near Xingo hydroelectric dam, whereas Piacambucu stays close to the river's mouth and Propria is between the two other counties. Interviews were conducted in 2017 in fishermen's associations from the aforementioned counties. Participants were chosen among member fishermen who had participated in the Hydrographic Basin Committee.

Data collection was divided in two parts. The first part consisted of preparation, and interviews' conduction and transcription. The first approach was made during a committee meeting; seven of the members in the meeting were selected to be interviewed through the *snowball* method. They all were highly experienced in fishing in the river and have participated in the committee. The interviews were scheduled and conducted, they lasted from one to two and a half hour. The unstructured script was the instrument of choice for the interviews, since it allowed fishermen to talk freely about their experiences in the Sao Francisco River. In the research we used Transcribed parts of the interview were used in the research (minor corrections were made in the formal aspects of transcriptions whenever necessary). Interviewees are labeled from P1 to P7 to maintain confidentiality.

The second part consisted of data treatment and interpretation. A phenomenological attitude was put in place, the goal was to turn an implicit structure into an explicit one in order to achieve its “essence”. It was done by describing a *phenomenon* exactly as it was exposed during the interviews and by choosing the most relevant experiences among the reported ones (HUSSERL, 2012).

Three steps of what was qualified as phenomenological reduction were outlined: 1st) *meaning revelation* – identifying the meanings given to the experiences by abandoning the natural attitude of assessing experiences and by putting the world in a *bracketing* (*epoché* or suspension) in order to adhere to meanings that have arose from the lived experiences; 2nd) *eidetic reduction* – looking at the meanings revealed in the first step to finding subsisting realities (also called *eidos*), in order to reach invariance in the revealed meanings; 3rd) *Transcendental reduction* – attempting to transcend the already revealed meanings into a more *universal* dimension in order to find phenomena unicity within a timeless perspective. This three-part Husserlian model was suggested by Sanders (1982), and Alvesson and Skoldberg (2000).

The aforementioned procedures brought up several revealed experiences and symbolic signalizations. These findings have allowed the development of the next session, where the main empiric results of the research are addressed. It shows the meanings resulting from the interviews, as well as the invariances in these meanings and articulates them within a universal process that has revealed the most important findings of the present research.

4 Fishermen, the river and risks

Nowadays, Propria⁷, Caninde de São Francisco (Sergipe State) and Piacabucu (Alagoas State) are categorized in the group of impoverished towns. However, they were prosperous and rich fishing counties back in the 18th century during the Portuguese colonization. However, for local inhabitants, it is just a past remembrance.

4.1 Fishermen and the river

São Francisco River is a *locus* filled with contradictions, memories and affective relationships. Despite the decline of artisanal fishing in all assessed towns, fishing remains an important subsistence activity and income source in Low Sao Francisco region (REZENDE; OLIVEIRA, 2015). Fishermen use to sell their products to consumers or middlemen right after they unload their ships. Most fishermen need, or wish to, have other income sources due to low fishing yield.

Fishermen often have their own boats, they fish along with other family members and are tied to fishermen colonies. Most of them are in the age group 25 to 60 years and have more than ten-year experience in fishing. Only 14% of the interviewed fishermen had finished high school. When asked about their house-infrastructure, 43% said that

7. The name ‘Propria’ comes from fishing, given the large amount of fish in the river (IBGE, 2017).

they have access to both sanitation and running water. All of them reported to have access to garbage collection services - Rezende and Oliveira (2015) confirm these data. When asked about the meaning of São Francisco River's water, they answered:

I take not only my food from the river, but also my leisure... I love this river. I do not know how it was going to be without the river, because it is where I have fun, I go with my family, my friends, it is where I feel good. When I want to relax, I go to the river... My life is the life of this river. If you take away the river, you take away happiness. It is the soul of this people (P1)

It is as important to me as breathing. I do not live without it. The 'Old Chico' is very strong, a warrior father, guided by Holy Jesus of Navigators (P2).

It is how my family and I live, it is my life that is there. Fishing is part of our everyday life, it is a tradition, a ritual of people who live near the river (P3).

São Francisco River has an *animus*; it seems to have a life of its own, to interconnect people - as locals would say. These bonds materialize itself into affection, provision and attitudes. The river is part of people's houses and fishing is more than a profession, it is an identity and an ancestral tradition - many research show this economic, social and symbolic construction (ANDRADE, 2005; BOMFIM, 2006). The following meanings emerged from "Old Chico"-related experiences reported by interviewees: *affection* - love, well-being, happiness, soul, joy, admiration, life, energy and strength; *source of wealth* - income, food, provision; *culture and religious tradition* - fishing as tradition, as mythic, mystical and sacred energies and forces; *social spaces* - sociability, socialization *locus*, family life and friendship.

This eidetic reduction has shown the perception about "Old Chico" as an old *patriarch* that welcomes everybody with arms wide open, it represents a bond and a familiar place to fishermen.

4.2 Fishermen and risks

Risks and environmental context – the aims of the current study were to better understand the meanings fishermen give to the river and to its surroundings - the environmental context. These social actors clearly relate the river and to risk situations, similar to risky situations shown in the CBHSF technical report (CBHSF, 2013). According to the fishermen, many factors harm the river. One of the interviewees, who usually fishes near the town located closest to Xingo Hydroelectric Dam, has reported to have had experiences that reveal the destructive power of dams and river flow reduction:

From Minas until here, how many cities have not grown in the last few years? Drought has been beating us, it seems that the sun is going to dry everything. Another angry animal is the hydroelectric dam. Each

passing day the river is diminishing. If it goes on like that, it will not exist anymore. They are blocking the river water (P1).

The construction of the hydroelectric plant killed everything. The plants and the animals were really affected. It lacks surveillance, it even frightens us. Caninde dumping ground is in the riverside. Houses do not have sewer treatment; everything goes straight to the river. It is all very complicated, that is why sometimes it takes not only the government, people also need to change. Those who have (financial) condition live better than those who do not have. It only gets worse (P1).

Water changed its course, it is a small space with many rocks, the water is as strong as the sea, in a smaller and deeper place. The river became a hole, it is getting narrower and very dangerous. About the drought and the transposition, government says it only transposed 1% of water, but we do not know if it is true, we do not get enough water. Government even create laws, but many disobey, so, our hands are tied (P1).

In addition, the sea is invading the river: “Many kilometers upstream São Francisco River is brackish, almost salty, as a part of the sea. We cannot drink its water. There are even sharks in Piacabucu” (P7).

Vegetation destruction is another threat:

There are few plants left, what remained were these plants that come with the pollution of the river and the ones that grow on the riverside, they have cut it all off. I walk around and see that more plants are disappearing. They have put predator fish, like tilapia and tambaqui, which ate all the species that lived here. Soon, there will be no fish left. We fish at night with mesh seven in order not to starve, since they want us to use only mesh ten (P3).

People now build [houses] where the river once was. The river is becoming dirt (P4).

The weather changed a lot in the last few years, we do not know what to do (P6).

Therefore, these meanings highlight that the natural environment is *rapidly changing* because of weather changes, drought and excessive consumption of water caused by chaotic urban growth and the construction of hydroelectric dam. The water on São Francisco River now has other features, because of water flow strength and sea invasion. All these changes result from population growth, deforestation, riverbed occupation, siltation and desertification, as well as from lack of water protection and pollution caused by the discharge of sewage and garbage *in natura* in it. Fishermen gave *goodbye* to the fishing traditional fish abundant in the river in the past, because flora and fauna specimen have been disappearing and alien species have been introduced on the river. Lack of urban and environmental surveillance, and fishermen’s lack of respect to the environmental

legislation are also factors causing these problems. The meanings deriving from such changes add to higher temperatures, “time changing” impact and the sense of *impotence* in face of all these changes.

According to the meaning invariance perspective, it is possible finding an *eidós* in this situation. From the interviews arises a common sense of loss and the decreased possibility of working as fisherman rose from the interviewees because of *activity decadence*. Disfiguration of the natural environment in Low São Francisco region, which was worsened by climate changes, represents the end of fishing traditions.

Risks and political context – Many perceptions about risks come from political, socioeconomic and cultural contexts. Fishermen’s citizenship is reduced and Hydrographic Basin Committees are no longer trusted:

The initial idea of the committee was very good, but unfortunately it did not work. If it worked, there would be sanitation, the sewer would not go to the river, the poison would not be spread in the plantations, because from there it goes straight into the river, did you understand? It is beautiful on paper, mas unfortunately it does not work (P5).

The Committee is abandoned. And my friends who still go to the Committee say that the fishermen are alone there (P1).

We only see people interested in money, in using the water for large plantations. There are many nice talks, but we already understood that they want the water. CHESF does not invest, everything is destroyed, and it is the responsible for it (P3).

The associations have many conflicts with public offices. Environmentalists and fishermen fight against the government, but they are minority, right? (P6).

The water transposition and its relation to the public power suggest abandonment, discouragement and a broader meaning to death:

This transposition created some talk. There were meetings. Many complaints in the beginning, but time went by and the number of participants decreased. In the end, only half a dozen people shouting and nothing else (P4).

We struggled to prevent this lack of respect from occurring with our river, but they decided instead of us. How can they remove the water from a river so dry? The river is going to die and we do not have any voice. We lost. This committee does not work, it was decided “by upper characters” to end the river (P2).

Here is a zone in the country that only receives politicians on election years. Then, almost every month there is an event. After we are treated like stray dogs. The fault of this crisis in the basin is of the government (P5).

You know what? We are like animals to them. They even want to cut the benefit we have every four years, because of “piracema”, the

time when the fish used to spawn, this year they did not want to pay so we put some heat. We thought about doing just like the landless workers, let's break everything (P1).

I have heard that the government made a lot of money available for the revitalization. Here the names of the programs arrive, but we do not see anything that is out of the paper (P3).

It is abandoned; we do not even mobilize anymore. Nobody care about us (P4).

They take advantage to buy votes; 80% of the people who receive aid are not fishermen (P7).

The decision made by the regulatory agency to favor the transposition and go against the Hydrographic Basin Committee's deliberation has created meanings to *impotence* and *defeat*, but it did not create any meaning to *mobilization* - there was no concern about risks associated with the transposition; thus, about the *meaning to the increased river's death*. The Committee *does not work* and, even worse, its participants are *degradation agents*. There is a feeling that the multiple uses of the river is just a narrative, since the Committee favors the economic and abusive use of river water. There are risks of *social disorganization*, since fishermen feel impotent in face of the political institutional power of CHESF and there are conflicts between its members.

The following *meanings* emerged about the government: it is *inefficient and corrupt*; it is associated with patrimonialism practices, with disobeying the law and with programs carried out by public managers, as well as with corruption and failure in legal benefits provided to fishermen, with not keeping promises made during the elections, with disrespect to citizen, with electoral crime and increased *social disorganization*, which generates a sense of abandonment of public affairs, of apathy, social invisibility, conflict and disbelief. According to the fishermen, the *Brazilian government* is the biggest responsible for the death of the river.

We noticed in the invariant meanings that, despite protests against the transposition and other yearnings, the voice of fishermen are not included in citizenship spaces. There also the meanings given to an increasing sense of future river death because of the Brazilian Government's decision to carry on with the transposition and, consequently, of Hydrographic Basin Committee's abandonment by fishermen.

Risks, and socioeconomic and cultural aspects – According to the fishermen, there is an imminent socioeconomic and cultural river death process, which outstands through different forms in the popular imaginary and in the literature; it is a recurrent reference to the fight against the transposition of São Francisco River's water (ANDRADE, 2005; CARVALHO; ESPÍNDULA, 2014). Therefore, the risk of river death is connected to socioeconomic and cultural disorganization risks:

Many fishermen are looking for another income source, such as agriculture and tourism, but nobody has any money (P2)

We cannot live only on fishing. Here is becoming a place for rich people, senators, businessmen, people with money, who are buying

everything. Poor people are leaving, so they do not starve (P5).

I used to say that Sao Francisco River was my father's company. He raised nine children, bought a car and a house. Today, as a fisherman, I cannot give the same to my children (P2).

Everything here in Piacabucu is connected to the river. The Jesus of the Navigators celebration; the legends, *Nego D'água* that kidnaps children; Big Fish that eat people; *Mãe D'água*, which seduces people. Nobody listens anymore, culture is vanishing with the end of the river. The grandfathers used to choose one of their grandchildren to learn all dances and legends. The death of elderlies is killing our beliefs. My father is almost one hundred years old and does not say anything anymore. He lives in silence and distaste. Nowadays' culture is all about drugs and unemployed young people, who only want to dance *funk* and to leave (P7).

The most common meanings identified through the interviews concerned **socio-economical risks** - *social precariousness*, migration, underemployment and land crisis; social disruption, prostitution and suicide; **cultural risks** – *loss of oral traditions, legends and of the sense of religiosity, cultural distance to young people and breaking of affective bonds with the 'Old Chico'*.

The observed *eidetic reduction* highlighted a pattern, namely: the death of the 'Old Chico' means the *death of the fishing activity*, if one takes into account the importance of social, economic, affective, cultural and religious interconnections between the river and social here in approached social actors. The meaning of 'death risk' given to the river got stronger due to the transposition project; therefore, it was possible noticing the consequences the decision made to go on with it have been having on social actors most impacted by it.

Death and life, 'Old Chico': meanings and ways to prevent risk – Despite being a source of life, the 'old warrior' is dying and it is the main risk posed to the river in present times and in days to come. However, there is the hope of recreating life for, and in, the river.

Actually, I do not want to believe in what they say. We need to hold on and have faith that 'Old Chico' is going to get better and full again. I have fished with my grandfather, with my father. I cannot imagine my city without the river, so I pray for 'Chico' to become once again what it was (P1).

The chaotic growth of cities, the problem of the sewage going to the river, so the cities grow and more waste is discharged into the river. Within approximately twenty or thirty years from now, the river is going to dry up. The rain is not the same, each passing year it decreases even more. One thing that affects the fishing is the rain. My father and the old fishermen, sixty, seventy years old, cry when they talk about the river (P6).

I honestly do not think that the river is going to be as it was before. I notice, actually, I have noticed that the river is dead. We stay here

because of hope. There seem to be more land than water in the river (P4).

Hope is one of the main characteristics of fishermen. They believe that it is possible bring life back to 'Old Chico':

This revitalization has to come out of the paper, but it does not. (P7). We need to revitalize. Put trees back in the riverbanks, the farmers should not use so much chemicals, because there is no use in asking for a revitalization program if businessmen do not collaborate and people do not stop discharging waste in it and do not help replanting. Just like the government, the population and businessmen are also guilty and responsible for it (P2).

In my opinion, the revitalization is necessary in all states the river passes through; to have a specific sector for complaints about irregular buildings. IBAMA rarely appears in my city, it only goes there to inspect the fishermen. It would be good to improve the dialogue with fishermen, we are part of the river (P3).

They could put again the species in the river, create regions where fishing is forbidden so fish can reproduce (P1).

Risk prevention and community participation in the process of preventing the "river's death is clearly possible and urgent:

It would be important raising awareness, because there is not a project that can last if the population does not understand that it has to take care of the river, to preserve it (P7).

Today what is killing fish is the population. People who pretend to be fishermen go to the river and throw poison in it. There should be someone to watch it and take some kind of action (P2).

I even said it in the committee, since they do not want to give money, they could bring people to talk to us, the ones who live by the riversides. I think they should talk to the people who live by the riverside, listen to their opinions. They should listen to the communities, because fishermen are here every day, are not they? To teach fishermen how to treat the river, not to pollute it. Resources, inspection, plantations, that is what the river needs (P4).

To teach the population not to discharge waste in the river, here in Propria, there is the belief that garbage must be discharged in the river. This garbage goes downstream and affects other communities. People lack guidance and awareness (P6).

Many emerging meanings were observed in the reports above. The death of 'Old Chico' evidences antagonistic meanings: faith and hope *versus* disbelief in the rivers' continuity. *Fishermen look at a dying ancient warrior and try to convince themselves that it is not going to happen.* There is a sense of institutional and community accountability for this

process when it comes to agents who are causing the *death of the patriarch*. IBAMA is also responsible for it; therefore; there is the need of improving the dialogue with fishermen. These findings suggest a *sort of conscience crisis in face of the dying beloved one* – people often treat the river as a *wastebasket* and fishermen are also a destruction agent.

Fishermen rose meanings about how would a risk prevention policy look like and *insert itself in it*. To fishermen, a prevention policy demands *communication* – environmental education, training, dialogue; it needs *surveillance* - conducted by fishermen and the government; an articulation between involved actors, responsibilities shared between government and community, and the grouping of all states bathed by the river. In addition, risk prevention demands *investment* in infrastructure, reforestation, environmental education and a project to repopulate the river with native fish. It needs *control* by the government and fishermen in order to create a complaints sector and to reduce the widespread of agrochemical products by farmers. One *invariant eidos* suggests the need of starting public projects based on risk; despite the announced death, there is hope to fulfill the promised revitalization. Fishermen are willing to fight for the river.

4.3 In search for transcendence

According to Husserl (2012), it is necessary putting the world in parentheses (*epoché*) and conduct a transcendence process, which brings in the world's universality based on a legitimate quest for the awareness about something, according to which, the social phenomenon is true. Three major structures of essential meaning have emerged based on a transcendental, universal and immanent manner. It is necessary to make sure that decentralized decisions are respected in order to create a water parliament. *Vertical decisions made by the government contrary to those made by the water parliament lead to mistrust and strengthen the meanings given to risk.*

The death of a fluvial ecosystem represents the cultural death of riverbank communities. The death of São Francisco River corresponds to the death of one of the greatest symbolic expressions in Northeast Brazilian. Social subjects that are organically related to a preserved or recovered natural element are prone to act as natural watchers to supervise such element. Maintaining a natural element (such as Sao Francisco River) through prevention is a fight for one's own survival.

5 Conclusions

The dying process faced by São Francisco River and the recent decision made to favor the transposition of its water are open risk-meaning-related wounds that will not easily be ruled out from the minds of the herein addressed social actors. The transposition of São Francisco River's water strengthened the meaning given to the risk of death faced by the river, which also brings along strong evidences of social, cultural and economic risk fishing activity's death. This situation is related to damages caused by the government and impairs risk prevention policies at different dimensions and aspects. However, fishermen have feelings closely related to their material and symbolic survival, which end up driving

them forward. Fishermen use to say that they are ready to fight for São Francisco River's recovery and to give it back to the Northeast region and to Brazil. They are part of an "imaginary community" that has strong ties to the river.

Weak constructionism has close association with *strong constructionism*, it is a contribution to enhance the social-construction risk theory. Lupton (2013) advocated for these concepts, but he did not clearly articulate them. Data collection allowed observing that the symbolic-phenomenological universe of the present research most of the time reflects the "hard" variables that have arose. This finding is quite important, given the impoverished lives of fishermen due to river deterioration, to the economic situation in Low São Francisco region and to the demographic trend shown by fishermen to migrate to capital cities in Northeast Brazil in order to survive. Further investigations about the association between symbolic and concrete universes in social construction risk are needed.

The herein carried out transcendental reduction suggests that the death process faced by the river has been announcing the death of an entire riverside community, of its culture, identity, affective bonds and social relationships. Similar situation could be happening to many social groups if one takes into account the river's destruction process. Actually, fishermen exposed their will to improve communication with the government, to engage in prevention policies by better the understanding of what does Sao Francisco River represent to them, to riverside communities and to the country based on a symbolic viewpoint. A risk prevention project can be embraced by fishermen, as long as the government keeps its promises and takes into account the collective and diffuse interests when taking actions concerning the river.

Such findings encourage further research based on the phenomenological background of social construction risks. Phenomenology is a consistent approach to understand symbolic aspects. It can help formulating more efficient risk prevention policies. Law n. 9,433/97 highlights the importance to citizenship for the management of Brazilian river basins 23 years after it was launched, but it is never too late to remember the poet Carlos Drummond de Andrade, who said: "It is drying up the Old Chico. It is withering. It is dying [...]" (ANDRADE, 2014); he surely predicted the sad ending of a river that was once connected the country, but that seems to be vanishing due to predatory actions.

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Original Article

UPSTREAM, DOWNSTREAM: FISHERMEN, RIVER AND RISKS IN LOW SÃO FRANCISCO RIVER

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UPSTREAM, DOWNSTREAM: FISHERMEN, RIVER AND RISKS IN LOW SÃO FRANCISCO RIVER

Abstract: Risk perception is one of the pillars of water management. This text proposes to reflect on the meanings of risk in the life experiences of the fishermen of the Lower São Francisco River, in a scenario of increasing environmental degradation. A phenomenological approach and method were used, whose object are the meanings attributed to the lived experience. The fishermen were interviewed in the municipalities of Piaçabuçu, Alagoas, and Canindé de São Francisco and Propriá, in Sergipe. Three essential structures have been revealed: widespread disbelief; maximization of the sense of risks due to the transposition of river waters; the association between the death of the “Velho Chico” and the cultural death of the riverside communities, as well as their social and economic structures. In this scenario, fishermen place themselves as *river watchers*, as defenders of this environmental and immaterial heritage.

Keywords: Risks. São Francisco River. Fishermen.

RIO ABAIXO, RIO ACIMA: O PESCADOR, O RIO E OS RISCOS NO BAIXO SÃO FRANCISCO

Resumo: A percepção de riscos representa um dos pilares da gestão das águas. Este texto se propõe a refletir sobre os sentidos do risco nas experiências de vida dos pescadores do Baixo São Francisco, em um cenário de crescente degradação ambiental. A abordagem e o método utilizados são de inspiração fenomenológica, cujo objeto são os sentidos atribuídos à experiência vivida. Os pescadores foram entrevistados nos municípios de Piaçabuçu, em Alagoas, e Canindé de São Francisco e Propriá, em Sergipe. Três estruturas essenciais foram reveladas: descrença generalizada; potencialização do sentido dos riscos devido à

transposição das águas do rio; associação entre morte do “Velho Chico” e morte cultural das comunidades ribeirinhas, bem como de suas estruturas sociais e econômicas. Nesse cenário, os pescadores se colocam como *vigilantes do rio*, defensores desse patrimônio ambiental e imaterial.

Palavras-chave: Riscos. Rio São Francisco. Pescadores

RÍO ABAJO, RÍO ARRIBA: EL PESCADOR, EL RÍO Y LOS RIESGOS EN EL BAJO SAN FRANCISCO

Resumen: La percepción de riesgos representa uno de los pilares de la gestión de las aguas. Este texto se propone reflexionar sobre los sentidos del riesgo en las experiencias de vida de los pescadores del Bajo San Francisco, en un escenario de creciente degradación ambiental. El enfoque y el método utilizados son de inspiración fenomenológica, cuyo objeto es el significado atribuido a la experiencia vivida. Los pescadores fueron entrevistados en los municipios de Piaçabuçu, en Alagoas, y Canindé de São Francisco y Propriá, en Sergipe. Tres estructuras esenciales fueron reveladas: incredulidad generalizada; potencialización del sentido de los riesgos debido a la transposición de las aguas del río; la asociación entre muerte del “Viejo Chico” y la muerte cultural de las comunidades ribereñas, así como de sus estructuras sociales y económicas. En ese escenario, los pescadores se colocan como *vigilantes del río*, defensores de ese patrimonio ambiental e inmaterial.

Palabras-clave: Riesgos. Río San Francisco. Pescadores
