Australian Journal of Basic and Applied Sciences, 7(10): 152-162, 2013
ISSN 1991-8178

Analyze the conflicts between Bioenergy and food: The case Brazil and Germany

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Abstract: Is the common sense that the search for renewable energy - in this case Bioenergy – has been becoming a strategy for the development of organizations, society and stakeholders. The huge participation of non-renewable sources in the world energy supply gives society the challenge of focusing the search for alternative sources of energy. However, there is an important question that it if biomass production will dislocate the productive resources (land, labour and capital) from food production to the cultivation of grains destined to produce fuels. In this sense, it is necessary the comprehension of the use of the dialogues between stakeholders for to find out a better alternative for solutions to the conflicts between Bioenergy and Foods. The objective this research is to analyze the conflicts between Bioenergy and food in Brazil and Germany and how the dialogues have been carrying out for to find out a common sense among stakeholders. As a result, to identify what conventions have been creating for solutions these problems. In-depth interview with important stakeholders in both countries has been carrying out. The results show that different conflicts and conventions created for stakeholders of Brazil and Germany. In Brazil, one perceives that a conflict between foods and bioenergy does not exist. The agribusiness Brazilian stakeholders believe of importance of the products with green stamp as forms to gain market. The predominant conventions are market, civic and domestic conventions. However in Germany, trade-off food and bioenergy are perfectly verifiable. The risk is about agricultural viable arable land, which is leading to intensified competition the production of bioenergy and food. The germany conventions are domestic, civic and industrial. This paper concludes that Brazil and Germany have different ways and objectives to tread about sustainable development expansion of bioenergy. However, the focus in the international competition through products more ecologically correct seems to be a point in common perceived in this research.

Key words: Dialogues, Stakeholders, Conventions, Bioenergy, Food.

INTRODUCTION

The global industrial development is intimately connected to the development of energy sources. It can be said that there is an interdependence among both, in which the industrial progress is a result of the discovery of new energetic sources, which, in its own turn, occurs as a consequence of the needs of the industry and global sustainability (STRATEGIC STUDIES AND MANAGEMENT CENTER, 2002).

The accumulation of carbon dioxide in the atmosphere – main responsible for the abnormal heating of the terrestrial crust – has increased significantly, which is causing among scientists fear that the effects of global warming may manifest faster than expected. The levels of CO2 have increased more than 2ppm in the years 2001/2002 and 2002/2003, while in the previous years the increase was of 1.5ppm, a rate that was already considered high (IPCC, 2007).

The literature registers several phenomena that are being directly related to the intensification of the greenhouse effect resulting from the burning of fossil fuels. Other American academicians have tried to demonstrate that forests and oceans which function as drains or deposits of carbon dioxide by removing the excess from the atmosphere, are losing this capability due to the saturation of the system, which can be one of the causes of the abnormal increase of the concentrations of CO2 (IPCC, 2007). Because of this, it is feared that the intensification of the greenhouse effect, with catastrophic alterations resulting from global warming – such as elevation of the sea level, droughts and storm – could be anticipated.

Facing these issues, the search for renewable energy - in this case Bioenergy - becomes a strategy for the development of organizations, society and stakeholders. The huge participation of non-renewable sources in the world energy supply gives society the challenge of focusing the search for alternative sources of energy (STRATEGIC STUDIES AND MANAGEMENT CENTER, 2002). Due to the fact that the world is more and more fearful of the negative impacts of fossil fuels on the climate, mainly due to the recent phenomena in Europe, the USA and Asia (more severe weathers, droughts, floods, hurricanes and seaquakes) and the

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perception of authorities and scientists (stakeholders) that the climatic extremes have become more frequent and harsh.

According to the projections of the World Bank, in 2025 the world population will consist of 8.5 billion people, 33% more than the current 6.4 billion people. World growth reinforced with urbanization and income elevation in emerging countries will have as consequence the increase of the world demand for food (REVISTA AGROANALYSIS, 2008: p.23).

Currently, the FAO (2008a), in its last report, alerts for the increase in grain prices as a generator of social tensions and acts of violence in poorer countries (FAOa,2008). World grain consumption will increase 2% to 2.1 billion tons, while the stocks of 143 million tons are in the lowest levels of the last 25 years (AGROANALYSIS JOURNAL, 2007: p.29). One of the versions attributes this to ethanol, which would be responsible for 75% of the growth. Only this year (2008) the global cost of the importation of food should reach US$1.035 billion, 26% more than 2007.

Also according to FAO (2008a) and the UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT (2008), several factors are responsible for attenuating the existing conflict related to the production of Bioenergy, such as: increase of food demand in countries such as China and India; increase of Biofuel production of around 100 million tons of grains for ethanol from corn, besides the subsidies of the USA and the European Union; financial speculations; increase of oil, freight and fertilizer prices; and losses of crops due to climatic factors, as exemplified by Australia.

The most important question is if biomass production will dislocate the productive resources (land, work and capital) from food production to the cultivation of grains destined to produce fuels. Corn is greatly responsible and the USA is prominent in this scenario as the world's largest producer and exporter of corn. In the entire world there has been an increase of 224% in the price of corn from 2005 to 2008 (FAO, 2008).

The situation in Brazil is different from the situation in the USA and EUROPE (Germany) due to the choice of sugar cane and the greater availability of lands (FAO, 2008). The ethanol originated from sugar cane will have the largest harvest of its history, of around 632 million tons, being that about 55% will be destined to the production of biofuels. This production occupies only 0.4% of the area with grains plantations in Brazil. However, 27% of the expansion of sugar cane occurred in areas that were before occupied by soy, corn, coffee and orange.

In face of this scenario as described by FAO (2008b) and the UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT (2008), it can be verified that the world production and supply model is in crisis and the high inflation of food prices connected to all the negative factors that are consequence of climate changes aggravate this problem.

On the other hand, this elevation of prices dramatically affects the 2.5 billion people that live with or even less than US$2 a day. It is important to emphasize that Brazil is being able to face the agricultural price crisis because of the presence of a vigorous family farming sector that produces 70% of the food consumed by Brazilians. Since 2003, we have developed a strategy to strengthen this agriculture, with public credit policies, agricultural insurance, technical assistance and rural extension (CASSEL, 2008).

The return of biofuel incentive concerns the determination of whether there are effects on the two directions of diffusion of Bioenergy and the food sector; in other words, has the expansion of biomass for energy contributed for the increase of sustainable food production and is the opposite reciprocal? Some preliminary results have confirmed the positive effect. Moreover, these results confirm that environmental and social issues, particularly the generation of jobs, can influence the synergetic expansion of these sectors. These synergies create a "spatial" economy as well as a "scale" economy and consequently result in "added value" to the final product and to a higher rate of social return (YEGANIANTZ *et al*., 1984). The empirical work partially contributes and includes the comparative study of the Brazilian experience and American bioenergy and its relevance to other countries.

Bioenergy offers opportunities and risks for food security. The impacts on food security can vary in space and time depending on the evolution of the market forces and technological developments, both influenced by political choices at national and international levels. It is necessary to develop an analytical structure that considers the diversity of the situation and the specific needs of countries (Yeganiantz *et al*., 2007).

In this sense, the comprehension of the use of the dialogues between stakeholders favors a better alternative for solutions to the conflicts in favor of the environment and organizations. The objective this research is to analyze the conflicts between Bioenergy and food in Brazil and German and how the dialogues have been carrying out for to find out a common sense among stakeholders. As a result, to identify what conventions have been creating for solutions these problems.

The article is organized in the following way: initially, the literature review is presented. It follows a reflection about the trade-off Bioenergy and Food, Dialogues Theory and Conventions Theory. After, the method used for the accomplishment of the research is showed. Then, the results are discussed and the final considerations are exposed.

Method:

The research is of exploratory and qualitative nature. It is characterized for qualitative because your purpose is to understand a specific phenomenon in depth. Instead of statisticians, rules and other generalizations, the qualitative works with descriptions, comparisons and interpretations. The qualitative research is participative, therefore, less controllable. The participants of the research can direct the route of the research in its interactions with the researcher (Malhotra, 2001).

The analysis of the results was make through the confrontation of the data collected and the theoretical referential used. Using the dialogues that took place in the in-depth, analysis was made aiming to identify the conventions established by the stakeholders. How these conventions contribute to the promotion of dialogues concerning food and Biomass production between developed countries (Germany) and countries in development (Brazil) was analyzed.

The dates were collected in Brazil and Germany. The Brazil was made 13 (thirteen) interviews of the agribusiness organization during the month of October of 2008 on São Paulo city and the Germany was made 6 (six) interviews of bioenergy agribusiness organization during the months March and April of 2009 on Berlin city.

Basic Theory:

3.1 The trade-off Bioenergy and Food:

Through a bibliographical review some important questions concerning the energetic crisis in the world were made, always seeking the dilemma between producing food and Bioenergy and at the same time, seeking to associate the use of dialogue to promote new alternatives for the environment, mainly issues related to climate change.

One of the concerns is focused on the competition between food and Bioenergy. For example, the Co-op Insurance Society report indicates that 9% of the world's agricultural lands may be necessary to substitute the 10% that supplies world oil transportation. This means that the production of Bioenergy could lead to a decrease in the available land for food production and that it would be a specific problem in countries where food is already scarce (GRIFFIN, 2007).

According to Griffin (2007), this could intensify the problem due to the fact that the population in the world should increase around 1 billion people until 2015 and in twenty years it will be necessary to increase 50% of the food production in order to feed the growing world population.

What cannot be classified in this contribution is the complex relation between food production, food prices and food security. Decades of experience has demonstrated that the increase of the food availability is not automatically related to the increase of food security, especially among the poor. Neither is the contrary true. In addition, food prices in the world market are only a limited extension in relation to food prices in local markets, especially in countries in development (SANDE, 2008).

It can be verified that the big problem concerning Bioenergy is the food dilemma, but specifically of people that have an income of up to US$2 a day. According to the human rights, everyone has the right to have adequate food and safety. In this sense, there is an important social-economical dimension together with the global foods problem. And in this context the notion of "rights to food" can provide some more concrete evaluation instruments of the degrees of competitiveness between food and Bioenergy (OENEMA, 2008).

Monbiot (2005) and Rosill-Calle (2005) affirm that despite the existence of 80 million people that are permanently well-nutritioned, the global increase of grain production is being used to feed animals. The number of animals in the planet has doubled five times since 1950. And the main reason is that those who buy products originated from milk and meat cattle have larger bargaining power than those that only purchase food for subsistence. Monbiot (2005) considers green oil both a disaster to humanity as well as for the environment.

In his studies, Mol (2007; 2008) affirms that less than 3.5% of world food production in 2007 was used for the Bioenergy production. Since the European Union required that transportation oil should contain at least 5.75% of biofuels until the end of 2010, there have been signs of competition between grains and energy. In 2007, 4.5 million tons of grains were processed with bioethanol. But the grain supply in the entire world has decreased substantially. Mexico was one of the countries that suffered with the increase of the price of corn due to the fact that this product is imported from the USA, which jeopardized the production of tortillas.

In 2007, grain prices in the European Union were of 160 to 260 euros per ton, which resulted in a smaller harvest, thus generating speculations (MOL, 2008).

According to Faaij (2008), the sustainable offer of biomass is vital for any bioenergy production market activity. Given the high expectations for bioenergy in a global scale, many nations have been pressuring for the availability of biomass resources. Due to the high prices of fossil oil, the competitiveness of the use of biomass has greatly increased.

Dick (2008) affirms that only 1% of the arable lands of the world are used for the production of bioenergy and this fact illustrates that the recent prices of agricultural commodities cannot be a result of the substitution of biomass for food production to biomass for oil production. It can be noticed that the prices of many

commodities, including energy, metals and minerals, as well as agricultural commodities, have risen above 5% per year as a result of population growth and continuous global economic growth.

The United States, China and Brazil, as well as the European Union, can direct the production of foods and the use of the land with some political instruments due to the fact that it is easier to guide the national market than the international market. But these actions have made food and bioenergy global commodities for entrepreneurs and investors. However, another problem was created, which concerns the subsidies, especially in the USA and Europe. The USA subsidizes its producers in order to reduce the dependence of fossil oil importation, while Europe subsidizes their producers as an answer to face climatic problems (MOL, 2008).

Sande (2008) made some considerations concerning Europe, which has already decided to obligatory include biofuels in transportation oils and also relocate fossil fuels. This decision also refers to the reduction of the emission of greenhouse effect gases and the attempt to rectify climate changes. The goal is to include 5.75% of biofuels in 2010 and 10% in 2020, providing so that this percentage can be reached through sustainable and available paths and does not negatively affect the chances of small producers.

According to Hass *et al*. (2003), it is calculated that the emission of greenhouse effect gases in the atmosphere by biofuels, biodiesel and ethanol in the European Union should be reduced between 15 and 70% when compared to diesel oil. This reduction surpasses 90% when considering the production of alcohol in Brazil (ALCKMIN; GOLDEMBERG, 2004).

The biofuel law was created due to a decision of the EU Council related to climate changes and not for energetic reasons. In January this year, obeying the council's mandate, the European Commission presented the proposal to be approved by the Parliament and the Council. The expectation is for everything to be concluded until the end of the year according to the data established by the mandate, June 2009, but next year a change of parliamentarians is programmed and new commissioners will take over, changes that can delay the process (GAZETA MERCANTIL, 2008).

The production of Bioenergy is a delicate discussion exactly because it concerns the production of biomass for food. Consumers of ready foods have questioned the origin, safety and sustainability of these provisions. As occurs with foods, seeds cannot be introduced successfully without the use of sustainable criteria (DICK, 2008).

The World Development Report 2008 concerning agriculture reveals: Bioenergy are a potential renewable energy resource and the possibility of new markets for agricultural producers. But few Bioenergy projects are economically viable and most have social and environmental costs, such as pressures on food prices, intensification of the competition for land and waters and the possibility of deforestation (SANDE, 2008).

Oenema (2008) mentions some limitations of Bioenergy pointed out by ICCO (Dutch Inter-Church Organization for Development Co-operations, Netherlands) in Brazil:

a) Environmental risks due to large scale monoculture;

b) social risks due to unsatisfactory conditions of labor in the fields; low salaries and land reform;

c) competition with food grains (this case presents some factors that should be considered, such as the decrease of world food supply due to environmental problems and the high demand for food in Asian countries).

However, Dijk (2008) uses three arguments for investing in the production of sustainable biomass for food, seeds and oils: the need to integrate sustainable practices in future global agricultural production, the need to accelerate agricultural productivity and many benefits for production of biomass for rural development.

Read (2005) affirms that the use of Bioenergy can reduce the presence of carbon dioxide in the atmosphere, that is around 375ppm and could reach around 280ppm in 2060. This can also contribute for the actual development of the Kyoto Protocol.

Moreira (2005) asserts that the demand for more food can result in more job opportunities in rural areas and it is necessary to understand that biomass production should be carried out by the poor instead of being used by the poor. Through this new opportunity for producers, the increase of income could reduce the amount of poor people in the world in at least 200-300 million with the help of biomass energy.

Read (2005) also affirms that the grain production for biomass can substitute half the consumption of oil in the world, generate half the demand of electricity in the world, create 300 million new jobs and significantly reduce the emission of greenhouse gases.

In the 20th century there will probably not be only one predominant source of energy, as occurred during the 19th century with coal and in the 20th century with oil, although there is still a lot to be done. Several energy sources should coexist, mainly renewable and little polluting sources, and those with biological origin should have a greater expansion in the following decades (MANAGEMENT AND STRATEGIC STUDIES CENTER, 2002).

Dialogue is being used as a solution and not a problem. What can be verified is the lack or small amount of dialogue. Some examples have occurred with the intention of finding solutions and according to the affirmations of Sande (2008), although there are economic benefits or viability for biofuel production, people and nations have to debate in order to find common alternatives for different goals or agreements.

The problems faced by stakeholders and organizations that search environmental sustainability tend to present some limitations: the non-continuity of the implemented processes, the lack of participation of certain

chains of the link, the non-valorization of environmental management processes and the lack of connections between stakeholders. These factors allied with strategies restrain the use of dialogue and favor conflicts in detriment of environmental preservation.

An example is the dialogue between stakeholders concerning bioenergy and food safety issues promoted in Holland in the On World Food Day in October 16, 2007 with the topic concerning biomass for food and oil. This country also has a committee that was created by the government to recommend the sustainability of biomass for energetic reasons.

Another example occurred in 2007 in the city of Bangkok, Thailand and was organized by OPEC and called Multilateral Dialogue for the Development of Future Energy Workshop (OPEC BULLETINS, 2007). The workshop sought to listen and conduct the offer and demand of energy in Asia.

In the USA, a workshop was carried out by Harvard University in the May 9 2007 concerning the future implications of Bioenergy for economic development and the international market and aiming a dialogue between academy, international institutions, governments and private sectors to explore the implications of the emergence of the Bioenergy market, mainly after the announcement made by president George W Bush of an increase of 5% in the use of Biofuel until 2017 (LEE *et al*., 2007).

These examples demonstrate that the use of dialogue could be an alternative to solve the existing conflicts of Bioenergy related to food dilemmas. How could dialogue between stakeholders seek solutions for climate change with the use of Bioenergy? The opportunity of the use of Bioenergy and the dilemma concerning food production become a great moment for the use of dialogue between every stakeholder in search of alternatives for this conflict.

The Dialogues Theory:

The participation of the stakeholders in environmental debates has favored the discussion of new themes locally, nationally and globally (NAE, 2005). Thus, the environment has progressively achieved more legitimacy among countries. It is important to point out that individual behavior represents a critical factor of the global climatic change. Therefore, the responsibilities should not only be given to industrial pollution, government failure or institutional inefficiency. (FIQUERES; IVANOVA, 2005).

In the Introduction to the Stakeholders Theory, first developed by Freeman (1984) and originated from the Firm Theory, he states that stakeholders are individuals or organizations that affect or are affected by objectives or problems, creating an infinite field of acting possibilities for stakeholders, and even for the climatic factors (Key, 1999). According to Bourne and Walter (2006) and Carrol (1989), the social science of the Stakeholders Theory tends to base itself in justice, equity and the social aspect, causing more impact on stakeholders that externalize moral reason through changes of initiative. These same authors, along with Donaldson and Preston (1995), clarify that the stakeholders' philosophy is legitimate and valid. They need to be identified; their powers and influences must be mapped, along with the potential impacts on the objectives.

Arguments from the point of view of environmental problems point out that the inclusion of the knowledge and perspectives of the stakeholders has developed different politics and researches (Kloprogee and Van Der Sluijs, 2006). Before this concept of stakeholders, new scientific bases had emerged from the Learning Organization Theory (Senge, 1990) and the Science-Based Stakeholders Dialogues, especially related to climatic changes.

According to Welp *et al*., 2006a and Welp and Stoll-Kleeman (2006), the Science-Based Stakeholders Dialogues is made of structures of the communicative process that unite researchers and stakeholders. According to the researchers, stakeholders have the necessary knowledge to assist the comprehension, representation and analysis of the global environmental changes, along with the decision makers, managers or other stakeholder models.

There are four necessary reasons for dialogues with the stakeholders: i) stakeholders play an important role in the relevant social identification and can scientifically change research issues; ii) scientists should make a real check-up of their researches and the stakeholders could be actively involved in the evolution of research methodologies and models to be used in researches, offering an evolution of the final results; iii) social science or facets of global changes researches limit scientific reasons and require the incorporation of ethical issues, respecting the different perspectives of different stakeholders; iv) the researcher's need of access to data and knowledge unknown until now. With the help of stakeholders, the researchers are able to obtain insights that can change the implementation and the visibility of the management of qualitative and quantitative procedures (WELP *et al*., 2006b).

This approach allows dialogues that can act as interfaces for different fields in the knowledge, climate changes and agribusiness areas, due to its large systemic capacity. There are still three main types of guided dialogues: political dialogues (Innes; Boother, 2003), Multi-Stakeholders Dialogues For Governments (Hemmati, 2002) and Corporative Dialogues (Jesper, 1998).

However, the Science-Based Stakeholders Dialogues are more complete, due to its constructive extent that allows an exchange between learning, experiences and opinions, which are part of the process of constructing dialogues for climatic changes.

This approach is initially concerned with which stakeholders will be contacted for the beginning of the process. The preferences, interests and priorities of the research will interfere in the selection process. However, to avoid problems in future dialogues, Biernacki and Walforf (1981) have developed a stakeholders data program that identifies, through certain characteristics, the most relevant stakeholders for the process.

The Conventions Theory:

What type of coordination notion is needed to study the dynamics of the inter-organizational relationships? The common sense brings the handle the idea of a collective and steady order. Diverse types of restrictions are found for maintenance of the order: rules, hierarchic lapsing, rational and bureaucratic methods, social structures, common cultures, etc. However, for the Economy of the Conventions the coordination notion is more opened the critical uncertainties, tensions and creative arrangements than ideas of reproductive and stabilized order. In this logic, the coordination forms knowledge becomes a necessary point to its dynamic (Thevénot, 2001).

For the same author, the universe of the actions human is basically complex and it is possible to make reference to some conceptions of a good. The coordination is based on categorical characterizations of human beings in terms of identities, groups of interest, habits, etc. In this direction, the results of the confrontation of these different social groups are: the complexity and the conflict as a result a variety in coordination ways. In such a way, the plurality in the ways of coordination is a set of references of a collective process cognitive that constitute in mechanisms of coordination between the actors. (Thevénot, 1989).

The evaluation principles, calls “orders of values”, is constitute for different ways of coordination. This is true because the processes of qualification of the people and the things (Marescotti, 2000). Boltanski and Thevénot (1991) recognize the existence of a plurality in evaluation ways that the agents use to justify its position. This plurality evidences that the efficient devices of coordination are composed and offer possibilities of commitments between the different “orders of values” (Thevénot, 2001). The identification of the different “orders of values” means to justify a particular course of action or to evaluate decisions. For Eymard-Duvernay (1995), justification is defined in situations in which, to mobilize others, an agent must to create justifiable arguments that relate the principles common. These common principles could be of diverse orders understood as conventions. In this sense, the specificity of the products/services derives from the accomplishment of the variety of conventions of coordination between the actors. In this logic, the nature of the products (quality) is defined not only by the market and technologies, but also by conventions.

The Economy of the Conventions, as explained previously, identifies the existence of six types of justifications that serves to co-ordinate actions (Boltanskin; Thevénot, 1991): inspirit, domestic, industrial, civic, market, opinion. Each one of these forms of coordination, also called “orders of the worlds”, is the different principles to evaluation and to determine the actions

In this approach the **market coordination** is exclusively based on the relations of market and price. The agents are capable to evaluate by themselves the quality of the goods at the moment of the market transactions. They do not need additional support to justify its action beyond the price. The predominant order is the competition, the convention is mercantile and the objects to be qualified for the agents are the products and the services. On the **industrial coordination**, the coordination and the exchanges are based on the respect the determined preset standards, where the quality exists if the characteristics of the products and services follow a set of standards and definite rules. In other words, the agents judge the quality by the norms specific and implemented techniques. Here, the order predominate is the efficiency, that is based on controls and certifications for organizations with recognized aptitude. The convention is industrial. The **domestic coordination** is based on a personal and close relation between the agents, where personal reliable relation previously is established inside of the transactions. The connections established between the agents are steady and lasting. In other words, the agents know and negotiate between themselves the product qualities. The convention is domestic, the order is the trust and the objects to be qualified are the specific assets. The **opinion coordination** in contrast of the domestic, but similar the market coordination, is not based on a direct experience, the repetition of the transaction, the memory. The quality of a good is judged exclusively by the opinions of others people and the reputation of the operators. The agents appreciate the reputation of the companies and the known products. The convention is opinion and the order is the reputation and labels. The objects to be qualified are the labels and publicity. On the **civic coordination**, the coordination and the justification of the actions are based on the tack of the agents to a nucleus of collective principles, where the same ones renounce its individuality and do not consider its personal interests aiming at the common good. In other words, the agents deliberate the quality taking as reference civic interests, as the environment, the protection of a sector or region. In this coordination the convention is civic, the order is of the collective one and the objects to be qualified are the rights. In the **inspired coordination**, the agents adhere to the emergency of

innovative ideas to co-ordinate its action and to judge the quality. The convention is of inspiration and the order is of innovation. The qualifying objects in this form of coordination are the emotions.

According to Wilkinson (1997), each one of these worlds is organized around different types of qualification and open to the equally different forms of justification. Hierarchies between these worlds do not exist, the interests are not permanent and also there are not groups of interest. The persons move themselves from inside to outside of each world and vice versa; the organizations and institutions too. There is an internal coherence in each world, where the actions are qualified, justified and putted in test. The existence of qualifications "bridges", based in recognized principles internally in each world, opens way for lends justification of different worlds. The focus in the justified forms of economic action of the priority to the negotiations of agreements between economic agents, however, the Theory of the Conventions can also be used for the conflict resolution.

As it perceives, each one of these forms of coordination if relates different the principles to determine the nature of the products (quality). The specificity of the product derives of the accomplishment of the variety of conventions of coordination between the actors. According to Thevénot (2001), the plurality in the coordination ways demonstrates that the efficient mechanisms of coordination are composts and offer possibilities of commitments between the different orders. In this direction, there is the possibility of an organization has standards of coordination to all the six cited worlds. However, the efficiency gotten through this complementarity constantly is threatened by the tensions between the different worlds.

Results:

This dates show us how this Brazil agribusiness stakeholders works with the conflict that are very different of Germany agribusiness stakeholders (Figure 1 and 2). Similarities and divergences between Brazil and Germany is very common because they are different countries and each one have different characteristics but there show us the great points around conflict bioenergy and food.

The figure 1, show the interviewed are unanimous that in Brazil conflicts between foods and bioenergy do not exist, this situation eliminates the new forms to equate the existing conflicts. However, some events are carried through agreement about issues, mainly, for sustainable agriculture. It is evident, the vision of the interviewed respect to the market importance, through products with multilateral green agreement. In the opinion of them, the valuation of these products, mainly in the international market, is significant.

The Germany interviewed (figure 2) believe the existence of conflicts between bioenergy and foods. The main problems are the competition for areas protected, indirect effect of the use of the land (cultivations). The forms used to co-ordinate the conflict are laws, projects and supported platforms of bioenergy. In Germany, stakeholders knows the rules that involve the biomass production. The main established actions to divulge the rules are: letter of ministry, newspaper, congresses, position papers, etc. The interviewed ones consider as chances the following variables: greenshouse gas reduction; income for farmers; more influence or smaller farmer to influence politics; substitution of fossil energy techonology development.

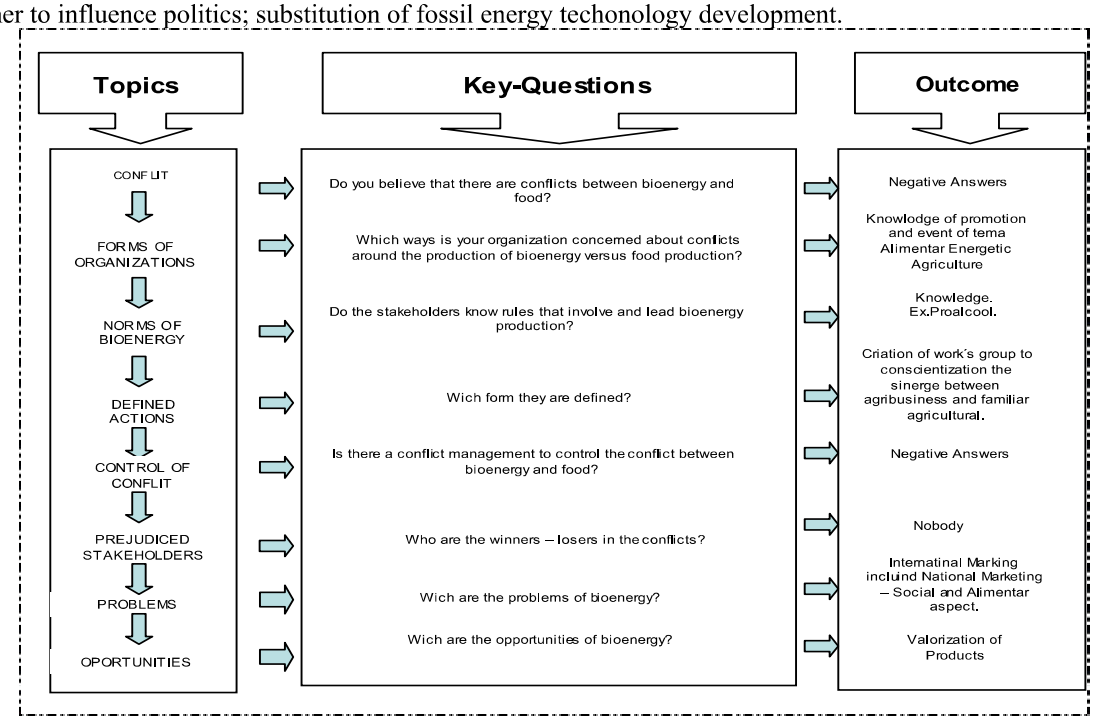

Fig. 1: Brazil conflict bioenergy and food.
Source: Elaborated by the authors.

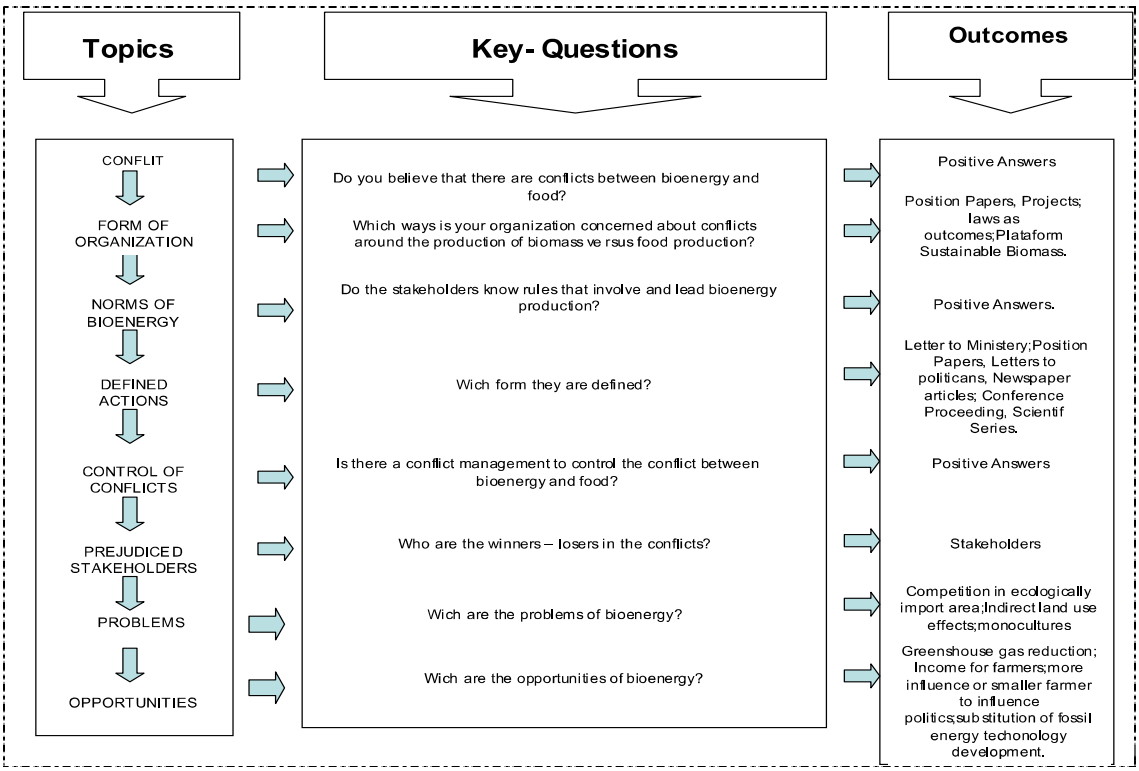

Fig. 2: Germany conflict bioenergy and food.
Source: Elaborated by the authors.

Table 1: Conventions Brazilian and Germany

	BRAZIL (13)	GERMANY (6)
POSITIONS	COORDINATIONS	COORDINATIONS
FIRST	MARKET -	DOMESTIC
SECOND	DOMESTIC	CIVIC
THIRD	CIVIC	INDUSTRIAL

Source: Elaborated by the authors.

These previous analyses (table 1) with the perspective of the conventions theory: Brazil and Germany had similar conventions like Domestic and Civic. Civic convention: i) Is interconnected to social-cultural awareness of values such as environmental concerns; ii) Structures an economic relation based on sustainability with the use of environmental certifications; iii) Builds universal concepts through principles of sustainable development. Domestic convention. i) Presents relations of trust and loyalty among stakeholders; ii) the need to help each other overlaps economic aspects for several reasons, such as the survival of the natural system and permanence of the agribusinesses' productive sectors.

This dados show us there are two different conventions, Brazil has Market Convention. This case has illustration the worried about marketing and the necessity to maintain the international market. There are economic purposes in some participative stakeholders due to these organizations (industries) search for raw material, in other words, natural resources, which are the base of theirs products and survival. Therefore, it can be noticed that the conventions introduce justifications and that the networks formed could create mitigation mechanisms pointing to guidelines for the framework proposed. To the negotiations and conflicts confer the existence of differentiated degrees and differentiated interests that vary from stakeholders and the regions where they are located.

The Germany has Industrial Convention, where show us that each deliberation analyzed predicts new forms of agreements, protocols and common norms among stakeholders of the participant network. Each institution verifies the capability of each participating stakeholder, thus the importance of the mechanism to propitiate the correct choices to stakeholders. It was verified that there are many productive sectors inserted in the dialogues

Discussion:

The search for renewable energy - in this case Bioenergy – has been becoming a strategy for the development of organizations, society and stakeholders. The huge participation of non-renewable sources in the

world energy supply gives society the challenge of focusing the search for alternative sources of energy. In this sense, the comprehension of the use of the dialogues between stakeholders favors a better alternative for solutions to the conflicts in favor of the environment and organizations. The objective this research was to analyze the conflicts between Bioenergy and food in Brazil and German and how the dialogues have been carrying out for to find out a common sense among stakeholders.

The results show that different conflicts and conventions created for stakeholders of Brazil and Germany. In Brazil, one perceives that a conflict between foods and bioenergy does not exist. The agribusiness Brazilian stakeholders believe of importance of the products with green stamp as forms to gain market. The predominant conventions are market, civic and domestic conventions. However in Germany, trade-off food and bioenergy are perfectly verifiable. The risk is about agricultural viable arable land, which is leading to intensified competition the production of bioenergy and food. The germany conventions are domestic, civic and industrial.

This paper concludes that Brazil and Germany have different ways and objectives to tread about sustainable development expansion of bioenergy. However, the focus in the international competition through products more ecologically correct seems to be a point in common perceived in this research.

REFERENCES

ALCKMIN, G., J. Goldemberg, 2004. Assessment of Greenhouse Gas Emissions in the Production and Use of Fuel Ethanol in Brazil. http://www.unica.com.br.

BENDELL, J., Talking for change? *Reflections on effective Stakeholder dialogue*. In: ANDRIOF, J., S. Waddock, B. Husted, S. RAHMAN, 2003. (Org.). Unfolding Stakeholder Thinking 2: relationships, communication, reporting and performance. Sheffield: Greenleaf Publishing, pp: 53-69.

BOURNE, L., D. Walker, 2006. Visualizing stakeholders influence: two australian examples. *Project Management Journal*, Drexel Hill, 37(01): 5-21.

BRINKERHOFF, J.M., 2002. Assessing and improving partnership relations and outcomes: a proposed framework. *Evaluation and Program Planning*, New York, 25: 215-231.

BROWN, H., 2005. *World Café. Shaping our futures through conversations that matter.* San Francisco, CA: Berrett-Koehler.

CARROL, A.B., 1989. *Business and society: ethics and stakeholders management*. Cincinnati: South-Western Publishing.

CRANE, A., Livesey, S. *Are you talking to me? Stakeholder communication and the risks and rewards of dialogue.* In: ANDRIOF, J., S. WADDOCK, B. HUSTED, S. RAHMAN, 2003. (Org.). Unfolding Stakeholder Thinking 2: relationships, communication, reporting and performance. Sheffield: Greenleaf Publishing, p: 39-52.

CHENEY, G., L.T. Christensen, 2001. *Organisational communication: linkages between internal and external communication.* The New Handbook of Organisational Communication: Advances in Theory, Research, and Methods, Sage, Thousand Oaks, CA, pp: 231-69.

DIJK, D., 2008. *Why not the right for food and fuel?* p.17-20. In: Bindraban,P.S.&Pistorius, R.(ed).Bio-fuels and food security:Dialogue among stakeholders on dilemmas about biomass for food and/or fuel.Plant Research International B.V, Wageningen, Report, 167: 39.

DONALDSON, T., L.E. Preston, 1995. The stakeholder theory of the corporation: concepts, evidence and implications. *Academy of Managemente Review,* Mississipi, 20(1): 65-91.

ELKINGTON, J., 1997. *Cannibals with forks: the triple bottom line of 21st century business,* Oxford: Capstone Publishing.

FAAIJ, A., 2008. *Development in international bio-energy markets and trade.Biomass and Bioenergy*, 32: 567-659.

FAOa. 2008. http://www.fao.org.br/faq_alimentos.asp.

FAOb., 2008. The special programme for food securitylow-income food-deficit countries. http://www.fao.org/focus/e/speclpr/lifdcs.htm.

FIGUERES, C., M.H. Ivanova, 2005. *Mudanças climáticas: interesses nacionais ou um regime global?* In: ESTY, D.; INAVONA, M. H. (Orgs). Governança ambiental global: opções e oportunidades. São Paulo: Senac,

FREEMAN, R.E., 1984. *Strategic management: a stakeholder approach.* Boston: Pitman/Ballinger.

INNES, J.E., D.E. Booher, 2003. *Collaborative policymaking: governance through dialogues.* In: Hajer, M. A.; Wagenaar, H. (Org.). Deliberative Policy Analysis: understanding governance in the network society. Cambridge: Cambridge University Press.

GAZETA MERCANTIL. 2008. *Uso de biocombustível na UE é ainda motivo de controvérsia: A lei de biocombustível se deve a uma decisão do Conselho da UE relacionada à mudança climática e não energética.* DATE.

Greyson, D., A. Hodges, 2002. *Compromisso social e gestão empresarial.* São Paulo: Publifolha.

GRIFFIN, J., 2007. Biofuel:food for thought.OPEC Bulletin, 38(5-6): 34-39.

HASSELMANN, K. *et al*., 2002. *Multi-Stakeholder processes for governance and sustainability: beyond deadlock and conflict.* London: Earthscan.

IEA - International Energy Agency, 2004. Biofuels for Transport: An International Perspective. http://www.iea.org/.

INTERGOVERNMENTAL GROUP OF MINISTERS OR THEIR REPRESENTATIVES ON INTERNATIONAL ENVIRONMENTAL GOVERNANCE FIRST MEETING, 1., 2001, New York. International Environmental Governance: report of the Executive Director. New York:

IRWIN, A., 1995. *Citizen science: a study of people, expertise and sustainable development.* Londres: Routledge.

INTERGOVERNAMENTAL PANEL ON CLIMATE CHANGE. *Summary for Policymakers.* In: METZ, B. *et al*. (Ed.). Climate Change, 2007. mitigation of climate change. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge: Cambridge University, p: 35.

IRWIN, A., 1995. *Citizen science: a study of people, expertise and sustainable development.* Londres: Routledge.

HASS, H., J. Larivé, V. Mahieu, 2003. Well-to-Wheels Analysis of Future Automotive Fuels and Powertrains in the European Context. http://www.ies.jrc.cec.eu.int.

JESPER, G., 1998. Corporate legitimacy in risk society: the case of the Brent Spar. *Business Strategy and the Environment,* Hoboken, 7: 213-222.

KEY, S., 1999. Toward a new theory of the firm: a critique of stakeholder "theory'. *Management Decision,* New York, 37(4): 317-328.

KLOPROGEE, P., J.P. Van Der Sluijs, 2006. *The inclusion of stakeholders knowledge and perspectives in integrated assessment of climate change.* Climatic Change, Dordrecht, 75(3): 359-389.

LEE, H., W. Clark, G. Visconti, 2007. *Implications of a future global biofuel market for economic development and international trade.* In: Workshop on Biofuels. John F. Kennedy School of Government, Harvard University, p: 14.

LONG, F.J., M.B. Arnold, 1995. *The power of environmental partnerships,* Fort Worth: Dryden Press.

MAYER, R.E., 1997. Multimedia learning: are we asking the right questions? *Educational Psychologist, Hillsdale*, 32: 1-19.

MOL, A.P.J., 2007. Boundless biofuels? Between environmental sustainability and vulnerability. *European Society for Rural Sociology.* Oxford, 47(4).

MOL, A.P.J., 2008. *Bioenergy: A growing market in need of direction.* Wageningen Update, 1: 8-11.

MONBIOT, G., 2005. Comment&Analysis:Fuel for nought:the adoption of biofuels would be a humanitarian and environmental disaster. *Renewable Energy for Development*, 18(2): 2-3.

MOREIRA, J.R., 2005. Agreeing and disagreeing. *Renewable Energy for Development*, 18(2): 7.

MUSSA, M., 2008. *A global growth rebound: how strong for how long?* Washington, DC: Institute forInternational Economics, 2003. www.iie.com/publications/papers/mussa0903.pdf..

BRASIL. 2007. Núcleo de Assuntos Estratégicos da Presidência da República. Mudança do clima: vol. 1. Brasília: NAE, fev. (Cadernos NAE, n. 3). http://www.nae.gov.br/doc/mudancadoclima1/caderno_mudancasclimatisimpactos.pdf.

NAE, 2006. Núcleo de Assuntos Estratégicos da Presidência da República. Relatório Final. Projeto Matriz Brasileira de Combustíveis. GEE/IE/UFRJ. pp: 170.

OENEMA, S., 2008. *Bio-fuel viewed from a perspective of the right to food.* p.37-39. In: BINDRABAN,P.S.& PISTORIUS, R.(ed).Bio-fuels and food security: Dialogue among stakeholders on dilemmas about biomass for food and/or fuel.Plant Research International B.V, Wageningen, Report, 167(39).

OPEC BULLETINS. 2007. *Bangkok energy dialogue workshop tooks at strategies for dealing with challenging years ahead:* Multilateral dialogue seen as essential for developing sound and orderly energy future, 5-7: 12-19.

ORLÉAN, A., 1994. *Vers un modéle général de la coordination économique par les conventions.* In: _____. Analyse économique des conventions. Paris: Presse Universitaires de France, pp: 9-40.

READ, P., 2005. *Food for thought – world trade in biofuel offers sustainable food supply and much more.* Renewable Energy for Development, 18(2): 4-5.

REVISTA AGROANALYSIS., 2008. *Especial Embrapa.* Pesquisa Agrícola: Os novos investimentos e o futuro da agricultura tropical., 28(4): 19-34.

_____2007. *Abastecimento: Estoques Mundiais de alimentos em Baixa.,* 2712, dezembro, p: 29-30

REZENDE, D., S. Merlin, 2003. *Social carbon: adding value to sustainable development.* Organização Andrea Sarmento. São Paulo: Instituto Ecológica; Peiropólis, pp: 160.

ROSILLO-CALLE, F., 2005. Food versus fuel – an old argument that refuses to move on. *Renewable Energy for Development*, 18(2): 11-12.

SANDE, T.V., 2008. *Opportunities and threaths bio-fuel for agriculture and rural development.* p: 25-28. In: BINDRABAN,P.S&PISTORIUS, R.(ed).Bio-fuels and food security:Dialogue among stakeholders on dilemmas about biomass for food and/or fuel.Plant Research International B.V, Wageningen, Report., 167: 39.

STRECK, C., 2005. *Redes Globais de políticas publicas como coalizões para mudança.* In: ESTY, D.; INAVONA, M. H.(Ed.). Governança ambiental global: opções e oportunidades. São Pualo: Senac, p: 301.

SANDLER, T., 1995. *Collective action: theory and applications.* Ann Arbor: The University of Michigan Press, p: 237.

SANDLER, T., 2000. *Economic analysis of conflict.* Journal of Conflict Resolution, Newbury Park, 44: 723-729, http://jcr.sagepub.com/cgi/reprint/44/6/723.

STRATEGIC STUDIES AND MANAGAMENT CENTER – CGEE. 2002. Agronegócio do Biodiesel e Oportunidades para o Brasil., p: 15.

TEN BRINK, P., 2002. (Ed.). *Voluntary environmental agreements: process, practice and future use.* Sheffield: Greanleaf Publishing.

THÉVENOT, L., 2001. Organized complexity: conventions of coordination and the composition of economic arrangements. *European Journal of Social Theory,* London, 4(4): 405-425.

THÉVENOT, L., 2002. *Conventions of co-ordination and the framing of uncertainty.* In: FULLBROOK, E. (Ed.). Intersubjectivity in economics. London: Routledge, pp: 181-197.

TUINSTRA, W. *et al*. 2002. (Ed.). COOL - Synthesis Report. Wageningen: Wageningen University, Environmental Policy Group, 118 p. (Climate Options for the Long term - Final Report, vol. A). http://www2.wau.nl/cool/reports/COOLVolumeAdef.pdf.

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT. ADDRESSING THE GLOBAL FOOD CRISIS: Key trade, investment and commodity policies in ensuring sustainable food security and alleviating poverty. In: THE HIGH-LEVEL CONFERENCE ON.

TULEJ, P.J., 2006. "*Biofuels in a global context"*, presentation at European Technology Plataform, IEA, 8 june.

WELP, M., S. Stoll-Kleemann, 2006. *Integrative theory of reflexive dialogues.* In: STOLL-KLEEMANN, S.; WELP, M. (Ed.). Stakeholder dialogues in natural resources management, Heidelberg: Springer-Verlag.

WELP, M. *et al*. 2006a. *Science-based stakeholder dialogues in climate change research.* In: STOLL-Kleemann, S.; Welp, M (Ed.). Stakeholders dialogues in natural resources management. Heidelberg: Springer-Verlag.

WELP, M. *et al*. 2006b. *Science-based stakeholder dialogues: theories and tools.* Global Environmental Change, Guildford, 16(2): 170-181.

YEGANIANTZ, L., E. Contini, E. Cruz, R. Brandini, 1984. *An antipolluion stance of Germany and potential market for Brazilian alcohol in the European Community.* Brasília. Embrapa.

YEGANIANTZ, L., J.R. Alencar, J.M. Nogueira, E. Contini, 2007. *Sustainable biofuel in Brazil and The United States of América.* VI International PENSA Conference, Ribeirão Preto. Anais. Ribeirão Preto: PENSA.

ZADEK, S., H. Hummels, 1998. *Making values work. Journal of Business Ethics,* Dordrecht, 17(13): 373-85.