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Ecology, economy and theology in Brazil

Highlighted by a case-study

topics:

- *economy vs. ecology in Brazil*
- *theological aspects of ecology*
- *ecology and the life-situation of poor people*

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In this short article I want to touch on three overlapping themes: theology, economy and ecology. I am going to start with the problem of water pollution in Brazil and then discuss the theological implications of this reality. Believe it or not, I am not going to deal with the deforestation of the Amazon. The reason for this is that the Amazon is already being discussed in almost every corner of the world. As such, I would like to look at both broader issues and at another specific ecological problem in Brazil that is of urgent importance.

I will begin with a few short comments about ecology in Brazil and its relationship with economy or the market. Then I will take a closer look at the problem of water pollution in and around the city of São Paulo. Next I will touch on relationships between theology and ecology. I will close with a short case study that relates ecological and economic questions in a Brazilian context.

Ecology and Economy in Brazil

The impression exists, possibly because of problems with pollution and deforestation in the Amazon, that Brazil has practically no environmental consciousness or infrastructure. I disagree, and believe that the facts prove otherwise. The first environmental law in Brazil was passed in 1797 in order to control the cutting of trees within 10 kilometers of the coast. To be honest, though, what apparently motivated the law was not environmental consciousness, but economic concerns. The Atlantic Rainforest was being cut down at such a fast pace, even in 1797, that there was a deep concern for losing a crucial source of income for both private businesses, raw materials, and revenues for the state, export taxes. Whatever the motivation, as early as 1797 there was at the very least an awareness of the need to protect the environment, or natural resources, on the part of both business and government in Brazil.

The first far reaching, or national, effort to regulate what we now understand as pollution took place in 1934 with the enactment of a federal Water Code that regulated norms, rights and limits of water use. Once again, at first glance this would appear to be a giant leap forward in terms of environmental protection in Brazil. However, it appears that the reality of the situation was more complicated. Brazil derives a great deal of its electricity from hydroelectric plants, and prior to the turn of the century producers of hydroelectric energy exerted considerable influence, if not control, over water resources. At the beginning of this century the National Department of Water and Energy was profoundly influenced by these hydroelectricity producers. The intent of the Water Code of 1934 was both to wrest this control from the hands of such producers and return it to the Federal Government, and give priority to domestic consumption and local communities due to the growth of Brazilian agriculture and increasing urbanization. What happened, in fact, was that the National Department of Water and Energy continued to be profoundly influenced by key electricity producing companies. My interpretation is that the argument was essentially that of protecting national interests. Without energy, Brazil would not develop, and then, as now, the word “development” is extremely powerful.

Why am I spending so much time talking about Water Codes and political realities in the 1930's in Brazil? It is not because I am compulsive about history. It is because I learned something of importance doing the research for this presentation. I read various reports, magazine articles and academic publications on Brazilian pollution regulation and, specifically, problems with water pollution. What I learned was that Brazil has a history of environmental regulation, and a huge environmental infrastructure. However, governmental environmental agencies are also generally under-funded and inefficient, even according to internal reports of the Brazilian National Development Bank, and laws and monitoring procedures related to the environment have been and are frequently influenced by economic concerns and interests. Lack of funding for governmental environmental regulation agencies is, without a doubt, due in part to a limited tax base, but it is also due, at least from my perspective, to an implicit desire to minimize the impact of these agencies. For example, a 1987 survey by the Brazilian National Development Bank found that the state regulatory agencies responsible for pollution control, SEPA's, were under-staffed and under-funded. Two agencies, in the states of São Paulo and Rio de Janeiro, accounted for almost half of the total national staff. Four states had no more than ten staff members. Ten states did not have boats, three states did not have cars, and six states did not have testing labs. Only three states had the capability to provide air and water quality analysis. In 1987 three states did not have state pollution control agencies, in spite of Federal laws requiring such agencies. While this situation has improved since 1987, environmental problems have become more complex, and regulatory agencies have not advanced markedly. It is enough to say that many of the agencies I researched continue to be under-funded, under-staffed and lack the basic equipment necessary for environmental regulation. For example, the federal agency responsible for overseeing an immense tract of Coastal Forest in the area which I live, São Bernardo do Campo, until three years ago did not have long-range radios and only a dozen cars, none of which were off road vehicles actually capable of going into the forest. It is also interesting to note that in spite of considerable research I have been unable to determine the current status of this agency in terms of basic equipment.

One way of interpreting these dynamics is to say that if you want to prove that you are environmentally conscious it is necessary to create agencies for environ-

mental protection. However, you do not necessarily have to fund those agencies. This leads me to the conclusion that these agencies are often little more than symbolic, even though there is a growing sense of environmental awareness in the broader Brazilian public.

One program that I have been able to find considerable information regarding is PROSANEAR, an environmental program funded by the World Bank. The focus of this program is on water pollution around major rivers in the central and south of Brazil. From all indications this program has been quite successful in defining sources of water pollution and regulating both industries and communities that are the source. My interpretation of why this program has been successful is that it has the force of an international funding agency, the World Bank, behind it. Since the funds come from outside of Brazil there is less internal concern with costs. Further, the World Bank is capable of applying political and economic pressure on both federal and state governments, which greatly aids in the process of implementation and enforcement. Another strength of this particular program is that it does not simply identify sources of pollution and then levy fines. The program includes funds for connecting individual homes and neighborhoods to sewage systems, building new waste water disposal systems in urban areas and making pollution control technology more affordable to small businesses and industries. As such, the program seeks to do more than punish offenders, through fines that are frequently less than effective. It is just such a balanced approach that is often lacking in internal Brazilian environmental policies.

Water pollution in São Paulo

The River Tietê and its tributaries form a semi-circle around the city of São Paulo, a metropolitan region with between 16 and 20 million inhabitants. No one quite knows how many people actually live in the region. The Billings Reservoir is part of the Tietê river system, and provides water for approximately 6 million persons. The Tietê River and Reservoir system also come into contact with one of the most industrialized areas in the world, the corridor between São Paulo and Rio de Janeiro. According to some estimates the Tietê is one of the most polluted rivers in the world. A very pragmatic example is that when I drive by the river, which is about 20 minutes from my home, I often have to roll up the windows in the car because the smell is overwhelming. Since 1994, some 4 billion dollars has been invested in cleaning up the river, mainly in terms of building new sewage treatment plants and connecting homes and small industries to the city's sewer system. Progress has been slow, but is being made.

Why is the Tietê so polluted? The problem is complex, but put in simple terms there are four central issues. First, many homes in the region around the river are not connected to the city's sewer system. These homes frequently release their waste directly into streams or drainage systems. This reflects the reality of poverty in São Paulo. Second, many small industries do the same. Larger industries are more closely regulated, but small and medium industries often escape inspection and regulation because they are “informal” or “unregistered”. Or, in other words, they do not legally exist. In 1996 it was estimated that between 70 and 80% of water waste in São Paulo was treated in water treatment plants. The other 20 to 30% was released directly into river or lake systems. In a city of between 16 and 20 million inhabitants this is a huge amount of waste release. I could not find specific figures for wastewater release, but on average 6,2 tons of industrial solid

waste are produced daily in the city of São Paulo, and 20% goes untreated through the official sanitation system. Third, while the city of São Paulo has a functioning wastewater treatment process the volume involved frequently overwhelms it, and untreated or partially treated water is released into rivers and streams. Poorer municipalities around São Paulo often do not have well-developed wastewater treatment plants, and this worsens the problem. Fourth, while large industries are inspected and regulated there are not enough inspectors to effectively measure and regulate water pollution. Plus, fines for breaking Water Codes are generally negotiable between the industry and the state or city. As such, the payment of fines is often delayed for years due to legal processes.

The river Tietê has its source in the interior of the state of São Paulo. There, the dominant source of income is sugar cane. Until the mid 1960's, this region relied on the production of coffee as its major agricultural product. However, with the end of the so-called "coffee cycle", coffee was no longer lucrative. One reason for this was depressed prices in international markets. Another reason was that coffee plants require high levels of nutrients in the soil. After a period of between forty and seventy years the soil in coffee plantations is effectively exhausted, or requires high dosages of specific fertilizers, which are very expensive commodity in Brazil.

The crop that replaced coffee was sugar cane, for the production of alcohol. Brazil is now one of the largest exporters of alcohol in the world. The environmental impact of this new crop is due to a byproduct of the process of refining alcohol. Vinhoto is a highly toxic sludge that has no known use, and is very difficult to degrade. Transportation, storage and treatment of Vinhoto is quite expensive. There are a myriad of laws and regulations regarding the storage and treatment of Vinhoto. However, due to the vast distances, under-staffing of rural environmental protection agencies and, most probably, the political influence of the owners of refineries these laws are often ignored. The Vinhoto is often released either onto the ground or into small streams close to the alcohol refineries. The result is the degradation of the land, the death of small streams and the introduction of Vinhoto into the Tietê. Once again, this points to the intimate relationship between economy and ecology.

Ecology and theology

There are two theological issues that I believe are crucial to this discussion. The central theological issue related to ecology and economy is that dominant Christian theologies are andocentric. Our theologies begin and end with models of God and creation based on human categories. The categories of I and Thou, to use the idea of Martin Buber, relate only to God and human beings. Nature is not a Thou. Nature is an It, and as such rarely enters into our theological discussions because it is of secondary concern. We fail to see the connection between human beings, nature and God. As such, nature can be dominated or used as an It, with little thought of the consequences either for nature, human beings or God. God is generally seen as immanent only in the person of Jesus Christ or the presence of the Holy Spirit. God is not seen as present or expressed in the natural world, or God's presence is seen as indirect. As such, we can use and abuse nature with little or no theological or ethical reflection. As such, our theologies become highly selfish and self-serving.

I believe that this attitude or understanding of the relationship between God, human beings and creation is changing. There are an increasing number of publications and general discussions regarding theology and ecology that recognize this intimate relationship. One of the theological issues that these discussions are identifying as fundamental is how we understand God. This discussion is identifying models or images of God as crucial to our understanding of creation.

Our dominant models of God are often based on images of total power, authority and control. God is the ultimate authority, and is in total, or near total, control of history. This often leads to an implicitly or explicitly passive theology where human responsibility is limited in comparison with “the Will of God”. Such an attitude is easily translated into a selfish theology where the domination of the world, or the use of the natural world according to human ends, is understood as “the Will of God”. Little or no relationship is seen between God, human need and the natural world. Such fragmented or andocentric theologies are inherently destructive.

This reality is reinforced in Brazil because of 500 years of history where the physical world as well as its human population has been seen as resources to be exploited. This historical practice or reality has been translated into an attitude in modern day Brazil of “take what you can get today and let tomorrow take care of itself”. This attitude of thinking in terms of short-term gains or needs has a high price. One result of such an attitude is that my comfort, my profit margin and my desires become foremost. What suffers is the environment and quality of life. What suffers is the web of life.

The river Tietê and the Billings Reservoir are excellent examples of this. In recent years the immediate utility of the river has been as a convenient sewer. The river itself, as a life form, is of no consequence. The river is an It. The medium and long-term consequences of turning a river into a giant sewer are of little or no concern. What seems to have mattered are short-term utility and profit. In terms of the Christian faith or religion, what seems to have played a key role, in terms of recent Brazilian religious attitudes and practices, is either the “salvation of souls” for the world to come or “prosperity”, in economic terms, and not what it means to live a full and abundant life. The Tietê may be a part of God’s creation, but what really matters is “salvation”, as a transcendent reality, or “prosperity”, in terms of immediate economic success. So the Church has either spent its time saving souls or fighting poverty and oppression, as is the case in Liberation Theologies, or creating so-called “Theologies of Prosperity”. Little thought has been given to the web of life that includes all of creation, including rivers. As I noted before, this seems to be changing due to discussion about images or models of God and the relationship between theology and ecology. However, these discussions are still in their infancy, and have not yet left the “academy” to enter with any force in the local church. The hope is that ecology and theology does not represent one more theological discussion that is popular at the moment, but that will disappear in the near future. Only to be replaced by another religious topic that is “in” at the moment. What are needed are deep reflections on how we understand God, self and world. Only then will discussions regarding “salvation” or “redemption” leave the realm of individualism and include the whole of God’s creation.

The case of Maria in São Paulo

To begin with, let me say that one of my fears about offering a case study is that what I am going to offer should not be understood as a universal truth regarding ecology and poverty in Brazil. It is a case study, and as such reflects one concrete reality or situation. It offers a picture or a photograph of a specific situation in modern day Brazil. I believe this case study honestly reflects a reality that is not uncommon, but I hesitate to say that it reflects “life in Brazil”. As in any country, life is incredibly diverse and complex. As such, I do not want to make any generalizations that cannot be supported. For example, my life or my reality in the Brazilian middle class is very different from the case that I am going to present. However, I believe that my life or my reality in the middle class is not representative of the majority of Brazilians. I do not directly experience the reality of poverty, and poverty, or marginalization, is much more descriptive of the lives of the majority of Brazilians than is that of the relatively small and fragile middle class.

Today, Maria is a middle-aged woman of more or less 45 years of age. She arrived in the city of São Paulo as an adolescent with her family. She was the third of five children. She has two older brothers and a younger sister and brother. Her family, including her father and mother, moved from the extreme north of Brazil “in search of a better life” after her father had been fired, or downsized, from his position in a small leather tanning company. When they arrived in Brazil, approximately 32 years ago, they moved into a two room “house” in a slum on the periphery of São Paulo. The “house” was constructed of tin and cardboard. It had electricity and running water that were illegally connected to the municipal system. That means that an intermediary controlled the illegal connections with the municipal systems, and, as they came to discover much later, charged considerably more than the legal rates charged by the municipal systems. Electricity was “acquired” through illegal lines connected to the local power grid. Every three or four months, Electro Paulo, the local energy company, would “discover” and cut the illegal lines. The next night the lines would be reconnected until Electro Paulo returned the next time. The water and sewer systems were much the same. Water was “stolen” from the local system through illegal connections, and the sewer system was basically a series of pipes that directed waste into a local river. While there was informal garbage collection, solid waste was discarded in a large hole dug in the ground on the edges of a forest approximately two miles from the neighborhood, or slum.

The family lived in these conditions during eight years. At some point, and Maria is not clear on the date, she left school and went to work. This had something to do with her father's drinking and inability to hold a job. She began working at approximately 15 years of age in a local paderia, or shop that sold bread and other food items. She worked in similar circumstances until she was 23, and earned on average 250 Reais a month for 50 hour work weeks, roughly 3 Reais an hour. When she was 23 she met and moved in with a man who repaired refrigerators in the same area. They lived in a house with similar characteristics to the one she was accustomed to. After three children and five years, she separated from this man because of his drinking and physical abuse.

She moved into a house, with her three children, that was basically one large room with a bathroom attached. There was running water and electricity, but neither was legally connected to the local municipal system. Once again, garbage was discarded in a large hole in the ground close to a forest and a reservoir, and wastewater was directed into a local river. It was all that she could afford. Every-

one in the neighborhood knew that the person who really ran the slum, or the neighborhood, was a local politician. His middleman was responsible for maintaining peace in the neighborhood, and seeing to the continuation of basic services, such as electricity, water and garbage collection. These, of course, were never officially registered as existing. As such, they served as an ongoing source of income for the middleman and the politician.

With the passage of time, Maria managed to work for several families as a maid. This source of income provided her with the financial resources to leave the slum and move into a simple house in a relatively established neighborhood. In this neighborhood all services were legally registered. However, she lived two blocks from a factory that produced some unknown product that constantly left a black residue on everything. The residue would always appear in the early morning. Nor was she aware that the majority of the sewage from the house went untreated into a local river because of the limited capacity of sewage treatment facilities. She continues to live in this neighborhood with her two sons and one daughter who work long hours in various low paying jobs in the area.

Maria has lived in several houses in the same neighborhood during almost twenty-five years. She is currently waiting for housing in a public housing project in the same area. The factory that produced the unknown black residue is still in operation. Maria and her three children all suffer from chronic lung infections and skin rashes.

When asked about the environment, it is as if you are speaking a foreign language. Maria simply accepts the situation as it is. Questions of health and environmental awareness do not make sense, or are not of immediate importance. What matters is that she has a “safe” home, is employed, and that her children are “safe” and employed. The central question for Maria, and her family, is that of physical and economic survival. She appears to accept the physical situation as it is. Environmental consciousness does not enter into the picture of her life. While she is concerned with the black residue produced by the factory, she treats the issue with a clear sense of resignation. There is nothing she can do about the factory. It has always been there, and it has always produced the black residue. The family simply makes sure to close all the windows in the house at night and in the morning.