

Title: Political Ecology of the soft drink and bottled water business in India; a case study of Plachimada

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Abstract:

The bottling plant of The Coca-Cola Company caused environmental problems: water shortage and water contamination. The villagers of Plachimada did not have sufficient water supplies for daily use; furthermore, clean water was contaminated and high levels of calcium and magnesium were detected. The villagers in Plachimada started the movements against The Coca-Cola Company and they still demand compensation; however, it has taken them more than ten years to fight for their water and livelihood. To investigate what caused Plachimada's movements and environmental degradations in Plachimada, I look through different conceptualizations of water: local and global perceptions, political ecology and commodification of water.

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1. Introduction

April 2002: A small group of women sit in quiet dharna (vigil) displaying their empty pots outside the factory gates. They observe well-established nonviolent idioms of protest from the Gandhi era, now part and parcel of democratic protests all over India. Several Coca-cola signs in the village are slashed in the coming days. Urchins are blamed. Slowly local labor, adivasi, and women's groups organize the first marches in Plachimada... (Ghosh 2010, 346)

In 2000, The Coca-Cola Company started a bottling plant in Plachimada, a small rural village in southern India, and the bottling plant caused environmental degradations, which directly affected the livelihood of Plachimada's villagers. Even though The Coca-Cola Company, well known as Coke, stopped the bottling operation in Plachimada, the villagers are still fighting for their rights to water and demanding compensation for affected villagers. When the environmental problems became obvious, the villagers began fighting for their rights to access and control of water. This struggle has now been going on for more than ten years and their fight for restoration of the environment and social justice is what makes Plachimada's movements an interesting case. Moreover, scholars in different fields approach it from various perspectives focusing on issues such as conflicts, corporate social responsibility (CSR), political economy, human rights, commodification and governmentality.

1.1 Why study water: water is essential for life

For us, as a human being, fresh water is essential for life. We basically use it for drinking, washing, cleaning, cooking and bathing. Water is not only used for fundamental needs but also for other purpose. For example, it is one of the essential energy resources to generate electricity. However, it also plays a crucial role in agriculture, irrigation and food production.

We all have different patterns of water consumption, both directly and indirectly. The more we consume water the more we need it. For instance, by 2025, industrial processes will use approximately 24 per cent of all fresh water in the world (Johnston 2003). Such a rapid consumption of water can lead to water scarcity.

Perceptions of water scarcity typically emerge when ecosystemic factors and processes fail to produce customary supplies; when human actions and activities influence supply and/or increase demand; when changes in power and economy affect access; and, when valued human uses conflict with valued ecosystemic needs. (Johnston 2003, 81)

Water scarcity is a global issue and is related to various issues such as health, economy, security, environment, and especially development. For instance, water is considered as a strategy to tackle poverty alleviation in developing countries meanwhile water in the global capitalist economy is defined as a commodity. Depending on the consumers, the global markets and local people conceptualize it differently. Global market wants to trade water for profit while rural communities want self-management, access clean, safe and adequate water to be able to deal with diseases and poverty. Improved quality and quantity of water are the goals among these consumers. “Water of appropriate quantity and quality can improve health and, when applied at the right time, can enhance the productivity of land, labour and other inputs” (UNESCO 2009).

Water is connected to life and important for everyone. It creates human-environment relationships; however, in this relationship conflicts emerge when consumers see the value of water differently. Different conceptualizations of water can generate conflicts over access and control of water and it emerges in local, regional, and global levels; an important question of the conflicts is who governs the most – the global market, the local community or the government?

2. Research questions

1. How is water conceptualized as a commodity through liberalized economic policies and how does this conceptualization manifest in Plachimada’s movements?
2. What social and environmental consequences did Plachimada’s villagers face when The Coca-Cola Company started their bottling plant and what caused the villagers to organize protests against the bottling plant?

3. Purpose of the study

Firstly, I select Plachimada as a case study because the villagers suffered tremendously from water pollution and water shortage. This was an important event,

which led to remarkable environmental movements in India. Secondly, The Coca-Cola Company is a well-known soft drink corporation and holds a leading position in the Indian market.

The main study of the thesis is to investigate the causes of Plachimada's movements. It addresses conflicts between local villagers and The Coca-Cola Company; the conflicts are investigated through the movements, in which the villagers illustrate how to deal with changes in livelihood and natural resources.

Also, the study examines social and environmental consequences of The Coca-Cola Company's bottling plant. It shows changes in water quantity and quality due to water contamination. India reformed their economic strategy because the national economy grew slowly; therefore, India moved forward to economic liberalization in 1991 to boot the economy. As a result, the reformation increased the economic growth, but transnational investments such as soft drink and bottled water businesses affected the rural livelihood in India. Plachimada is an example of a rural village where a transnational corporation excessively extracted and polluted groundwater.

In addition, the study seeks to understand different conceptualizations of water that lead to conflicts over access and control of water. Also, it emphasizes on commodification of water on a global scale. Especially, unrestricted water regulations and policies in international levels that lead to differences in water conceptualization and allow transnational corporations to trade water easily.

4. Research methodology, research instruments developed and applied

4.1 Data-collecting

Due to the fact that I could not conduct fieldwork in southern India, secondary data was mainly used for the study. As for this thesis, to look back on the events of Plachimada protests, I explored articles, books, journals, websites, online databases, online newspapers, and video clips for data gathering. All these data helped me to see, conceptualize, examine, and especially to connect all the pieces of Plachimada's movements story together. In terms of data gathering, I collected data from different databases through Internet, mostly through Lund University databases: LibHub, Lovisa, and Summon where I gained several various materials from different field of studies such as articles, journals, theses, e-books and newspapers. Lovisa is the local library category, which provided me with a wide variety of books. There, I borrowed

course books and related books. Besides, interlibrary loan services were very helpful for me when I wanted books that were not available in Lovisa. Lastly, Summon is a database I frequently used, which is a common access to all library resources. The advantage of gathering data from online databases is that I get reliable sources because they are selected by librarians and scholars and provide me with accurate citations, which I can directly import to Endnote¹.

Moreover, Ebscohost databases provided me with many related articles and journals. Ebscohost is a database where you can select your databases from different fields such as economy, medication, humanities, political science, and philosophy. However, I only selected greenFILE, political science, and social science databases because these databases are related to political ecology. From these databases, Ebscohost provided me with wider materials than other databases because I could find magazines, newspapers, and book reviews, with which I could import citations directly to Endnote.

Surfing the Internet through various websites also helped me with finding online newspapers where they told the stories between Plachimada and The Coca-Cola Company from different perspectives such as law enforcements, marketing and social movements. Internet tremendously facilitates me to access different kinds of databases and websites including book loans from libraries in other cities. However, a disadvantage of gathering data from articles and news on general websites, which are not in academic databases, is that some of the sources do not clearly show authors or date of publishing, which is difficult to identify and quote. So, I tried to avoid unclear data sources by not using them as references but I used them to understand the events in Plachimada. Furthermore, video clips from YouTube were very helpful for me to see actual social movements in Plachimada.

4.2 Data analysis

I employ ‘case study approach’ and ‘progressive contextualization’ methods to analyze the data. To begin with case study approach is widely used in anthropology, sociology, human ecology, human geography and more. Case study approach focuses on “a single place, a particular group, or a specific issue in one location is helpful in

¹ Endnote is a reference software that helps users to manage, store, and search references. For further information, <http://www.endnote.com/en/about.asp>

narrowing down research topics” (Hardwick 2009, 441). Case study approach is appropriate to mixed methods of data collection and analysis: quantitative and qualitative methods (Hardwick 2009).

‘Progressive contextualization’ is a procedure to study causes and effects by looking through specific time, activities, people, and places. It involves “focusing on significant human activities or people-environment interactions and then explaining these interactions by placing them within progressively wider or denser contexts” (Vayda 1983, 265). According to Andrew P. Vayda (1983), who used progressive contextualization to investigate causes and effects of deforestation in the Indonesian province of East Kalimantan on the island of Borneo, he and his research team focused on “specific activities, such as timber cutting, performed by specific people in specific places at specific times” (266). Vayda points out that progressive contextualization is used in ecology, human ecology, and related fields. “In using it, we can start with the actions or interactions of individual living things and can proceed to put these into contexts that make the actions or interactions intelligible by showing their place within complexes of causes and effects” (270).

In this thesis, progressive contextualization provides me to understand the case study in a broader context. It explains what caused environmental movements and the social and environmental consequences in Plachimada. The case study of Plachimada is a starting point of progressive contextualization. I trace back to Plachimada in 2000 when The Coca-Cola Company started the bottling plant operation and caused environmental degradations. To investigate further, the study starts with bottoming-up and looking through national and international regulations and policies that lead to commodification of water.

5. Framework of study

5.1 Political ecology framework

Basically, political ecology is an interdisciplinary science between natural science and social science. It explains the relations between nature, society and humanity. Economic, cultural, and political aspects are fundamental broad terms to be applied in political ecology. In 1970, academics from three different fields of study – journalist Alexander Cockburn, anthropologist Eric Wolf and environmental scientist Grahame Beakhust – “coined the term as a way to conceptualize the relations between political economy and Nature in the context of a burgeoning environmental

movement” (Paulson, Gezon, and Watts 2003, 206). Piers Blaikie and Harold Brookfield (1987, 17 quoted in Paulson, Gezon, and Watts 2003, 205; Gezon and Paulson 2005, 2) define the field: “the phrase ‘political ecology’ combines the concerns of ecology and broadly defined political economy”. To understand more about political ecology, three political ecology approaches have developed around a set of core concepts. The first concept is pressure of production on resources. “Resource use is organized and transmitted through social relations that may result in the imposition of excessive pressure of production on the environment” (Watt 1983 quoted in Gezon and Paulson 2005, 2). The second is “a plurality of positions, perceptions, interests, and rationalities in relation to the environment for example, one person’s profit may be another’s toxic dump” (Gezon and Paulson 2005, 2). The third is marginalization, in “which political, economic, and ecological expressions may be mutually reinforcing: land degradation is both a result and a cause of social marginalization” (Blaikie and Brookfield 1987, 23 quoted in Gezon and Paulson 2005, 2).

However, political ecology work has been criticized that to what extent political ecologists integrate ecology and politics in political ecology. Should they only see one side of the coin or should they turn the coin to see both sides? On the one hand, some political ecologists do not involve biophysical ecology questions or environmental change in their work. Pete Vayda and Brad Walter (Vayda and Walter 1999, 168 quoted in Walker 2005, 75) note that:

Some political ecologists do not even deal with literally the influence of politics in effecting environmental change but rather deal only with politics, albeit politics somehow related to the environment. Indeed, it may not be an exaggeration to say that overreaction to the ‘ecology without politics’ of three decades ago is resulting in a ‘politics without ecology’.

On the other hand, the first generation of political ecology work is also criticized for its lack of a serious and consistent treatment of politics and for its abstract or vague conceptualization of political economy (Paulson, Gezon, and Watts 2003, 208). However, Peter Walker (2005, 80) argues “political ecology is today’s most prominent inheritor of traditions in geography with deep historical roots in the study of both biophysical ecology and social science”. Moreover, Zimmerer and Bassett (2004 quoted in Walker 2005) encourage political ecologists to be a bridge

between social science and biogeophysical sciences. In conclusion, political ecology is applied in various disciplines including anthropology, sociology, geography, biology, and political science. These disciplines employ political ecology as an approach that addresses the concerns of both political economy and cultural ecology (Gezon and Paulson 2005, 1).

To employ political ecology, a conceptual framework is used to explain the human-environment relationships in economic and ecological dimensions. Two approaches from political ecology are relevant to this study, pressure of production on resources and plurality. Excessive groundwater extraction leads to environmental degradations, and plurality of water perceptions and interests generate economic and ecological conflicts. Arturo Escobar (2006) points out that ecological, economic, and cultural differences lead to conflicts. “Conflicts often times appear when poor communities mobilize for the defense of the environment as a source of livelihood” (Martinez Alier 2002 quoted in Escobar 2006, 9).

Different economic, political, and cultural conceptualizations lead to unequal access of water. Ruchi Shree (2010) studies different meanings of water ownership and emphasizes that states, markets, and communities have different claim of natural resources ownership. States claim that it is the only legitimate custodian of natural resources; therefore, water should be managed by states. Markets claim that water is an economic good; any items are traded, evaluated and priced. Meanwhile the communities use natural resources and, as they are defined by their location in particular geographical regions, their knowledge systems are competent to make the best use of those natural resources and their survival depends on them.

5.2 Commodification of natural resources; water

D. Leslie (2009, 268) defines ‘commodity’ in International Encyclopedia of Human Geography as follows:

There are a variety of uses of the term commodity, including objects of value, things that are produced for the purpose of being exchanged, and objects that are exchanged for money. In a society driven by the production of commodities, an entrepreneur chooses both the commodity to be produced, and also the method by which it will be manufactured according to expectations about its salability on the market and ability to generate profits.

Therefore, commodification in terms of Human Geography is that “the extension of the commodity form to goods and services which previously were not commodities as defined above. There are different meanings of commodification depending on how a commodity is defined” (Leslie 2009, 268). Immanuel Wallerstein proposes world-system theory and explains “the relationship between the core and the periphery has been one of exploitation; the core has exploited the periphery for raw materials, labor, and as a market” (Barbosa 2009, 35). An important feature of the Wallerstein’s theory is ‘commodification’ which means “the transformation of anything, including human beings, into goods or commodities that can be sold in the market; a market exchange value is attached to them” (Barbosa 2009, 36).

In addition, Diana Liverman (2004) discusses ‘commodification of nature’ from the perspective of human geography that a way to protect the environment is to transform nature into services, assign property rights, and trade it in the global market. For example, in Latin America, land, water, forests, biodiversity, and fisheries are traded in free market, which lead to high prices of scarce resources and encourage sustainable management of renewable resources (Liverman 2004). David Harvey (2004 quoted in Liverman 2004, 734) defines these transformation that “this commodification and privatization as a strategy of ‘accumulation by dispossession’ where states collude with capital to pillage nature and the commons”. In Costa Rica, prices are assigned to environmental services; for example, pharmaceutical companies pay fees for rights to collect plants and animals, and U.S. companies pay for reforestation or forest protection to reduce CO₂ emissions.

Arturo Escobar (2005) points out different perspectives of nature between environmental economics and ecological economics and claims that in a environmental economics perspective, natural resources are valued as “subject to economic conditions, and that all natural aspects can be entirely reduced to (actual or fictitious) market prices” (8) such as environmental services. On the other hand, natural resources in ecological economics perspective claim, “the value of nature cannot be assessed only in economics terms. There are ecological and political processes that contribute to define the value of natural resources that cannot be reflected in market prices” (Escobar 2005, 8).

In terms of water as a commodity, Vandana Shiva (2002) wrote the book “Water wars: Privatization, Pollution and Profit” and points out that the globalized economy brings about changes of water definitions. Water becomes a commodity that

can be extracted and traded freely. The globalized economy removes all limitations and regulations of water use and creates water markets. She argues that “water is a commons because it is the ecological basis of all life and because its sustainability and equitable allocation depend on cooperation among community members” (Shiva 2002, 24) and strongly agrees that water is a common good and communities should manage water by themselves. Still, they lose self-management to access shared water because international corporations invest in new water extraction technologies. Their right to water and collective ownership is taken away as a result of water is traded in globalized economy and privatization of water.

6. Literature review

I did several literature reviews in relation to Plachimada’s movements, commodification, political ecology of water, environmental movements and conflicts, political ecology, soft drink businesses in India including an interesting case study that is similar to the thesis’s topic. These literatures reflect upon economic, cultural, and development dimensions.

To begin with the economic dimension, Ananthakrishnan Aiyer (2007) wrote his analysis in “The Allure of the Transnational: Notes on Some Aspects of the Political Ecology of Water in India”. His analysis focuses on Plachimada, which is the same case study that is central to my thesis. He argues, “corporate control of resources in India must be located and analyzed with a framework that is not restricted to neoliberal globalization and transnational corporations” (653). He suggests that “the struggle of communities like Plachimada should be analyzed as part of the unfolding agrarian crisis in India” (653). The struggles in Plachimada represent issues in relation to land, agrarian struggle, concern surrounding water and irrigation in the Indian countryside.

There are discourses dominating the Indian economic analysis such as corporate globalization, transnational corporations, transnational networks of governance, transnational networks of struggle, and time-space compression. Similar to the academic literature on India, information technology, consumption and shopping, cultural identity politics, and new subjectivities dominate the analysis as well. All these discourses help to “refine conceptual and theoretical debates in anthropology and other social sciences about the uneven nature of globalization; the importance of transnational imaginaries; the growing importance of consumption,

media, and information technologies; and the impact on work, subjectivities, and configurations of power” (Aiyer 2007, 647).

However, Aiyer clearly states that privatization of water by the Indian government and international corporations affected Indian villagers and farmers in rural areas. In his case study of Plachimada, he describes how the villagers confronted The Coca-Cola Company when large amounts of groundwater were extracted. In terms of broader consequences, 22,000 to 25,000 farmers in rural communities committed suicides because of the high costs of production; the suicides were connected to international aids such as the World Bank (Aiyer 2007). As for economic strategies, “India is now seriously threatened by liberalization since the 1980s” (Aiyer 2007, 650). Indian government claimed that poverty in India in the 1990s was reduced because of the globalized economy; nevertheless, the official figures demonstrated, with significant evidence from economists, that the poverty in India hardly declined.

Eva Wramner (2004) wrote her Bachelor thesis in Human Ecology titled “Fighting Cocacolonisation in Plachimada: Water, soft drinks a tragedy of the commons in an Indian Village”. She analyzes the events in Plachimada focusing on the cultural dimensions and explores anti-Coca-Cola movements through concepts of environmentalism, ecologically unequal exchange, the tragedy of the commons, globalization and privatization. I choose to look through her bachelor thesis because she conducted fieldwork in Plachimada and interviewed NGOs who dealt with Plachimada’s movements; therefore her thesis helped me to get a general picture of Plachimada’s geography and how people protest against The Coca-Cola Company.

In terms of development, Govindan Parayil (2000) edited the book “Kerala: The Development Experience: Reflections on Sustainability and Replicability”. The book examines social and economic changes in Kerala, which leads to Kerala’s development model. “Kerala has been transforming itself from an extremely poor state, ridden with caste and class conflicts and burdened by high birth, infant-mortality, and population growth rates, into a social-democratic state with low birth, infant-mortality and population growth rates and a high level of literacy” (Parayil 2000, 1). Development scholars are interested in the remarkable changes in Kerala. They investigate what caused the changes in Kerala’s demography and Kerala development experience can be a good lesson to other Indian states and developing countries. In 1994, the International Congress on Kerala Studies drew 1600

participants from India and twenty-three other countries to the capital city of Kerala where the conference was held (Parayil 2000). The successful development of Kerala was discussed in terms of poverty and four quality of life indicators: literacy rate, life expectancy, infant-mortality, and birth rate. During 1973-74, “Kerala’s income-poverty was nearly 10 per cent higher than that of all-India. But within two decades Kerala not only reduced its incidence of income-poverty by 58 per cent (compared to only 34 per cent for all-India), but it is now lower than all-India by 30 per cent” (Parayil 2000, 52-53).

Lastly, an outstanding case study of water reform in Zimbabwe conducted by Anne Ferguson and Bill Derman was reviewed. The study was interdisciplinary where they used political ecology approaches to examine how water reform “broadened disadvantaged groups’ and women’s access to water and increased their voice in the new water-related institutions and laws” (Ferguson and Derman 2005, 62). “Political ecology offered a shared analytical framework that encompassed the issues and methods familiar to the anthropologists and resource economists engaged in the study” (Ferguson and Derman 2005, 61). However, the political dimensions were central to the study.

Zimbabwe was selected for the case study because the water reformation was more progressive there than in other countries in southern Africa. Zimbabwe’s new water policy and laws adopted the Dublin Principles, which was written by the World Bank and other donor organizations. Water, in the Dublin Principles, is conceptualized as a scarce resource and commodity². The basic principle was that “people have a right to use water for drinking, cooking, washing, watering livestock, making bricks for houses, and other noncommercial purposes” (Ferguson and Derman 2005, 65).

Ferguson and Derman point out that Zimbabwe’s new water policy and laws adopted international principles like the Dublin Principles to the national strategy because they attempted to draw attention from the World Bank, the FAO, and other

² They are (1) freshwater is a finite and vulnerable resource, essential to sustain life, development, and the environment; (2) water development and management should be based on a participatory approach involving users, planners, and policymakers at all levels; (3) women play a central part in the provision, management, and safeguarding of water; and (4) water has an economic value in all its competing uses and should be recognized as an economic good (Ferguson and Derman 2005, 63-64).

national donors' funding. In addition, Ferguson and Derman discuss two concepts of the water reform. To begin with stakeholder participation concept, in 1997, the Mupfure and the Mazowe were two pilot catchment projects to study different models of stakeholder participation. Therefore, they could decide which projects that could be applied in Zimbabwe. Eventually, the Zimbabwean government decided to impose its own structure and system. The second concept was the user-pays principle, which derived authority from the Dublin Principles. The content of the principles was that people could use water for fundamental needs such as drinking, washing, watering livestock, and tending small gardens. One who used water for commercial purposes paid for it; however, this principle only applied to a small number of consumers. These consumers used water for commercial purposes and, although few in numbers, consume most of Zimbabwe's water. However, Ferguson and Derman point out that the water reform was against how Zimbabweans conceptualize the value of water. In an interview of villagers, more than 90 percent of them thought that they should not pay for water used for commercial purposes. "In short, user pays is not a principle accepted by most rural dwellers" (Ferguson and Derman 2005, 70).

7. Findings and Discussion

This section is divided into two parts. The first part illustrates policies and regulations of international financial institutions, which play crucial roles in water conceptualizations in the global market and affect the local scale. The second part addresses the events of Plachimada's movements and conflicts between local residents, the local government, and The Coca-Cola Company. Besides, it investigates the social and environmental consequences of The Coca-Cola Company's bottling plant in Plachimada.

7.1 Why the global market see the value of water differently from the local people

Water, which is a natural resource, is conceptualized in various ways. In local scale, rural communities rely on water and conceptualize it as a common good; everyone should be able to access it freely. As for states and the market, in global scale, water is exchanged and priced; it is no longer free when the global market captures it. Water is traded as services in the globalized world. Globalization causes capital flows and cross-border interaction between people, nations, and corporations. W.C. Clark (2000 cited in Karlsson, Johansson, and Stough 2009, 3) defines

globalization as “the process of creating networks of connections among actors at multi-continental distances, mediated through a variety of flows including people, information, ideas, capital, and goods”. Also Karlsson, Johansson and Stough (2009) define globalization in an economic aspect as a phenomenon that “ globalization can be understood as the growing economic interdependence of regions and countries worldwide through an increasing volume and variety of interregional and international trade in goods and services and of capital flows and a more rapid and widespread diffusion of knowledge and technology” (3).

Water in the globalized market is legally traded and managed by international financial institutions such as the World Bank, World Trade Organization (WTO), and General Agreement on Trade in Services (GATS). These legal trades of water lead to transnational investments between countries. The World Bank contributes monetary funding to various water projects and southern Asia member-countries loan 20 per cent of the funding (Shiva 2002, 88). In total, the funding supply urban water and sanitation with 4.8 billion US dollar, rural water projects with 1.7 billion US dollar, irrigation with 5.4 billion US dollar, hydropower with 1.7 billion US dollar, and water-related environmental projects with three billion US dollar (Shiva 2002, 87-88). Estimations on financial trends show that the water business is the most profitable industry for investors (Shiva 2002). This prediction stimulates the international markets to invest in water business. For instance, Monsanto, a leading multinational agricultural biotechnology company, invests in the water business in India. They collaborate with the World Bank for monetary and also transnational companies to develop the water business.

Deregulated policies of international financial institutions also smooth the way for water to be traded easily. Member-countries of any of these agreements must follow the conditions and regulations specified. For example, the “National Treatment” rule of GATS:

Prohibits governments from discriminating between foreign and local service suppliers, even if the local provider is a community nonprofit and the foreign supplier is a giant water cooperation. This rule also proscribes governments from requiring foreign corporations to hire or train citizens or to involve local people in management and ownership. (Shiva 2002, 95)

Moreover, legal water trading is promoted through policies and regulations. The World Bank promotes water privatization through structural programs and conditions. Furthermore, WTO advocates it via free-trade regulations. GATS encourages services for free trade and apply its principles in energy, education, financial, health and social, and environmental sectors (including water, food, research, communication, and transportation). As indicated on WTO's website, GATS concludes water on their agenda and it is a part of the environmental services; they include "sewage services, refuse disposal, sanitation and similar services, reducing vehicle emissions, noise abatement services, nature and landscape protection services and 'other' environmental services"³. It can be seen that free-trade policies of international financial institutions such as GATS greatly open opportunity for flow of commodity. "GATS not only bypass government restrictions but also permits companies to sue countries whose domestic policy prevents free-market entry" (Shiva 2002, 93). Water services agendas have been of interest not only to WTO but also to the European Community; however, they expanded the coverage of water services to include water collection, purification and distribution (Shiva 2002, 96). Ruth Caplan of the Alliance for Democracy points out that "collection could include the withdrawal of water from bodies of water and the extraction from groundwater and aquifers" (Shiva 2002, 96).

The Indian government follows all regulations of international aids since they became a member of WTO and opened up their economy to increase the national income. Transnational investments are allowed to invest in India because of supportive deregulations and agendas of international financial institutions. Therefore, transnational companies are interested in water service investments in India, which can be a big market to capture. For instance, soft drink and bottled water businesses, giant companies like The Coca-Cola Company, PepsiCo, Suez, Vivendi, and Bechtel invest in urban water supplies and wastewater management. They cooperate with cities and public sectors to improve and manage water infrastructures and delivery to industries and consumers (Aiyer 2007, 641). Influx of giant companies investing in water services leads to water privatization in India. According to Water and Environment International journal (2000), the ministry of urban

³ Environmental services, accessed February, 20 2012.

http://www.wto.org/english/tratop_e/serv_e/environment_e/environment_e.htm

development finalizes a policy to privatize India's urban water supply, sewerage sanitation, and soiled water management sectors. The new policy expects to allow 100 per cent foreign investment in all sectors through an automatic approval route (Full privatisation to go ahead in India 2000).

In addition, water investments increased as a result from increased consumption of the Indian middle-class. Aiyer (2007) states "the growing demands by urban middle class residents for better infrastructure and service provision also smoothed the way for increased privatization of sectors that had previously been handled by government entities" (641). He also adds that middle-class consumers are a target group of The Coca-Cola Company and PepsiCo, (Both companies control eighty per cent of soft drink market and forty per cent of bottled water market). "By the late 1990s and early 2002, the bottled water industry in India was growing rapidly which made India the tenth largest consumer of bottled water in the world" (Bhushan 2006 quoted in Aiyer 2007, 641). Furthermore, cheap labor, low cost of groundwater extraction and the state's policies highly facilitate international investments in India.

The obvious advantages of allowing foreign companies to invest in India are economic growth, better infrastructures, and better water management. It clearly shows that the Indian government gains benefit from policies of international financial institutions while foreign companies make profit from establishing their businesses in India. However, rural communities do not receive advantages or benefits from the global investment. For instance, agricultural crisis emerged in the Indian countryside when India reformed the economic strategy in the 1980s. "Agriculture, once the backbone of the economy and the key source of capital accumulation, now only contributes 25 per cent to the national GDP even as 75 per cent of the population is dependent on it. 70 per cent of this rural population faces daily hunger in terms of caloric intake" (Aiyer 2007, 650). The Indian government claimed that poverty in India in the 1990s decreased as a result of a globalized economy in spite of several economists who argued that poverty hardly declined (Aiyer 2007). According to them, 75 per cent of the rural population and 55 per cent of the urban population live under conditions officially designated as poverty (Aiyer 2007).

Aiyer points notes the rural population suffered from the economic reform of the Indian government, especially farmers who paid the high costs of agricultural inputs such as seeds, fertilizers, and pesticides. In the past decade, there have been

22,000 to 25,000 farmers who committed suicide and the majority of suicides occurred in the western and southern India. “The deregulation of the banking sector has meant a credit crunch for most poor and smaller farmers, leading to greater indebtedness with moneylenders and traders” (Aiyer 2007, 650). As a result, “farmers, both the poor and those in the middle, are increasingly beholden to the power of merchants and moneylenders, leading to severe agrarian distress even in areas that demonstrate ‘positive’ agricultural growth” (Vakulabharanam 2005 quoted in Aiyer 2007, 651). The deregulation and privatization mean an increasing of tariffs, which were previously paid by the government. In dry areas, farmers depend on canal irrigation and irrigation that uses tube wells to generate power. These high cost of power also caused indebtedness in farmers or crop failure because farmers could not pay for it.

7.2 When the value of water is seen differently

Different conceptualizations of common good like water generate bipolarity or a plurality of positions, perceptions, interests, and rationalities in relation to the environment (Blaikie 1985,16 quoted in L.Gezon and Paulson 2005, 2). Escobar points out that conflicts over natural resources involve economic, ecological, and cultural dimensions.

In this part, I examine the causes of the movements and the social and environmental consequences in Plachimada and I illustrate what happened during the movements, starting from the beginning of the bottling plant operation until the locals were demanding compensation. The story of Plachimada’s movements has been told in different aspects. Therefore, this study focuses on ecological and political aspects in a big picture of the movements. Moreover, I have not found the ending of the movements. The story in this study ends in 2011, the year when the locals were demanding compensation from The Coca-Cola Company.

7.2.1 Introduction to the case study

In 1956, India had an economic strategy, so-called “command and control economy”, which disconnected the national economy from the global economy. Basically, the strategy, which was economic independent and self-sufficient, restricted private sectors and foreign investors. The restriction reached its peak in the mid-1970s when India forced foreign companies to reduce the value of shareholding

in foreign equity to 40 per cent or they had to withdraw from the Indian market (Nayar 2006). The national economy accelerated slowly; therefore, the Indian government dropped the strategy and moved forward to economic liberalization in 1991. Since then the economic growth increased significantly. “In 1974, India’s trade as a proportion of its GDP was around 10 per cent. By 2002, that proportion had about tripled to nearly 31 per cent” (Nayar 2006, 15) and had higher GDP than other countries such as the US (23.6 per cent) and Japan (21.0 per cent) (Nayar 2006).

When India opened up the national economy to the global market and allowed foreign companies to invest in their economy, the soft drink and bottled water business was one of the foreign companies’ interests in the Indian market. International soft drinks and bottled water corporations from the US, France, and Australia invest and spread out bottling plants through out India. For instance, The Coca-Cola Company, PepsiCo, Suez, Vivendi, Bechtel highly invest in India and make high profit (Aiyer 2007). Britannia Company who produces Evian, a mineral water, sells bottled water for two US dollar per liter. “Evian is promoted as an alternative beverage for lifestyle and fitness needs” (Shiva 2002, 101). Coca-Cola started their business in Delhi, Mumbai, and Bangalore. Nestlé has a plant in Samalka in Haryana. PepsiCo started bottling plants in Roha, Maharashtra in 1991, and set up new plants in Kosi, Bazpur, Kolkata, and Bangalore (Shiva 2002). Auswater, an Australian brand, promoted their brand in India. However, smaller Indian water companies such as Trupthi, Ganga, Oasis and Himalayan also compete in the market (these small firms account for 17 per cent of the market share) (Shiva 2002).

7.2.2 Looking through the case study of Plachimada

Plachimada’s geography

Plachimada is a small rural village located in Palakkad district: “five kilometers from the Tamil Nadu border and thirty kilometers east of Palakkad town. The river Chitoorpuzha runs about two kilometers from here and the irrigation canal Molanthodu from the Meenkara dam three kilometers to the south also surrounds Plachimada” (Wramner 2004, 28).

Palakkad district is located between Kerala and Tamil Nadu. The population of Palakkad district is approximately 2.6 million people (Ghosh 2010). According to

census year 2011, and most of the population was land-less adivasis⁴ who worked as laborers in agricultural sector and relied on water from wells for irrigation (Ghosh 2010).

Kerala is located on the coastline on the south west of India with the Arabian Sea on the west and the mountains of the Western Ghats on the east⁵. The state of Kerala is divided into fourteen districts. The major cities are Thiruvananthapuram (capital city of Kerala), Kochi, and Kozhikode⁶. According to census year 2011, the population was approximately 3.1 million people and thus “Kerala is one of the most densely populated regions in the world” (Parayil 2000, 4). Malayalam and English are widely spoken. As for religious groups, 57 per cent are Hindu, 23 per cent are Muslim, 19.5 per cent are Christian, and the rest are Buddhist and animist (Parayil 2000, 4). As indicated on the Kerala state official’s website⁷, Kerala’s economy is predominantly agrarian in nature. They claim that in terms of per capita income and production, Kerala falls behind many of the Indian states. However, in terms of demography, “Kerala is the only state in India that has declared fully literacy” (Parayil 2000, 1). It achieved high literacy rate (the 90 per cent literacy rates among rural women in Kerala is higher than the 88 per cent urban male literacy rates in the rest of India), high life expectancy, low infant mortality, and the highest gross income per net cropped area (Ghosh 2010).

The history of The Coca-Cola Company in India

In 1950, Coca-Cola initially opened bottling plants in New Delhi and, in 1973, they operated twenty-two bottling plants in thirteen states in India. Between 1978 and 1979, Coca-Cola formally withdrew their investments from India due to “it refused to accept the terms of Foreign Exchange Regulation Act, which reduced foreign ownership and equity to 40 per cent in companies that produced consumer goods” (Aiyer 2007, 653). Coca-Cola re-entered in India in 1993 since the opening up of the Indian economy to foreign investments in 1991. In 1997, the Cabinet Committee of Foreign Investment approved Coca-Cola to establish two holding companies, which

⁴ Indigenous people in Kerala state

⁵ The official web portal of government of Kerala website, accessed January 2012.

<http://www.kerala.gov.in/>

⁶ Kerala tourism official website, accessed January 2012. <http://www.keralatourism.org/>

⁷ The official web portal of government of Kerala website, accessed March 2012.

<http://www.kerala.gov.in/>

are Hindustan Coca-Cola Holdings Private Limited and Bharat Coca-Cola Holdings Private Limited. Then they legally merged into Hindustan Coca-Cola Holdings Pvt Ltd. in February 2000 (Wramner 2004).

Since re-investment, between 1993 and 2003, Coca-Cola has invested more than one billion US dollar in their operations in India. At present, moreover, they own fifty-seven bottling plants all around India (Coca-Cola India's website)⁸ and supplement seventeen franchisee-owned bottling operations and a network of twenty-nine contract-packers to manufacture a range of products (Bijoy 2006). They manufacture and sell different kinds of beverages and brands: Coca-Cola, Fanta Orange, Fanta Apple, Limca, Sprite, Thums Up, Burn, Kinley, Maaza, Maaza Milky Delite, Minute Maid Pulpy Orange, Minute Maid Nimbu Fresh and Nестea Iced tea, the Georgia Gold range of teas and coffees and Vitingo (Coca-Cola India's website). Furthermore, the company mentions that their products integrate in micro economy especially in small towns and villages. Also their production contributes to job creations and growth in GDP.

The beverage industry is a major driver of economic growth. A National Council of Applied Economic Research (NCAER) study on the carbonated soft-drink industry indicates that this industry has an output multiplier effect of 2.1. This means that if one unit of output of beverage is increased, the direct and indirect effect on the economy will be twice of that. In terms of employment, the NCAER study notes that an extra production of 1000 cases generates an extra employment of 410 man days. (Coca-Cola India's website)

In the industry profile of Datamonitor⁹ document (Soft Drinks Industry Profile: India 2008) focus on 'soft drinks in India shows that Coca-Cola is the largest market share in soft drink business in 2007 (32.5 per cent). Moreover, the value of the Indian soft drink business in total grew significantly between 2003 and 2007, with an annual growth rate of 5.8 per cent.

⁸ Coca-Cola India. accessed January 2012. <http://www.coca-colaindia.com/>

⁹ Datamonitor is a leading business information company specializing in industry analysis.

The Coca-Cola Company in Plachimada

The Hindustan Coca-Cola Beverage Private Limited (HCBPL)¹⁰ brought forty-two acres of land in Plachimada in 1998 (Cockburn 2005). The Kerala State Pollution Control Board (KSPCB) permitted Coca-Cola to produce 561,000 liters of soft drink per day (Bijoy 2006). The bottling plant was “located south-east in Palakkad district bordering south-western part of Coimbatore district of Tamil Nadu” (Bijoy 2006).

Jananeethi, human rights NGOs, describes the bottling plant in Plachimada.

The Coca-Cola plant was built on a fifteen-hectare plot of what used to be multi cropped paddy land. It has a working capacity of 1.5 million litres water-based product; around eighty-five truckloads of soft drinks and mineral water leave the compound everyday carrying approximately 600 cases each containing twenty-four bottles sized 300 ml. Something like sixty bore wells and two open ponds are used to extract water for the soft drinks and mineral water production. The factory employs seventy permanent workers and approximately 150 - 250 casual labourers. (Wramner 2004, 30)

Coca-Cola received a license and started bottling operation with a permit from the Perumatty panchayat¹¹ in 2000 (Aiyer 2007). Since its operation, 500,000 to 1.5 million liters of groundwater were extracted a day. It took approximately three liters of groundwater to produce one liter of bottled water or soft drink (Aiyer 2007). However, Coca-Cola illegally extracted the groundwater. According to the Land Utilisation Act, permission must be granted before converting agricultural land to non-agricultural land (Wramner 2004) and Coca-Cola did not show any signs of having obtained such a permit (Wramner 2004). Still, Coca-Cola claimed that they requested permission to build a pipeline from the nearby irrigation dam but the authorities denied their request. Moreover, Down to Earth magazine (Wramner 2004, 39) states that Coca-Cola did not make environmental impact assessment before

¹⁰ The Coca-Cola Company in India names Coca-Cola India Private Limited: It is an indirectly held wholly owned subsidiary of The Coca-Cola Company, which manufactures and sells concentrate and beverage bases and powdered beverage mixes. Hindustan Coca-Cola Beverage Pvt Ltd: it is a company-owned bottling entity.

¹¹ The small unit of governance rural in India.

setting up the plant. However, Coca-Cola India responded to allegations on their website¹²:

We conducted an environmental due diligence study as per our international corporate policy of good environmental practice before setting up the plant and conducted scientific tests before we located our plant in this part of Kerala. These included a satellite imagery study to determine the extent and nature of the aquifer and a pumping test to establish the sustainable yield of water from the bore wells. The plant has consistently operated the bore wells below these safe limits. (Coca-Cola India's website quoted in Wramner 2004)

Scholars and NGOs are interested in Coca-Cola operations in Plachimada, since it is a drought region in a rain shadow; therefore, it relies on groundwater and canal irrigation. Kerala usually faces water shortage from failed monsoons, which have caused poor rainfalls the last ten years. Furthermore, water shortage in the Malampuzha reservoir, Kerala's largest irrigation dam, results in irrigation problems due to insufficient amounts of water for the crops in Palakkad (Wramner 2004).

Kerala People's Science Movement (Kerala Shastra Sahitya Parishad or KSSP) points out that Coca-Cola wants to use water from irrigation dams nearby the bottling plant (Wramner 2004). The plant is located three kilometers north of Meenkara dam reservoir and a few hundred meters west of the Kambalathara and Vengalakkayam storage reservoirs (Bijoy 2006). Bishnupriya Ghosh (2010) also notes that Coca-Cola decided to open the bottling plants in Plachimada due to a low amount of regulation on groundwater extraction. Moreover, Wramner also points out that intensive extraction of groundwater resulted from unrestricted laws of groundwater extraction. Down to Earth magazine (2002 quoted in Wramner 2004) compares rates of water tax between Kerala and Delhi, which are different from state and purpose of use; residents in Delhi pay ten times more than residents in Kerala. In terms of market distribution, Palakkad is located close to other cities, which makes it a good location for distributing products and access to the rest of India (Wramner 2004).

¹² The responded message is found in Coca-Cola India's website, in Frequently Asked Question on Kerala web page; therefore I traced back to the link that is given in her bibliography but questions and answers that are related to Kerala were not shown in the website. I assume Coca-Cola India deleted that response. Besides, Wramner conducted her thesis in 2004 and it is a time that Coca-Cola was dealing with social demands and movements from who protest against The Coca-Cola Company. Coca-Cola India. accessed January 2012. <http://www.coca-colaindia.com/>

In April 2002, when problems like water shortage and contaminated water became obvious, the movements started from a small group of women who sat in front of the factory gates with their empty pots. The struggles of Plachimada spread into newspapers, magazines, and blogs and brought about “social demands: for corporate accountability; for better health; for educating children about bodies; resources; and economic justice; for the prevention of resource extraction; and for ecological restoration” (Ghosh 2010, 349). Not only activists, environmental groups, and environmental institutions were interested in the anti-Coca-Cola protests in Plachimada but also documentary filmmaker K.P. Sasi and Ratna Mathur, whom filmed the Plachimada struggling¹³ (Ghosh 2010).

In late 2003, the Perumatty panchayat organized a three-day water conference in Plachimada, the same time as the World Social Forum in Mumbai was organized. Activists and global environmental groups drafted Plachimada Declaration against marketization, privatization, and corporatization of water.

Water is the basic of life; it is the gift of nature; it belongs to all living beings on earth. It is not a private property but a common resource for the sustenance of all. It is our fundamental obligation to prevent water scarcity and pollution and to preserve it for generations. Water is not a commodity. We should resist all criminal attempts to marketise, privatise and corporatise water. Only through these means can we ensure the fundamental and inalienable right to water for the people all over the world. (Declaration, World Water Conference, January 2004 quoted in Wramner 2004, 37; Ghosh 2010)

The anti-Coca-Cola protests have occurred constantly since the beginning of the movements. Several NGOs, such as People’s Union for Civil Liberties (PUCL) and All India People’s Resistance Forum (AIPRE), intensively participated in the protests. The struggle resulted in a ban of Coca-Cola and Pepsi products from grocery stores all over Kerala, April 14, 2003.

Meanwhile, the community and NGOs continued protesting against Coca-Cola, and also the governmental organizations tried to resolve the problems. Furthermore, when environmental damages emerged from the bottling plant, the law enforcement got engaged in the case, and the Perumatty panchayat, the court, and the

¹³ The film calls “The Valley Refuses to Die”.

government dealt with Coca-Cola. In general, the Perumatty panchayat gave Coca-Cola license to establish the bottling plant while the Kerala State Pollution Control Board (KSPCB) gave license to Coca-Cola to operate the bottling plant in Plachimada. Initially, Coca-Cola received licenses from the Perumatty panchayat and KSPCB to establish and operate the bottling plant. Still, since it was shut down by law enforcement in March 2004, Coca-Cola tried to re-operate the bottling plant and renew licenses but the applications were rejected several times. Eventually, Coca-Cola received a short-term license from both the Perumatty panchayat and KSPCB; however, the court and the Perumatty panchayat demanded Coca-Cola to pay compensation to affected villagers and limit the groundwater extraction. In 2006, Coca-Cola considered compensation and The Left Democratic Front worked closely with groups in Plachimada to resolve the problems, and, for instance, “constitute an expert committee to assess the impacts of water shortages and pollution on farmers and the community, issue directions to withdraw all criminal cases against hundreds of people involved in the struggle, and issue directions to the director of health services to conduct a comprehensive health camp as an interim measure” (Bijoy 2006, 4337).

In 2010, Coca-Cola was alleged by a high-power committee, appointed by Kerala government, that the factory in Plachimada caused environmental damages and health problems. As indicated on the New Dehli-based Centre for Science and Environment’s website¹⁴, February 23, 2011, the Kerala Assembly passed ‘The Plachimada Coca-Cola Victims Relief and Compensation Claims Special Tribunal Bill’. The bill was forwarded to other ministries, such as the Ministry of Agriculture, Ministry of Environment and Forest, Ministry of Law and Justice, Ministry of Rural Development and Ministry of Water Resources, for comments (Paliwal and Misra 2011). However, The Ministry of Home Affairs (MHA) received partly comments from Ministry of Law and Justice, Ministry of Rural Development and, Ministry of Agriculture and none of them had any objections. All ministries were supposed to give feedback or comments within six weeks after the received the bill. Therefore, MHA kept sending reminders to other ministries to send back comments.

¹⁴ Home mulls over Plachimada Tribunal Bills. accessed January 26, 2012.
<http://cseindia.org/node/3665>

On the other hand, Coca-Cola objected the bill because they claimed that compensation should be paid through the National Green Tribunal. S Faizi, member of the Plachimada High Powered Committee, explained:

The issue cannot be debated in National Green Tribunal because the National Green Tribunal Act requires the petitions for compensations to be filed within a period of five years, with a grace period of six months. But the most critical damages to groundwater and toxic contamination caused by the Coca-Cola company at Plachimada occurred between 2000 and 2004. It is more than five years and so the National Green Tribunal cannot be used to redress problem. (Centre for Science and Environment)

When Coca-Cola started groundwater extraction; consequences

The major consequences that hugely affected the local villagers are ‘water shortage’ and ‘toxic contamination’. To begin with water shortage, Plachimada is located in a dry region with low levels of rainfall and is always coped with water shortage. The extraction worsened the water shortage in the village and two nearby villages. Six months after Coca-Cola started the groundwater extraction wells dried up and the level of groundwater decreased noticeably. Besides, the water table went down significantly and the groundwater in the surrounding area was contaminated (Aiyer 2007). Villagers could not access adequate water for their daily use and faced the reduction of agricultural products because of the water shortage.

Three years ago, the little patch of land in the green, picturesque rolling hills of Palakkad yielded fifty sacks of rice and 1,500 coconuts a year. It provided work for dozens of labourers. Then Coke arrived and built a forty-acre bottling plant nearby. In his last harvest, Shahul Hameed, owner of a smallholding, could manage only five sacks of rice and 200 coconuts. His irrigation wells have run dry, thanks to Coke drawing up 1.5 million litres of water daily through its deep wells to bottle Coke, Fanta, Sprite, and the drink the locals call without irony, “Thumbs Up”. (Ranjith 2004 quoted in Aiyer 2007, 643-644)

The second consequence is contaminated areas and water. Villagers noticed changes in the quality of water. The water turned brackish and milky white and was not drinkable nor suitable for using (Wramner 2004). Nearly a hundred villagers claimed that they had stomachaches because of unclean water (Wramner 2004) and they got ill, for instance, diarrhea and dizziness, from drinking it (Cockburn 2005).

The villagers were in great need of clean water, why Coca-Cola tried to solve the problems by providing a truckload of water to the villagers every day (Wramner 2004).

Contaminated water and areas were caused by the sludge from the plant's filtering and bottle-cleaning processes (Cockburn 2005). Coca-cola dumped it in the surrounding fields and on the banks of the irrigation canal and claimed that the sludge from the factory could be use as a fertilizer and gave it away to the villagers for free (Shree 2010, 19). However, people who came in direct contacted with the sludge got rashes and skin infections; furthermore, the crop was damaged. KSPCB showed in a laboratory analysis of the sludge that it contained dangerous levels of cadmium (Shree 2010). By July 2003, the reporter of BBC visited Plachimada and published a report claiming that a well near the bottling plant contained high levels of cadmium and lead, affecting the surrounding areas (Shree 2010; Aiyer 2007). In addition, any substance containing high levels of cadmium and lead are not suitable to use as fertilizers. As a result, KSPCB demanded Coca-Cola to stop dumping waste sludge and recover waste from nearby fields (Aiyer 2007).

Several environmental institutions collected water from wells in Plachimada and tested it. Results from their analysis showed that the water in Plachimada was not suitable for consumption. India Resource Centre collected samples of water from wells in Plachimada and sent them to the government's laboratory in Chennai for testing. Results showed that the water contained high levels of calcium and magnesium during extraction. Moreover, CorpWatch India, a non-governmental organization, collected samples from wells in Plachimada and also sent them to the government's laboratory. The results showed that the groundwater contained an excessive amount of calcium and magnesium. Nityanand Jayaraman explains that dissolution of limestone from groundwater deposits caused the excessive amount of calcium and magnesium in the groundwater; "Rapid extraction of the aquifer would increase the rate at which the water is flowing through the limestone or clay. This faster flowing water break apart some of it, resulting in addition of limestone or clay particles to the water supply" (Wramner 2004, 33).

The Hazards Centre in New Delhi and People's Science Institution in Dehradun released the study of groundwater from different wells in Plachimada in 2006: Groundwater Resources in Plachimada: Coca-Cola Stores Toxics for Future Generations – A Report on Present Status of Water Quality and Problems Faced by

the Villagers in the Surrounding Areas of Hindustan Coca-Cola Beverages located at Plachimada, Palghat (Bijoy 2006). They collected samples of water from five wells and four bore wells within a radius of one kilometer from the plant. The study showed that every wells contained cadmium and lead was also found in all open wells and two bore wells. In addition, chromium was found in all wells except one bore well. Lastly, the bore wells contained more heavy metals than the open wells. According to the High Power Committee, “the Kerala Agricultural University found that fodder, milk, meat, and egg samples collected from Plachimada areas contained copper and cadmium at levels considered toxic by World Health Organization standard” (Shree 2010, 19).

Coca-Cola in India today

The Coca-Cola Company has always placed high value on good citizenship. Our basic proposition entails that our Company’s business should refresh the market; enrich the workplace; protect and preserve the environment; and support the community.
(Coca-Cola India 2010, 9)

According to Sustainability review 2010, Coca-Cola India focuses on environmental responsibility and sustainability practices in their business and soft drink productions, including beverage benefits, water stewardship, sustainable packing, energy management and climate protection. The president and CEO of Coca-Cola India, Atul Singh, states in the Sustainability review 2010 that “...Coca-Cola India is continuously working toward its sustainability goals by focusing on key metrics like energy, water and recycling among others... At the end of 2010, Coca-Cola India was able to achieve 100 per cent neutrality with respect to groundwater” (Coca-Cola India 2010).

Water management is a crucial practice and emphasizes on reduction of water usage in production, recycling wastewater and replenishing water for community, the so-called ‘the 3R water steward strategy’. Coca-Cola tried to reduce the amount of water for soft drink manufacture. According to the figures in Sustainability review 2010, it shows the amount of water for production significantly reduces from 2006 to 2010. In 2006, it needs 3.66 liters of water to produce one liter of soft drink and in 2010, 2.5 liters of water is used for production. In terms of recycling wastewater from

manufacture plants, wastewater releases from container-washing systems, line lubrication and equipment cleaning. They treat wastewater and reuse it in boilers, cooling towers, irrigation and dust control (Coca-Cola India 2010). Additionally, they collaborate with several stakeholders such as non-governmental organizations and communities to protect and conserve watershed, expand drinking water for community, and improving water for production use. To show environmental awareness especially water, they celebrate World Water Day¹⁵ on March 22 every year. However, Coca-Cola India primarily considers the company's profit in global business.

Our employees, business partners, suppliers and consumers must all work together to continuously find innovative ways to foster the efficient use of natural resources, the prevention of waste and the sound management of water. Doing so not only benefits the environment, it also makes good business sense. (Coca-Cola India 2010, 18)

8. Conclusion

Progressive contextualization helps me to understand human-environment relationships and environmental degradations in a broader context. To achieve understanding of them, I focus on specific activities (groundwater extraction) performed by specific people (The Coca-Cola Company) in specific places (Plachimada village) at specific times (during the operation of bottling water). Progressive contextualization shows that the case study of Plachimada is an example of the consequences of transnational investments, which can cause environmental degradations in rural areas. The environmental degradations in Plachimada are caused by The Coca-Cola Company that excessively extracted groundwater. To manufacture soft drink and bottled water, groundwater is the most important resource. It takes approximately three liters of groundwater to produce one liter of bottled water. The high amount of groundwater was extracted until it was inadequate for the villagers in Plachimada. They did not have sufficient water supplies for daily use including their agriculture; the number of agricultural products decreased.

¹⁵ International World Water Day is organized by The United Nations (UN) and it is held annually on March, 22 to advocate the sustainable management of freshwater resources and focus on the importance of freshwater. Further information, <http://www.unwater.org/wwd11/index.html>

They dumped the sludge on the banks of irrigation canals; it caused rashes and skin infections to anyone who came and direct contact with it. In addition, they did not treat wastewater; clean water turned brackish and milky white and was contaminated with high levels of calcium and magnesium. It was unable to be use for drinking, cleaning, or bathing. All these operations caused water shortage and contamination. Villagers of Plachimada suffered from insufficient water supply, contaminated wells and health problems. Eventually, they demanded social justice for their right to water; they started protesting against The Coca-Cola Company. However, it has taken them more than ten years to fight for their water and livelihood. Nowadays, the Kerala state proceeds monetary compensation to affected villagers: “The Plachimada Coca-Cola Victims Relief and Compensation Claims Special Tribunal Bill”. As for the bottling plant in Plachimada may not locate there. In a sustainability review by Coca-Cola India no bottling plants in Kerala state were shown; hence, I assume that the bottling plant in Plachimada is not operating or has been relocated. Still, Coca-Cola India operates bottling plants in other states in India.

Additionally, the movements of Plachimada illustrate differences and conflicts between global and local scale. The stakeholders (transnational corporations, governments, and local communities), who consume water, see and treat it in different ways. Transnational corporations define water as an exchange value and put prices on it; therefore, they trade it for profit. The government wants to increase economic growth in the country; therefore, they allow transnational corporations to invest in their economy. Rural communities see water as use value and need water for sustaining their livelihood; hence, they share it among the villagers. In liberalized economy, water is conceptualized through policies and regulations, which are managed and organized by international financial institutions. Water is traded easier between countries because of deregulated policies of international financial institutions and promotion through policies and regulations. Those special regulations and policies have positive impact on transnational investments and the national economic strategy; however, also they negatively influence negative the people who rely on water for daily use and environment such as natural resources.

Plachimada’s movements are a result of different conceptualizations of water between The Coca-Cola Company and the local villagers. These differences bring out ecological and economic conflicts and eventually social and environmental movements. For further study, differences and conflicts perspectives can be addressed

in various aspects and concepts such as indigenous people (the environmental consequences affected Adivasis, an indigenous group in Kerala), environmental health (how toxic water, which contain high levels of calcium and magnesium affect villagers' health, especially children and women), biodiversity (how does environmental changes affect ecosystems), gender studies, and market management.

8.1 What we learn from the case study of Plachimada

Human – environment relationships

We should use natural resources wisely because we know that they will become scarce. However, human-environmental relationships become intense because we have different conceptualizations of nature. There are changes between human and environment, and between human and human relationships. We put a great pressure of production on resources. Natural resources such as water and natural gas are excessively extracted for our daily use. “Resource use is organized and transmitted through social relations that may result in the imposition of excessive pressure of production on the environment” (Gezon and Paulson 2005, 2). Additionally, we also change relationships among us; “one person’s profit may be another’s toxic dump” (Gezon and Paulson 2005, 2). These relationships are constantly changing, but we can live together despite the differences and try to make less impact on nature and humanity. Escobar (2006) points out that we achieve the goal of equality while respecting our differences.

Environmental awareness among water consumers

Environmental movements like the ones in Plachimada are powerful and remarkable, and illustrate the struggle for environmental restorations and recovery of livelihood; hence, this power of social demand makes their plea recognized in a global scale. Villagers of Plachimada fight for their right to access clean and adequate water. They showed environmental awareness to The Coca-Cola Company. Several international companies include and encourage environmental responsibility and sustainability in their business, and promote it through activities and foundations. Besides, they work with NGOs and rural communities. Environmental awareness can create co-organization between governments, private sectors, NGOs, local communities, scholars and consumers in different levels.

As companies such as BP or Ben and Jerry's attempt to gain market advantage through promoting their sustainable and socially responsible activities, they may seek information or legitimacy through associations with researchers who can provide guidance on local conditions, new approaches to corporate accounting, and students trained to work within the corporate sector. (Liverman 735)

Lewis (2009) points out that the environmental issues become a big concern among national and international organizations, international financial institutions, United National, and NGOs.

Over the last century, states around the global have increasingly become more green. A few ways this has been measured has been in the number of national environmental ministries, national laws requiring environmental impact statements, and the number of national parks worldwide. At the international level, the number of NGOs and international governmental organizations dedicated to the environment continues to grow, year after year. International financial institutions, such as the World Bank, have enacted environmental standards for their lending programs. United Nations (UN) conferences on the theme of the environment have created an international forum for environmentalism to be discussed globally. (Lewis 2009, 250).

However, to conclude my thesis, I end with a quote from Vandana Shiva who contributes with environmental awareness and thinking. Her efforts to protect natural resources may be summarized in *The Principles of Water Democracy*

1. Water is nature's gift
2. Water is essential to life
3. Life is interconnected through water
4. Water must be free for sustenance needs
5. Water is limited and can be exhausted
6. Water must be conserved
7. Water is a commons
8. On one holds a right to destroy
9. Water cannot be substituted

(Shiva 2002, 35-36)

Bibliography

- Aiyer, Ananthakrishnan. 2007. The Allure of the Transnational: Notes on Some Aspects of the Political Economy of Water in India. *Cultural Anthropology* 22, no. 4: 640-658.
- Barbosa, Luiz C. 2009. Theories in Environmental Sociology. In *Twenty lessons in environmental sociology*, ed. Kenneth A. Gould and Tammy L. Lewis, 25-44. New York: Oxford University Press, Inc.
- Bijoy, C R. 2006. Kerala's Plachimada Struggle: A Narrative on Water and Governance Rights. *Economic and political weekly* 41, no. 41: 4332-4339.
- Coca-Cola India. 2010. Sustainability review 2010. http://www.coca-colaindia.com/CMS/Asset/environment_Report_2010.pdf (accessed May 25, 2012).
- Cockburn, Alexander. 2005. Message in a Bottle. *Nation* 280, no. 17: 7-7.
- Datamonitor. 2008. *Soft Drinks Industry Profile: India*. Datamonitor Plc.
- Escobar, Arturo. 2006. Difference and Conflict in the Struggle Over Natural Resources: A political ecology framework. *Development* 49, no. 3: 6-13.
- Ferguson, Anne, and Bill Derman. 2005. Whose Water? Political Ecology of Water Reform in Zimbabwe. In *Political Ecology across Space, Scales, and Social Groups*, ed. Susan Paulson and Lisa L. Gezon, 61-75. New Jersey: Rutgers University Press.
- Full privatisation to go ahead in India. 2000. *Water & Environment International* 9, no. 66 : 3.
- Gezon, Lisa L., and Susan Paulson. 2005. Place, Power, Difference: Multiscale Research at the Dawn of the Twenty-first Century. In *Political Ecology across Spaces, Scales and Social Groups*, ed. Susan Paulson and Lisa L. Gezon, 1-16: Rutgers University Press.
- Ghosh, Bishnupriya. 2010. Looking through Coca-Cola: Global Icons and the Popular. *Public Culture* 22, no. 2 : 333-368.
- Hardwick, S. W. 2009. Case Study Approach. In *International Encyclopedia of Human Geography*, ed. Rob Kitchin and Nigel Thrift, 441-445. Amsterdam; Boston: Elsevier.
- Centre for Science and Environment. n.d. Home mulls over Plachimada Tribunal Bills. <http://cseindia.org/node/3665> (accessed January 26, 2012).
- Johnston, Barbara Rose. 2003. The Political Ecology of Water: An Introduction. *Capitalism Nature Socialism* 14, no. 3: 73-90.

- Karlsson, Charlie, Borje Johansson, and R.R. Stough. 2009. Entrepreneurship and Development: Local Process and Global Patterns. *CESIS Electronic Working Paper Series, no. 160*: 1-19.
- Leslie, D. 2009. Consumption. In *International Encyclopedia of Human Geography*, ed. Rob Kitchin and Nigel Thrift, 268-274. Amsterdam; Boston: Elsevier.
- Lewis, Tammy L. 2009. Environmental Movements in the Global South. In *Twenty lessons in environmental sociology*, ed. Kenneth A. Gould and Tammy L. Lewis, 244-254. New York: Oxford University Press, Inc.
- Liverman, Diana. 2004. Who Governs, at What Scale and at What Price? Geography, Environmental Governance, and the Commodification of Nature. *Annals of the Association of American Geographers* 94, no. 4: 734-738.
- Nayar, Baldev Raj. 2006. *India's Globalization: Evaluating the Economic Consequences, The Policy Studies*. Washington, D.C.: East-West Center Washington.
- Paliwal, Ankur, and Savvy Soumya Misra. 2011. Home ministry delayed Plachimada bill. <http://www.downtoearth.org.in/content/home-ministry-delayed-plachimada-bill>.
- Parayil, Govindan. 2000. *Kerala: the development experience: reflections on sustainability and replicability*. London: Zed Books.
- Paulson, Susan, Lisa L. Gezon, and Michael Watts. 2003. Locating the Political in Political Ecology: An Introduction. *Human Organization* 62, no. 3: 205-217.
- Shiva, Vandana. 2002. *Water Wars: Privatization, Pollution and Profit*. London: Pluto Press.
- Shree, Ruchi. 2010. Water as a natural resource: right versus need debate. *Rajagiri journal of social development* 2, no. 1: 1-25.
- UNESCO. 2012. *The United Nations World Water Development Report 3: Water in a changing world*. World Water Assessment Programme 2009. <http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/wwdr/wwdr3-2009/downloads-wwdr3/> (accessed March 14, 2012).
- Vayda, Andrew P. 1983. Progressive Contextualization: Methods for Research in Human Ecology. *Human ecology : an interdisciplinary journal* 11, no. 3: 265-281.
- Walker, Peter A. 2005. Political ecology: Where is the ecology? *Human Geography* 29, no. 1:73-82.

Wramner, Eva. 2004. Fighting Cocacolanization in Plachimada: water, soft drinks, and a tragedy of commons in an Indian village. Bachelor's thesis, Lund University.