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Bioethical Implications and Major Infrastructure Works

José Marcos da Silva

Abstract

Brazilian oil refineries' environmental licensing process has been criticized for lack of healthcare aspects. Therefore, this paper aims to identify elements of bioethics that contribute to healthcare in this process. Based on an integrative review of scientific literature and on the deconstructive method proposed by Derrida, the relevance and legitimacy of bioethics to justify the relationship between morality and the consequences for individuals', populations', and ecosystems' health is justified. We conclude that bioethics may contribute as a theoretical and practical tool to solve conflicts by describing existing struggles and moral dilemmas, through processes of criticism and justification and the establishment of morally acceptable measures for the protection of humans and environmental health.

Keywords: bioethics, licensure, public health, environmental health, collective health, environment

1. Introduction

This work has as object of analysis the environmental licensing of large enterprises in Brazil—illustrated by the issuance of the term of reference (TR) by the environmental agencies, by the elaboration of the Environmental Impact Studies (EIA), by the undertakings, and the public hearings that precede the decision to implement or not the related production processes—and the problem of the absence of elements for the protection of health in the socioeconomic dimension. Such an object is inscribed in specific phenomena: (a) the development of globalization and its hegemonic economic front—global capitalism; (b) local economic development; (c) the impacts on health and the environment produced by polluting production processes that generate life-threatening situations.

This theme is considered, as well as the phenomena in which it is inscribed, as a legitimate object of bioethics, for the reasons described below. First, because bioethics can be understood as ethics applied to human actions that bring about transformations recognized as significant and irreversible in the vital world.

In this sense, the implantation of large enterprises in the territories, on the one hand, affects the environment, both in the implementation phase—the moment of the construction of infrastructure works—and in the operation phase—by the emission of environmental pollutants that contaminate air, water and soil; on the other hand, it affects the life and health of the people who live in these places, by expropriation and removal of housing, by social and cultural changes related to migratory processes, by issues related to the disordered occupation of the territory such as favelization by human exposure to environmental pollutants, for generating

forms of competition for access to local public assistance services, and, finally, for generating overload and scarcity in local health systems [1].

Secondly, because bioethics aims to analyze and understand the morality of the actions of moral agents on moral patients. It is understood that the transformations related to the process of implantation, operation and uninstallation of productive processes in the territories start from the decision of a certain agent, the State, and have consequences for the moral patients (those who suffer from the effects of the decision) represented by the residents, workers and professionals working in local assistance policies.

These are not only susceptible and vulnerable to possible consequences resulting from the State's action, but concretely and vulnerable. Thus, if the impacts on health and the environment can, in principle, affect anyone in the areas of influence of the enterprises, the negative consequences are concentrated, in fact, on specific individuals who work in the production process, those who live at the same time. Around and health professionals who are responsible for health care [2]. Thirdly, because, in its origin, the word *ethos* means “den” or “abode” and has a semantic proximity to *oikos* or “house.”

Understood as thematization of *ethos* [3] ethics has in its spectrum of concern and performance the purpose of protecting susceptible and vulnerable subjects [4]; therefore, it has a relationship with health protection in the environmental licensing process. There is, therefore, a legitimate object, but little treated in the field of bioethics. Thus, the objective is to indicate tools of bioethics that contribute to the implication of health protection in Brazilian environmental licensing.

2. Method

An integrated review of scientific literature was carried out which consists of constructing an analysis of the literature regarding discussions on research methods and results, as well as reflections on future studies [5].

For this, the following steps were established: (1) structuring the research question—which tools of bioethics contribute to the implication of health protection in environmental licensing; (2) search for evidence in the databases SciELO (Scientific Electronic Library Online), VHL—Virtual Health Library and Redalyc—Network of Scientific Journals of Latin America and the Caribbean, Spain and Portugal, through the search feature (licensing OR licensure OR *concesión de licencias*) AND (bioethics OR bioethics OR bioethics) AND (public health OR public Health OR public health); and (3) application of inclusion criteria—indexed articles, published between 1990 and 2016, in Portuguese, English and Spanish; relevant content for research in abstracts; and exclusion criteria—incomplete articles, articles whose content did not meet the research design.

With the perspective of justifying the relevance and legitimacy of bioethics to support the relationship between the morality involved in the environmental licensing process and the consequences for the health of individuals, populations and ecosystems, the deconstructive method is used, as presented by Derrida, which seeks to make evident in the text that which sought to command it from outside [6].

3. Result

In the initial search process, 71 articles were identified. When applying the inclusion and exclusion criteria, nine were selected. Chart 1 summarizes the integrated review of the scientific literature with articles located in the SciELO, Lilacs

and Redalyc databases, in the period 1990–2016, according to the database, title, objectives and results related to elements of protection bioethics which contribute to the implication of health protection in the licensing of large enterprises in Brazil.

In an article published in 1995, Schramm reviews the relevance of a natural ethics that considers the complexity of the health field and considers that human intervention on the environment has power over life.

3.1 Principle of quality of life

In view of this, the principle of quality of life becomes a fundamental tool in issues related to being together, equity, justice, and general well-being. It questions the supremacy of science, proposing dialog for the transformation of scientific knowledge into common sense committed to the norms and values of societies and for the translation of common sense into questions for scientific investigation [7].

In 1997, Silva and Schramm [8] analyzed the environmental problem in the context of scientific rationality, in which the conflict between the relationship between man and the natural environment is evident and gives rise to social movements that denounce the environmental impacts produced by the highly techno-industrial model polluter, consumer of natural resources and generator of global biosphere disorder. It highlights the need for an ethics of solidarity involved with dialog, regulation, action, inclusion, with the recognition of conflict, with co-responsibility in the face of the advancement of technoscience.

3.2 Bioethics and public health

Schramm and Kottow [9] characterize the moral problems in public health and consider that principlism a particular current, originating in the United States of America, which provided a bioethical model for biomedical practices, whose core are the principles of autonomy, beneficence, non-maleficence and justice—it is not suitable for this field because it does not effectively fulfill the principle of justice in which interventions must promote the reduction of inequality.

Thus, they propose the principle of protection, which would be more suitable for bioethical purposes in public health, in which protection should be directed to the subjects who actually need it, through the implementation of public policies, morally correct and effective from the point of view of technicians. In 2002, an article tried to characterize the development of bioethics and its potential to deal with problems related to research with human beings. It presents *latu sensu* bioethics as a planetary ethics that is concerned with responsibility for the damage produced by human action on the environment [2]. Pontes and Schramm [10] studied the bioethics of protection and the role of the State with regard to unequal access to drinking water as a public health problem.

3.3 Bioethics and accountability

The authors consider that bioethics contributes to the State's accountability as a strategic protective agent in the construction of a just and equitable society, committed to the protection of the health of its members, as well as to the promotion of its legitimate personal development projects. Schramm [1] carried out an analysis of the problem of applied ethics, bioethics and environmental ethics. Identifying that the common denominator between them is in the reference of each to ethics and ethos, as well as by the common methods to construct their specific objects;

Year	Base	Title	Purpose	Results
1995	SciELO	The third margin of health: “natural” ethics	Discuss the relevance of a complex natural ethics for the health field escaping the main disjunctions of the subject/object, public/private, value in itself/value in itself.	Points out the centrality of ethical reasons in the field of health that imply the need to outline a practical-discursive universe of ethics capable of articulating technoscientific knowledge with ethical principles of justice, equity and general well-being in the context of available resources and priorities each concrete situation. This universe includes reflections on duties towards the environment; the rights of present generations linked to future generations. Health ethics is conceived as a field of links and possibilities between the bioecological dimension of the life of individuals and populations in a territory and its socio-cultural dimension.
1997	SciELO	The ecological question: between science and ideology/utopia of an era [8].	Analyze important elements in the formation of technoscientific culture—techno-industrial model—and developments in the field of Ecological Science and related social movements.	It establishes the need for an ethics that enables dialogs on ecological issues in which politics takes a strategic place for making democratic decisions in the context of advancing technoscience. Proposes an ethics of solidarity based on an open dialog of pluralist and interdisciplinary confrontation; regulatory ethics; in pragmatism; in the non-exclusion of feeling—the affective expression of judgment—of the set of elements that cooperate in making ethical decisions; in the ethics of ambivalence, in the sense that this is a choice, not a logical conclusion, or a mechanical result; evolutionary ethics and reversibility of principles; in the ethics of co-responsibility; integrate efforts to overcome conflicts, become aware of responsibilities so that action can be taken accordingly.
2001	SciELO	Bioethical principles in public health: limitations and proposals [9].	Characterize the specificity of moral problems in public health and analyze the applicability of principlism as a standard for resolving conflicts in this field.	It is considered that although relevant to clinical bioethics, principlism is not applicable to public health dilemmas, since it is based on the morality of doctor-patient relationships. They propose to link Jonas’s ontological concern and the transcendental Levinas, through the protection principle that would be more adequate to the purposes of a public health ethics, allowing to clearly identify the objectives and the actors involved in the implementation of morally correct and pragmatically effective public policies.

Year	Base	Title	Purpose	Results
2002	Lilacs	Bioethics, its development and importance for Life and Health Sciences [2].	To characterize the development of bioethics and its usefulness to face the problems that arise in research involving human beings, taking into account both the disciplinary and methodological requirements of bioethics and some needs of ethics.	It establishes that bioethics is part of a context in which it coexists with the conflicting structures of human reality and attempts to build convergences of solutions, considered equidistant. Lato sensu bioethics corresponds to a planetary ethics concerned with responsibility for the harmful effects that can result from human acts on individual human life, social and cultural life, the biosphere and the ecosphere. Thus, the concept of lato sensu bioethics encompasses and is adapted to complex situations, being a theoretical and practical tool for understanding (analyzing) conflicts; converge the proposed solutions (prescribe better solutions); protect individuals and populations (provide means of protection). Bioethics is the thematization of ethos, taking into account human practices that can have irreversible effects on other humans, living beings in general and the environment.
2004	SciELO	Protection bioethics and the role of the State: moral problems in unequal access to drinking water [10].	Examine unequal access to drinking water as a health issue, analyzing the moral implications, primary needs, situations of fragility and threat of population groups and responsibilities for water supply.	Bioethics contributes to the State's accountability for the provision of sanitation services, and, in particular, the provision of good quality water. From a view of access to water as a right, privatization policies in favor of public policies that aim to correct situations of social injustice, protect the health of populations and, in particular, of population groups constantly threatened, are promoted, promoting conditions for a better quality of life.
2009	SciELO	Applied ethics, bioethics and environmental ethics, possible relationships: the case of global Bioethics [1].	Analyze the issue of applied ethics, bioethics and environmental ethics, identifying the possibility of integration in research.	It shows that, in the Age of Globalization, applied ethics, bioethics and environmental ethics are in fact intertwined. This implies conceptual, methodological, disciplinary, interdisciplinary and transdisciplinary tools used by the three forms of thematization of the ethos under examination in order to be able to account, at the same time, for the identities and differences between these three areas of knowledge and Ethics practices

Year	Base	Title	Purpose	Results
2010	Redalyc	Bioethics as a form of resistance to biopolitics and biopower [4].	Deconstruct the concepts of biopolitics and biopower and create conditions for a correct performance of bioethics, understood both as an analytical and normative tool for the morality of biopolitics and biopower.	It assumes that the concepts of biopolitics and biopower are used inconsistently, which affects their power of intelligibility to understand the profound transformations of contemporary society. Discusses the proposals for biopolitical democracy and democratic biopolitics, showing the need for bioethical control of biopolitics as a practical application in the form of resistance and democratic dissent in relation to morally questionable effects, resulting from biopolitical practices and the inappropriate uses of such concepts to carry them out.
2012	Redalyc	Elements for a bioethical analysis of recent urban transformations in Rio de Janeiro from the perspective of globalization [11].	Identify elements for a bioethical analysis of conflicts related to urban transformations in the city of Rio de Janeiro related to major world events—Olympics and World Cup—inscribed in the phenomenon of globalization and the social consequences of the removal of inhabitants from slums and occupations.	They carry general aspects of the phenomenon of globalization and its background—the civilizing process -, as well as its urban implications. As an analytical focus for the bioethics produced in Brazil—in particular the bioethics of protection and the bioethics of intervention—they propose the resistance processes present in urban conflicts over housing and urban housing. They approach bioethics of protection and bioethics of intervention, in its theoretical aspects, and criticizes the relevance they give to the role of the State as the sole agent of transformation, indicating that the analytical focus of bioethics turns to the autonomous and self-managing processes of social movements.
2014	Redalyc	Dialectic between liberalism, state paternalism and biopolitics. Conceptual analysis, bioethical and democratic implications [12].	Analyze the concepts of liberalism, paternalism, biopolitics, bioethics, separately, and then relate them dialectically to each other.	The thesis is defended that the terms, as a whole, have a dialectical relationship, since liberalism would take the place of thesis and paternalism, that of antithesis, whose synthesis would be represented by the moment of biopolitics, which would in turn constitute a new thesis, initiating a new dialectical process in which the place of antithesis would be represented by bioethics, both of which would converge to a new synthesis, represented by the empowerment of citizens, constitutive of democratic societies, or that are intended to be such.

Table 1.

Articles used in the SciELO, lilacs and Redalyc databases, from 1990 to 2016, according to the database, title, objectives and results related to elements of protection bioethics that contribute to the implications of health protection in the licensing of large enterprises in Brazil.

that is: (a) the description and understanding (in the double sense of “representing” and “presenting”) of the conflicts that exist in the ethos; and (b) the prescription and banning of human behavior.

Assumpção and Schramm [11] studied the urban transformations in the city of Rio de Janeiro related to major world events—Olympics and World Cup—in the light of the elements for a bioethical analysis. It is an important contribution in pointing the State as an agent that produces vulnerability in the context of economic globalization and the civilizing process that produces gentrification under the discourse of environmental revitalization, expelling people from their places of life and work to make way to the interests of a globalized elite.

These authors show that there is an ethic of resistance on the part of human groups vulnerable by the State, and that bioethics has elements that contribute to the strengthening of the struggle of these groups that come together to interact in social movements. For this reason, bioethics needs to return, more and more, its analytical focus to processes of production of subjectivity, autonomy and resistance of these movements.

3.4 Bioethics and biopolitics

Schramm [12] analyzed the concepts of liberalism, paternalism, biopolitics and bioethics, establishing dialectical relations among themselves and opening spaces for forms of resistance to threats to the quality of life of people and populations resulting from questionable actions. In this study, bioethics is rightly seen as a form of resistance that includes the analysis of macroproblems and collective conflicts through the previous theoretical deconstruction of categories, an ethical criticism and a concrete political opposition to an unjustified annexation of bioethics to biopolitics, when, in fact, it is possible to consider bioethics as a form of resistance to biopolitics. It is a liberating alternative to biopolitical practices as it mediates normative issues involved in the relations of organic life (*zoe*), practical life (*bios*) and these with politics (*polis*), enabling the empowerment of citizens (**Table 1**).

4. Discussion

The selected and described articles address theoretical, conceptual and practical aspects related to elements of protection bioethics that contribute to the implication of health protection in environmental licensing.

4.1 Bioethical problems addressed

Although they do not attempt to analyze, specifically, environmental licensing, it is evident that this problem is implicated with the bioethical problems addressed, which are discussed below. Global capitalism, local development and the environmental issue Initially, it is worth considering that the implantation of large enterprises in Brazil must be understood in relation to economic globalization, inscribed in the aspects of technological and biotechnological advances that intensify social relations in a global dimension, as well as in conflicts and, in principle, in the possibilities of finding points of convergence [11].

Similarly, the oil refining process is located in the environmental problem because of its local impacts that become global, such as, for example, the production of greenhouse gases, both by the emission of industrial pollutants, and by the use mass of automobiles.

4.2 Power relations

Therefore, it is inserted in the complex circuit of global capitalism in which the expansion of the infrastructure to make productive processes feasible represents a perspective for the cross-borderization of politics and the economy [11]. Shedding light on the process of economic domination, Assumpção and Schramm [11] contribute to the reflection on decision-making processes in the context of globalization, a phenomenon that is not constituted through horizontal agreements between those involved but is achieved through vertical and hierarchical power relations and/or effective conflicts.

These power relations refer to the global and national elites that constitute a supranational power or an empire in which there is a transfer of sovereignty from nation states to a higher entity marked by great tension between a place institutional and the series of global instruments used by capital, as well as by a network or set of multiple power relations that cross, characterize and constitute the social body [13, 14]. In order to establish these power relations, the local economic development discourse useful to the incorporating power of global capitalism is used, which co-opts the political agents to adapt to the global market logic [11].

4.3 Economic globalization and conflicts

This cooptation process is necessary for homogenization that is preceded by adaptation to local power, history and diversity. Adaptations occur as these three fields become commodities, which, as such, meet economic globalization. For Santos [15], globalization is a vast field of conflicts and imposes itself as a hegemonic field, acting on the consensus of its most influential members. Such a consensus gives it domination and legitimates it as the only possible or most appropriate, consolidating itself from the simultaneous denial and affirmation of the consensus.

Santos [15] considers globalization, in general, perverse to increase local inequalities abysmally. In view of this complex scenario of interrelationships between the implementation of enterprises, globalization and local economic development, one must analyze human acts and the significant irreversible effects on the biosphere [1]. It is also important to give globalization an ethics directly focused on the long-term survival of the human species.

This will happen for the protection of human dignity and for the preservation and restoration of a healthy environment [1]. In this way, the relationship between *ethos* and *oikos* can be considered, taking into account all the problems about the effects of biopolitical and biopower devices, and their moral assessment and political consideration [4].

4.4 Environmental licensing and bioethical implications

Environmental licensing implies technoscientific responsibilities on the part of analysts environmental factors (when setting the parameters of the terms of reference) and the specialists (consultants) who carry out the environmental impact studies, and political and social responsibility for the decision to approve the introduction of risk situations in the territories where ecosystems are located, people living in the territories [16, 17].

The results show that environmental licensing is part of the field of concerns of bioethics as it is an intervention on a territory in which, in general, people and other living beings live, which are generally affected by the transformations produced.

Protection bioethics has been considered the ethics applied to human actions related to vital phenomena and processes through concepts, arguments and norms that value and ethically legitimize human acts whose effects deeply and irreversibly affect, in a real or potential way, the systems vital, being a crucial issue in environmental licensing with the perspective of protecting collective health and ecosystems [1].

The conception of bioethics best suited to this context is that of protection adopted by Pontes and Schramm [10], as it is comprehensive to account for the vast spectrum of human action on the living world and which can affect human beings positively or negatively, living beings and the delicate autopoietic balances that characterize the environment.

4.5 Risk situations

The complexity involving risk situations, health impacts and the production of new ways of becoming ill and dying, due to the introduction of polluting production processes, requires a critical understanding of the consequences of an action, answering substantial philosophical questions. Regarding the nature of ethics, the value of life, including the consequences of public policies, in particular those of health [16–18].

In accordance with this perspective, it can be said that environmental licensing is a strategic moment for the protection of public health. As it is a time of conflict, it requires an open dialog on the consequences of the actions of environmental analysts and specialists (moral agents) who contribute to the authorization of the transformations produced by the productive processes on the lives of populations, living beings and ecosystems (moral patients) [2, 18].

The concern with morality in environmental licensing is similar to that of research in human beings. However, market interests exert greater pressure on moral agents, increasing suspicions of conflicts of interest. An example of this is the hiring of consultants for the preparation of EIA by the entrepreneurs themselves [19].

There is a suspicion that those interested in the implantation will certainly not produce evidence against themselves, indicating the real environmental impacts. In the case of public undertakings, the most interested party has been the Brazilian State itself, which has the responsibility to protect populations and groups threatened, including, by market interests.

The concept of a protective state presupposes that it is committed to the requirement of health justice, such as the principle of protection, which must be exercised in order to cover the basic needs for the construction of a fair social order and to protect the quality of life of the populations [10].

Protection is the perspective of environmental licensing; however, carrying out actions that promote better quality of life depends on the quality of the EIA. These should indicate the real impacts and the respective compensatory mitigating measures to be developed [18]. In this case, the protection principle recommended by Schramm and Kottow [12] applies.

4.6 Principle of responsibility

This should be understood as a specification of the principle of responsibility, as the most appropriate to address moral problems related to public health. In this way, the bioethics of protection presents itself as an ethics of social responsibility on which the State is based to assume sanitary obligations towards human populations

considered in their real contexts, which are, at the same time, natural, cultural, social and eco-environmental [1, 10].

In this perspective, the protection principle requires that it be clearly specified what should be protected, who should protect what and for whom the protection is directed, becoming, therefore, operational. In particular, the population groups to be protected for their specific needs should be made aware of protective measures; otherwise, they can only be perceived as paternalistic and/or arbitrary, thus making them ineffective [12].

In addition, the information produced by environmental analysts and specialist consultants should not be reduced to the intricacies of research carried out for the preparation of the EIA, with language known only by professionals working in the paradoxically closed universe of institutions as foundations for supporting universities, environmental agencies and private environmental management companies. For these reasons, the fact that there are specialist researchers in the consultancies with the supposed exemption, determination to do good, integrity of character and scientific rigor, does not guarantee ethics or exempt any scientist from suspicion [2].

An example has been the absence of important aspects of health protection in the EIA in Brazil, which implies suspecting the non-identification of impacts, with a view to favoring the authorization of implantation, disregarding the production of a health risk situation [16–18].

An alternative in the sense of qualifying the EIAs would be the integrated environmental licensing, in which the environmental agencies would count on the participation of reference institutions (universities, research centers, institutes) through technical opinions for the elaboration of the term of reference, as well as well as the request for consent, after a critical analysis of the EIA by collegiate bodies with democratic participation, such as health and environmental councils. It is noteworthy that the ethics committees linked to the National Health Council are virtuous places in which cognitive, normative and protective tools of bioethics are used.

The evaluation system constituted by the research ethics committees of the National Research Ethics Commission, inspired by secular bioethics, represents itself as a legitimate and *prima facie* tool effective in contributing to the ethnicity of environmental licensing with regard to public health. The conceptual tools to be used for the approach of environmental licensing should not be those of the principled model, based on the four principles of “non-maleficence,” “beneficence,” “autonomy,” and “justice” because they present themselves as inadequate in the treatment problems that occur in collective contexts, such as public health or global health [8, 10].

The recognition of conflicts is essential because all social practice inevitably falls within the dialectic between conflicts and cooperation that shapes historical societies. For this reason, bioethics serves as practical knowledge that aims precisely to account for the moral implications, seeking to understand, explain the reality of conflicts and trying to establish convergences to obtain a kind of harmony [3].

4.7 Social movements of resistance

In view of the conflict of interests, in which the Brazilian State is most interested in expanding infrastructure through major development works, and in which social movements of resistance to undertakings in local communities are manifested, here we defend, that protection bioethics, in its broad sense dimension, represents a virtuous form of resistance, just as it does with biopolitical practices that subject ethical questioning to supposed pragmatic needs of political realism, considered more

concrete, effective and legitimate in its management of bodies, populations and life in general, sometimes with the cynicism of a public interest to justify morally unjust practices [4].

An example of how to apply a resistance bioethics is the critical analysis of EIA, in socio-anthropological aspects, through the operation of deconstructing the concepts that materialize the contents and their reconstruction in the light of protection bioethics, producing mitigating measures and compensatory measures aimed at providing resistance to harmful effects on health and the environment, reconstructing forms of resistance in the name of what cannot be subject to deconstruction: justice.

Deconstruction is an analytical and interpretative method of moral conflicts inscribed in biopolitics, but also a tool that justifies bioethical practices that question biopolitics and biopower [4]. In this sense, it is possible to produce tools of resistance that contribute to the strengthening of social control through the cooptation and manipulation of the State, as in the case of public hearings provided for in environmental licensing [19].

The perspective is that public hearings are, in fact, devices of power displaced and returned to the common use of democratic participation and the production of open dialog for social justice.

4.8 Bioethics, resistance to biopolitics and biopower

According to Schramm [12] bioethics represents, in addition to questioning and criticism, a resistance to biopolitics, and its reductionism to the biological. According to the author, there are interrelationships that include the interests of the economy and public management. Bioethics enables a practical synthesis in the process of “empowerment” or “liberation,” understood as an existential result of the concrete exercise of citizenship, represented by participatory democracy.

When deciding on the implementation of a productive process, which transforms the dimensions of life by authorizing the construction of works by mere political decision without taking into account the lives of human beings, other living beings and the entire ecosystem, this alienation is a form of manifestation of biopolitics about life.

And so, it is up to bioethics to establish itself as a form of resistance to biopolitics and biopower; that is, an alternative, mediating for the empowerment of citizens [12].

5. Conclusion

Supported by an integrative literature review, those related to protection were identified among the elements of bioethics, which involve other ethical dimensions: responsibility, solidarity and resistance.

The deconstruction method used as an analytical and interpretative method of conflicts contributes to the establishment of health protection means in the environmental licensing process in Brazil.

In this sense, relations have been established that characterize environmental licensing as linked to a morality that implies complex transformations in the territories where populations and other living beings in ecosystems live, and which fall within the field of *latu sensu* protection bioethics, being pertinent to adoption of practices aimed at improving the quality of life and empowering citizens, in the face of threats of introducing a situation of harmfulness to health and irreversible environmental damage.

The topic is not exhausted, requiring new studies—theoretical and empirical—on other aspects of bioethics, such as health protection tools in situations of environmental licensing of large enterprises.

The limitations of the method are recognized, mainly regarding the search resource using the term licensing, however the issue involved is implicated with bioethical problems—environmental ethics, global bioethics, natural ethics, biopower, biopolitics, globalization, social movements.

It is concluded that, in the context of the environmental licensing process of large enterprises in Brazil, bioethics can contribute as a theoretical and practical tool to mediate the existing moral conflicts, carrying out the detailed description of conflicts and dilemmas, the criticism, the justification and the proposal of morally acceptable measures for the protection of life.

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Conflict of interest

The author declares that there are not conflict of interest.

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References

- [1] Schramm FR. Applied ethics, bioethics and environmental ethics, possible relationships: The case of global bioethics. *Collective Health Notebooks*. 2009;17(3):511-630
- [2] Schramm FR. Bioethics, its development and importance for life and health sciences. *Revista Brasileira de Cancerologia*. 2002;48(4):609-615
- [3] Maliandi R. *Ethics: Conceptos y Problema*. Buenos Aires: Biblos; 2004. p. 158
- [4] Schramm FR. Bioethics as a form of resistance to biopolitics and biopower. *Revista Bioética*. 2010;18(3):519-535
- [5] Souza MT, Silva MD, Carvalho R. Integrative review: What is it and how to do it? *Einstein*. 2010;8(1):102-106
- [6] Derrida J. *Positions*. Belo Horizonte: Autêntica; 2001. p. 12
- [7] Schramm FR. The third margin of health: "Natural" ethics. *History, Sciences, Health-Maguinhos*. 1996, 1995;1(2):54-68
- [8] Silva ER, Schramm FR. The ecological question: Between science and the ideology/utopia of an era. *Public Health Notebooks*. 1997;13(3):355-382
- [9] Schramm FR, Kottow M. Bioethical principles in public health: Limitations and proposals. *Public Health Notebooks*. 2001;17(4):949-956
- [10] Pontes CAA, Schramm FR. Bioethics of protection and role of the state: Moral problems in unequal access to drinking water. *Public Health Notebooks*. 2004;20(5):1319-1327
- [11] Assumpção LA, Schramm FR. Elements for a bioethical analysis of recent urban transformations in Rio de Janeiro from the perspective of globalization. *Revista Bioética*. 2012;20(1):106-118
- [12] Schramm FR. Dialectic between liberalism, state paternalism and biopolitics. Conceptual analysis, bioethical and democratic implications. *Revista Bioética*. 2014;22(1):10-17
- [13] Negri A. *Five Lessons on Empire*. Rio de Janeiro: DP&A; 2003. p. 28
- [14] Negri A. *Back*. Rio de Janeiro: Record; 2006. p. 99
- [15] Santos BS. The globalization process. In: Santos BS, editor. *A Globalização e as Ciências Sociais*. Cortez; 2005. pp. 25-94
- [16] Santos M. *For another Globalization: From Single Thought to Universal Consciousness*. Rio de Janeiro: Record; 2000
- [17] Silva JM, Santo MO, Gurgel IDG, Augusto LGS. Sustainable development and worker health in the environmental impact studies of refineries in Brazil. *Saúde e Sociedade*. 2013;22(3):687-700
- [18] Silva JM, Gurgel AM, Gurgel IDG, Augusto LGS. The interrelationship between health, work and environment in the licensing of the northeast refinery. *Tempus: Minutes of Collective Health*. 2009;4(4):72-83
- [19] Silva JM, Gurgel IDG, Augusto LGS. Health, knowledge ecology and environmental impact studies of refineries in Brazil. *Interface—Communication, Health and Education*. 2016;20(56):111-122