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INTERNATIONAL RELATIONS**

**AGRICULTURE ORGANIZATIONS AGAINST MONSANTO IN ARGENTINA:
THE EFFECTS ON STATE REGULATIONS**

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DEDICATION

To the stars that light my path during the endless road of life.

Especially those two constellations of the north that shine even at dawn.

To those from the east and the west, that with a glance draw a smile on anyone's face.

*To the ancient star though shining less brightly it has enlightened those who have stared at it
with the gift of knowledge.*

*Finally, to the wanderers that have been companions in the road as friends or counselors.
Long the way may have been, it is only the crossroads for new ones. May our presence
illuminate the paths of others for us to become stars as well.*

Per aspera ad astra.

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I.	TOPIC	1
II.	ABSTRACT	1
III.	RESUMEN	2
IV.	ASTRATTO	3
V.	INTRODUCTION	4
1.	CHAPTER I: MONSANTO IN ARGENTINA	12
1.1.	Company's origins	12
1.1.1.	Early foundation	13
1.1.2.	Entry into the biotechnology industry	15
1.1.3.	Arrival to Argentina	17
1.2.	The Corporate Social Responsibility of Monsanto Argentina	20
1.2.1.	Initial considerations	20
1.2.2.	Monsanto Argentina corporate social responsibility programs	1
1.2.3.	The effects of glyphosate and RR soy on local communities and the environment	23
1.3.	Monsanto as a hegemonic bloc	26
1.3.1.	The company as an enforcer of TRIPS and UPOV	27
1.3.2.	Royalty collection regime	28
1.3.3.	Theoretical considerations on Monsanto from the Critical Theory of Robert Cox	31
2.	CHAPTER II: THE ARGENTINIAN STATE ON AGRICULTURE	
2.1.	The agriculture industry	34
2.1.1.	Historic relevance	34
2.1.2.	Agriculture participation in the Argentinian economy	37
2.1.3.	The soy market	39
2.2.	The Law of Seeds	45
2.2.1.	Original version	46
2.2.2.	Amendment attempts	47
2.2.3.	Related institutions	50
2.3.	The State: a theoretical approach	52
2.3.1.	Forms of State	52
2.3.2.	External social forces	53
2.3.3.	The influence of external social forces on the Argentinian State	54
3.	CHAPTER III: THE LEVEL OF RESISTANCE OF CIVIL SOCIETY	
3.1.	Acritical perspective of civil society and related elements	56
3.1.1.	What is civil society? An answer from Critical Theory	56
3.1.2.	Counter hegemony	58
3.1.3.	Gramsci's conceptualization of forces	60
3.2.	Agricultural organizations in Argentina	62
3.2.1.	Main actors	63
3.2.2.	The impact of agriculture on civil society and its	65

participation in politics	
3.2.3. Mobilization capacity	68
3.3. The struggle against the royalty collection regime	69
3.3.1. The seed saving regime	70
3.3.2. A clash of actors	71
3.3.3. Aftermath	74
VI. ANALYSIS	76
VII. CONCLUSIONS	83
VIII. RECOMMENDATIONS	86
IX. LIST OF REFERENCES	89
X. LIST OF ANNEXES	96

TABLE INDEX

TABLE I TIMELINE OF MONSANTO'S ACTIVITIES DIVERSIFICATION	76
TABLE II NUMBER OF FARMERS REPRESENTED BY AGRICULTURAL ORGANIZATION	80
TABLE III NATURE OF DECREES AND RESOLUTIONS ON THE LAW OF SEEDS	82

GRAPHIC INDEX

GRAPHIC 1 EVOLUTION OF CROP AREA SOWED WITH GM PLANTS IN ARGENTINA FROM 1996 TO 2010 (THOUSANDS OF HECTARES)	19
GRAPHIC 2 GLOBAL HERBICIDE SALES BY TYPE (IN %)	24
GRAPHIC 3 MAP OF ARGENTINA WITH THE ZONE OF GM SOY PRODUCTION AND PAMPAS ECOREGION HIGHLIGHTED	40
GRAPHIC 4 ARGENTINIAN EXPORTS COMPOSITION IN 2017 (IN %)	41
GRAPHIC 5 EVOLUTION OF PRODUCTION VOLUME OF GRAINS IN ARGENTINA FROM 1970 TO 2005 (IN TONS)	42
GRAPHIC 6 FIELD TRIALS BY CROP IN ARGENTINA FROM 1991 TO 2015 (IN %)	43
GRAPHIC 7 GROSS PROFIT EVOLUTION FROM GM SOYBEAN CROPS FROM 1996 TO 2016 (IN MILLION USD)	44
GRAPHIC 8 DISTRIBUTION OF GM SOYBEAN PROFITS FROM 1996 TO 2016 (IN MILLION USD)	45

I. TOPIC
AGRICULTURE ORGANIZATIONS AGAINST MONSANTO IN ARGENTINA: THE EFFECTS ON STATE REGULATIONS.

II. ABSTRACT

Since the beginning of the XXI century, particular phenomena have risen regarding traditional configurations of power with States, revealing that these may not be its main source. This has been increasingly noticed by academics as new actors, such as multinational companies and civil society organizations, take more importance in topics that had been assigned exclusively to the State. In fact, the latter has been less perceived as the sole actor to participate in processes that can affect everyone, such as the development of regulations. To study the interactions between the State, multinational companies and civil society, this dissertation will study the case of the attempts of Monsanto to influence the Argentinian State on implementing systems that benefit the company in local regulations, specifically the Law of Seeds and Phytogenetic Creations, and the resistance of local society to prevent this to be accomplished between 1990 and 2017. This will be analyzed, through the Critical Theory of Robert Cox, a relevant framework to study the interactions between the actors from a diachronic scope, for which the method of historical analysis will be used.

Key words: Monsanto, royalty collection regime, glyphosate, RR soybeans, Law of Seeds, agricultural organizations, Argentinian State, Robert Cox.

III. RESUMEN

Desde inicios del siglo XXI han aparecido fenómenos particulares relacionados a las configuraciones tradicionales de poder referentes al Estado, demostrando que éste no es la fuente principal del que emana la autoridad. Esto ha sido notado de manera más evidente por la academia considerando que nuevos actores, como las empresas multinacionales y organizaciones de sociedad civil, van tomando mayor importancia en temas que tradicionalmente habían sido vistos como de carácter meramente estatal. De hecho, el Estado ha sido percibido cada vez menos como el único actor que participa en procesos que pueden afectar a todos, como lo es el desarrollo de las leyes. Para estudiar las interacciones entre el Estado, las empresas multinacionales y la sociedad civil, la presente disertación tomará el caso de los intentos de Monsanto para influenciar al Estado Argentino con el propósito de implementar sistemas que beneficien a la compañía en las leyes nacionales, específicamente la Ley de Semillas y Creaciones Fitogenéticas, así como la resistencia de la sociedad civil para prevenir esto entre 1990 y 2017. El caso será analizado a través de la Teoría Crítica de Robert Cox, un marco teórico relevante para estudiar las interacciones entre estos actores desde un enfoque diacrónico, para lo cual será utilizado el método de análisis histórico.

Palabras clave: Monsanto, régimen de recolección de regalías, glifosato, soya RR, Ley de Semillas, organizaciones agropecuarias, Estado Argentino, Robert Cox.

IV. ASTRATTO

Dagli inizi del XXI secolo sono apparsi fenomeni particolari collegati alle configurazioni tradizionali di potere riguardo allo Stato, rivelando che questo non è l'unica fonte di autorità. Questo è stato ogni volta più notato dall'accademia se si tiene in conto che nuovi attori, come le aziende multinazionali ed organizzazioni della società civile, prendono maggiore rilevanza in argomenti che erano stati percepiti come statali unicamente. Infatti, lo Stato è stato visto ogni volta meno come l'unico attore che partecipa in processi che possono riguardare tutti, come lo sviluppo delle leggi. Per studiare le interazioni fra lo Stato, le aziende multinazionali e la società civile, questa dissertazione prenderà il caso dei tentativi da parte di Monsanto per influire sullo Stato argentino coll'obbiettivo di implementare sistemi che avvantaggino quest'azienda in leggi nazionali, specificamente la Legge di Sementi e Creazioni Fitogenetiche, e anche la resistenza della società civile per prevenire questo tra il 1990 e il 2017. Questo caso sarà analizzato attraverso la Teoria Critica di Robert Cox, un contesto teorico rilevante per studiare le interazioni fra questi attori da un focus diacronico, per il quale il metodo di analisi storico sarà utilizzato.

Parole chiavi: Monsanto, regime di raccolta di regalità, glifosato, soia RR, Legge di Sementi, organizzazioni agricole, Stato argentino, Robert Cox.

V. INTRODUCTION

Multinational companies have played an important role in the phenomena that the world experiences nowadays, in which the State is no longer seen as the absolute source of power with private corporations gaining more space in various spheres of power. From a historical perspective, it can be stated that the relation among economic and political power of transnational corporations has been very controversial (Sklair, 2002). Multinational companies are large enough so that changes in their operations can affect levels of income, employment and the life standard of a whole nation. Only from 1970 to 2006, the quantity of active multinational corporations increased from 7.000 to 78.000 (Essays, 2013). Through instrumental, structural and discursive power, these corporations present themselves as a source of authority regarding the State (Ruggie, 2017).

Because of this, Jeffrey Leonard claimed that multinational corporations should be studied as both a political and economic force. However, for such task, political scientists have been slow to develop their own tools and methods for the analysis of these companies in developing countries (1980). It is clear that transnational companies engage in political activities of diverse types, but the exact forms of such these rapports and the roles that various actors play in them have not been subject of a deep systematic research (Sklair, 2002). But how does civil society organizations that may be affected by this situation respond to the presence of this kind of companies? Considering that the operations of multinational corporations transcend physical borders, not only its influence penetrates the State level, but also the societal one.

For example, Wal-Mart, one of the biggest transnational companies, was the second employer in the world in 2005, providing jobs for 1,8 million people, as well as the company with the second highest revenue in the same year, with \$316 billion (Roach, 2007). This is twice the Gross Domestic Product of Colombia in the same period (WITS, n.d.). The size of transnational companies is such that many activities of these private entities can affect the citizens in many areas of their lives, such as standard income, employment conditions, among others. When referring to previous works with a similar scope, it can be concluded that, despite the fact that many authors have addressed the issue of power relations between multinational corporations and the State, most of them take either a completely statistical and economic perspective or a point of view from classical notions of power. Most theories have aimed at describing how business firms function, both in economics and strategic management, either ignoring the political dimension of the organization or perceiving it as an aberration (Dörrenbacher & Geppert, 2011). In management literature, power analysis has been focused only on the Weberian type of it (Dahl in Dörrenbacher & Geppert, 2011). An integral and deep analysis of these power dynamics may provide a more profound understanding on the interaction between civil society, transnational corporations, the State, and the evolution of this rapport.

The chosen case of study to analyze this rapport has been the struggle between the US based multinational company Monsanto, that produces biotechnology, the Argentinian agricultural organizations, and the State. The government of Argentina has authorized the commercialization of every transgenic presented by the biggest biotechnology corporations, a number that has reached 30 since 1996, which are applied to soy, corn or cotton resistant to herbicides. It has

also started to develop its own transgenic allegedly independent from corporative power (Grain, 2015). Not only has local society been affected at an environmental level, but also at an economic one. Monsanto and other private companies have sought to dominate the intellectual property rights regime, controlling not only its commercialization but also directly jeopardizing local production and its capacity to use saved seeds for new seasons (Filomeno, 2013).

The hypothesis that will be used for developing this dissertation is that Argentinian civil society has been the key to prevent Monsanto from influencing the national government on modifying regulations of the agriculture industry regarding intellectual rights property. To proof this statement, a general objective will be achieved, which is to analyze the relevance of the organization of Argentinian civil society to prevent Monsanto from influencing the State to modify agricultural regulations and implement the royalty collection regime. The demonstration of this objective will be performed through three specific ones that are: To evaluate the relevance of Monsanto in the Argentinian agriculture industry and the negative impact of its activities, to review the evolution of the legislation of agriculture industry and how the government has managed it, and to determine the level in which Argentinian civil society has organized itself against Monsanto's detrimental activities thus influencing governments decisions on agriculture legislation.

The case of study will be focused on the physical boundaries of Argentina. Regarding time delimitation, the present work will analyze the activities of the actors involved between 1990 and 2017. A period of 27 years may seem too broad at first sight; however, historical milestones are critical of being studied with the theory that will be utilized, and many of these occurred during this time for all actors. The theory through which the present case of study shall be analyzed is the Critical

Theory of Robert Cox. Classical theories such as neoliberalism have become obsolete to comprehend transformations of exercise of political power at its whole, which is practiced as a profusion of shifting alliances (Rose & Miller, 1992). The Critical Theory of Robert Cox presents an alternative to understand these transformations in a broad sense as it is concerned with a continuing process of historical change. Such framework is a normative choice that promotes social and political order different from the prevailing one, thus being more practical, with actions that are performed within structures. This results in the differentiation from problem-solving theories, which are non-historical (Cox, 1981).

The main difference between both scopes is that critical theory requires the permanent application of both diachronic and synchronic perspectives when analyzing a certain issue. The synchronic perspective refers to the time component of study while the diachronic one is focused on reviewing the development or evolution of a certain phenomenon (Cox, 2002). These perspectives are needed to reach a satisfactory explanation of the problematic (Cox, 2002). Two main factors shape this theory: one is the objective movement of history that steadily produces new combinations of forces that interact among themselves. The other one is comprised of the subjective perceptions of those who contemplate such forces with a perspective to comprehend and act upon the movement of history (Cox, 2002). In this way, one essential element in this theory are historical structures. These are comprised of material capabilities, ideas and institutions. The former refers to productive and destructive potentials whereas the second one is defined as intersubjective notions and collective images of social orders of different groups of people. The latter acts to establish a perpetual order, thus reflecting power relations (Cox, 1981).

This method is applied to three spheres of activity which are: the social forces, forms of State, and world orders. The first one is present specifically in the organization of production, while the second one is generated by a study of complexes between state and society. The last one is defined as particular configurations of forces that establish the problematic of war or peace for the state context (Cox, 1981). A dimension, together with the spheres of activity, will be assigned appropriately to each one of the actors presented for the development of this dissertation in order for the relation between them to be clearly established. Critical Theory has a strong base on historical materialism, which determines that conflict is a continuous remaking of human history and a cause of structural change (Cox, 1981).

History is even one of the three political power dimensions, the other being development and domestic politics, that is the agenda setting capabilities of multinational corporations that gain significance with time (Leonard, 1980). This is aligned with the period within which the case of study is delimited, as the historical changes for all actors must be considered in the analysis and how such changes have modified the historical structures of society. The theory is substantially based on Antonio Gramsci's work, a scholar that set the bases for non-reductionist and historicist Marxism, which may often serve as a connection between the theory of Cox and neo-Gramscianism (Budd, 2013). A Marxist base is relevant for this theory, keeping in mind that it explains changes in social relations, one of the significant points from which the need to study the case comes from. Considering this, many Gramscian elements used by Cox are relevant for the present topic such as hegemony, which will be further explained in the development of this dissertation.

The element of history is embodied within historical structures which are defined as persistent patterns of human activity and thought that endures for periods that can be relatively long (Cox, 1992). The definition of the elements of historical structures also represent relevant concepts to be defined. Ideas are established as intersubjective meanings, or notions, and collective images of social order of different groups of people which determine perspectives of nature and legitimacy of prevailing power relations. Institutions in turn, are organizations that establish a perpetual order, reflecting power relations (Cox, 1981). The interaction between these phenomena generates a historical bloc, in which people engaged in action confront totalities, which they saw as a new order challenging the established one (Cox, 1983).

Theoretical elements provided by Robert Cox such as hegemony and social forces imply that this kind of processes require a review on how foreign actors influence the institutions of the state. Both Monsanto and the Argentinian civil society shall receive this scope, with the former as an extension of the hegemonic order of a core country, in this case the United State through the Agreement on Trade Related Aspects of Intellectual Property Rights and the International Union for the Protection of New Varieties of Plants, seeking to establish a royalty recollection regime on intellectual property rights, and the latter being the counter-hegemonic bloc that acts as a resistance to the effects of the economic world order on the local context. The state acts as a space of strife, were both blocs struggle to reflect their respective interests on local regulations. Regarding this last point, the Argentinian Law of Seeds and Phytogenetic Creations will be reviewed as well as decrees and resolutions based on it.

For the development of the current work, a mixed methodology will be utilized considering that qualitative variables require quantitative backup as two objectives of this dissertation are based on evaluation. Regarding power dynamics, specific events as well as regulations, there will be a deeper focus from a qualitative point of view. With respect to the economic activity of Monsanto in Argentina and the relevance of Agriculture in the country, a quantitative approach will be used. For the qualitative section, a content analysis will be performed when reviewing the Law of Seeds and Phytogenetic Creations. Through this methodological element, it is possible to filter data according to the criteria established by the subject of study which can be limited, with the purpose of ensuring the effective development of the research. In summary, it is a method useful for generating general theories and hypothesis that are recursive and non-statistical (López, 2002). As for the quantitative part, the method of descriptive statistics will be used, which is an analysis of results focused on data group useful to elaborate conclusions (Universidad Naval de la Armada de México, n.d.).

Also, the technique of the review of bibliographical sources presents itself as the first and main base of information considering that it leads to a theoretical localization of the research problem (Universidad Naval de la Armada de México, n.d.). In addition, as this dissertation focuses on the evolution of the relations between the three actors that participate in the presented context, the method of historical analysis will be used. This framework employs qualitative measurement as well as the use of primary historical documents or interpretations of a certain case (Thies, 2002). The analysis of a case needs the recollection of statements that are relatively exempts of interpretation; this data is also known as basic information (Thies, 2002). Historical analysis set the criteria for the selectivity of both primary

and secondary sources for the review of the case to be accurate. A good performance of the method can provide a proper explanation of events, processes, and actors (Thies, 2002).

Management, corporate internationalization, social movements, etc. are all significant areas that the Multilingual Bachelor in Business and International Relations studies and are significant for this work which implies a potential alignment between international political economy, foreign and public policy, and the topic. As it may be expected, a vast amount of information is needed, of which there is plenty for both the theoretical base and the case of study, an element that is evidenced on the viability of this work. This topic also offers a contribution to society, considering that it aims to explain how civil society reacts to the interaction of private gigantic corporations such as multinational companies with states. This could represent an incentive for the people to motivate themselves and take a critical posture in their participation regarding similar situations. The career also presents a relevant base for this work as the curricula of its subjects offer a multidisciplinary perspective required for the analysis of the problem.

CHAPTER I

MONSANTO IN ARGENTINA

As stated in the introduction, this dissertation work will be divided into three chapters based on the actors of the case of study. This chapter will focus on the multinational company Monsanto. First, it is important to answer: what is understood as a multinational company? A multinational, or transnational, corporation is a business organization that operates in more than two countries and is the organizational form that determines foreign direct investment (Kogut, 2001). A multinational enterprise is a term considered less threatening than transnational corporations, which has been a practice promoted by the Organization of Economic and Cooperation Development (Sklair, 2002). In the end, both are synonyms which is why the two of them will be depicted as such throughout this academic work. Despite this, companies are still very different from governments. Transnational corporations do not, or at least try not to, follow the left-right pendulum shifts of States in terms of governance, which refers to the cyclical processes of States with right-wing governments shifting to left-wing ones and vice versa (Holmstrom & Kaplan, 2003).

1.1. Company's origins

The history of Monsanto will be reviewed in this section, remarking the most relevant achievements of the company and its transformation in many levels through the years, from its creation to its diversification of activities and opening to international markets. The last part will describe the entrance of the company in Argentina, emphasizing on the reasons why it entered this country and the main products that Monsanto has commercialized in this market.

1.1.1. Early foundation

Monsanto is a transnational corporation from the United States established in 1901, (Monsanto, n.d.) by John Francis Queeny, who named the company after his wife, Olga Méndez Monsanto (Buitrago, 2015). Queeny was a chemist that imported German technology to manufacture saccharin, which is known as the first artificial sweetener (Tokar, 1998). To accomplish this, he created the company and introduced this product to the market in 1905 (Buitrago, 2015). The company's headquarters are located in the outskirts of St. Louis, Missouri (Tokar, 1998). Monsanto entered the food additive market with saccharin and then variegated its product portfolio by producing caffeine and vanillin in 1904 and 1905 respectively (Guerrante, De Souza & Pereira, 2010). Monsanto started to diversify into the pharmaceutical sector in 1912 with the production of compounds such as phenacetin, phenolphthalein and glycerol phosphates. In 1915, the company began the manufacture of nitrochlorobenzene, a raw material utilized in drugs (Guarrante, De Souza & Pereira, 2010).

Twenty years after its establishment, Monsanto became one of the leading producers of sulfuric acid as well as other basic industrial chemicals (Tokar, 1998). Monsanto's first step into international markets was the purchase of 50% of the phenol¹ leading company of the United Kingdom: R. Graesser (Guerrante, De Souza & Pereira, 2010). In 1928, Queeny's son Edgar replaced him as president of the company, who would acquire several chemical companies in 1930. Since the 1940s, the company has been in the list of top ten chemical companies of the United States every decade (Tokar, 1998). His approach was to decentralize the company, which

¹ A compound present in many medicinal products and is highly irritating to the skin, eyes and mucous membranes in humans, being considered of moderate toxicity for those who ingest it (EPA, 2016).

resulted in its reorganization into four large international companies: Monsanto Industrial Chemicals, Monsanto Commercial Products, Monsanto Textiles, and Monsanto Polymers and Petrochemicals (Guerrante, De Souza & Pereira, 2010).

During the same period, Monsanto started to manufacture the herbicide 2,4,5-T, which is based on dioxin (Tokar, 1998), a substance that causes, among other symptoms, skin diseases such as chloracne or hyperpigmentation (Schechter et al., 2006). The production of plastics and synthetic fabrics became Monsanto's core activity by the 1940s (Tokar, 1998). In 1946, Monsanto implemented the definitive consolidation of its international activities with exports to all Europe, South America and the Philippines. It also had subsidiaries in Australia, Canada and the United Kingdom as well as representatives in India and East Asia. Monsanto achieved to meet world demand caused by the end of World War II, exceeding even its previous exports of the two war periods (Guerrante, De Souza & Pereira, 2010).

The Swann Chemical Company, a corporation which would have been acquired by Monsanto, developed polychlorinated biphenyls, also known as PCBs, which were recognized for their extreme chemical stability and non-flammability (Tokar, 1998). In the 1960s, Monsanto's used PCBs as liquid sealants, lubricant hydraulic fluids, waterproof coatings and cutting oils. During this and the next decades, research on PCBs and organochlorines revealed to be related to reproductive, developmental and immune system disorders, as well as being potent carcinogens (Tokar, 1998). During the same period, the military forces of the U.S. Army used the dioxin-based herbicide known as agent orange to defoliate the rainforests of Vietnam. This herbicide was a mixture of 2,4,5-T and 2,4-D herbicides that was produced by many companies, however, Monsanto's had dioxin

concentrations many times higher than those manufactured by its main competitor, Dow Chemical (Tokar, 1998).

In 1967, the company pursued an intense diversification into different sectors such as engineered composites, semiconductor materials, surfaces for sports and recreation, and protein food sand. This event marked the migration to areas which Monsanto had never been related to (Guerrante, De Souza & Pereira, 2010). Despite its always growing diversification, Monsanto gained a straitened reputation for environmentally damaging and unethical practices, being linked to production of dioxins and PCBs, which was made more evident due to the emergence and evolution of the environmental movement during the 1960s and 1970s (Glover, 2007). Although in 1976 production of PCBs was banned in the United States, the harmful effects of PCBs persist worldwide (Tokar, 1998). In the same year, Monsanto divided its international operations into four sectors: Canada, Latin America, Europe-Africa, and Asia Pacific, with the purpose of meeting conformity needs of each local market (Guerrante, De Souza & Pereira, 2010).

1.1.2. Entrance into the biotechnology industry

Monsanto's first approach to the agricultural sector commenced with the acquisition of the US Lion Oil Company in 1955 with the purpose of strengthening its activity in the petroleum sector considering that Lion's nitrogenated products² could be used as raw material in the production of Monsanto's fertilizer (Guerrante, De Souza & Pereira, 2010). In 1969, Monsanto acquired a group specializing in corn hybrid production, The US Farmers Hybrid Companies, which marked Monsanto's interest in entering the market for genetically modified³ seeds⁴ (Guerrante, De Souza

² Anhydrous ammonia, nitric acid and ammonium nitrate.

³ Abbreviated as GM.

& Pereira, 2010). In fact, Monsanto is one of the first companies to enter the GM seed market, which was accomplished through the absorption of genetic seed modification technology that resulted from the joint-ventures between the company and dedicated biotechnology firms (Guerrante, De Souza & Pereira, 2010).

In 1985, G.D. Searle, a pharmaceutical company from the United States was acquired by Monsanto, providing the latter necessary capabilities to establish itself in the pharmaceutical market (Guerrante, De Souza & Pereira, 2010). In 1999, when Monsanto had both pharmaceutical and agro-industrial divisions, it merged with Pharmacia & Upjohn. In 2002, Monsanto became autonomous again and decided to keep only its agro-industrial division (Buitrago, 2015). In the end Monsanto moved decisively towards becoming a biotechnology company, focused on the manufacture of seeds and traits. As of 2007, the company invested approximately 10% of its sales, \$500 million dollars, on biotechnology regulated research and development (Glover, 2007). Herbicide Roundup, based on glyphosate, and Roundup Ready soybeans, genetically modified to resist glyphosate, are two star products from Monsanto as these soybeans are advantageous for rural producers because glyphosate is cheaper and easier to apply than other herbicides used on conventional soybeans (Filomeno, 2013).

In 2008, the corporation acquired Semillas Crisitani Burkard, the biggest company in Center America, with which Monsanto positioned itself as the dominant company in the region (Buitrago, 2015). Nowadays, the corporation is the leading producer and marketer of GM seeds and traits in the world (Glover, 2007).

Monsanto is present in the Americas, Europe, Africa, Eastern Asia and the Middle East (Buitrago, 2015), operating in more than 160 countries in the world (Buitrago,

⁴ These are seeds modified through genetic engineering traits (Buitrago, 2015).

2015). The company controls patents on most seeds planted in the world. Neil Harl of Iowa State University, an expert on the subject, claimed that Monsanto has control over as much as 90% of seed genetics (Gore, 2013). In 2017, it reported net sales of 14.6 billion dollars and a net income of 2.26 billion dollars, with a line of products focused mainly on herbicides and modified seeds (Monsanto, 2017). In summary, since its foundation, Monsanto has steadily grown through the years, becoming the leading company of the many sectors in which, it has participated until it moved to agricultural biotechnology, its core business today (Monsanto, n.d.).

1.1.3. Arrival to Argentina

The multinational corporation has been present in Argentina since 1956, when it entered the South American country as a manufacturer company of plastics. In 1978, it started its operations of retrofit of hybrid corn seeds in Pergamino, located in the province of Buenos Aires (Montenegro, 2012). Monsanto opened its first productive plant in Argentina in 1956, which was used for processing plastics. It is in 1978, that the multinational company opened its first hybrid seeds plant for corn (Observatorio de Empresas Transnacionales de FOCO, 2008).

The activity of the multinational corporation in Argentina is focused on the sale of the herbicide Soy Roundup Ready⁵ designed to be applied to the cultivation of genetically modified soy seeds that are resistant to glyphosate, a compound utilized in the elaboration of this herbicide. This is a significant activity within the country considering that soy crops represent the biggest sector of its exports (Vara, 2004). This last statement will be elaborated in a more detailed manner in the next chapter. Argentina was the first developing nation where Monsanto's main modified soybean seed was introduced, as a solution to the economic turmoil that the country

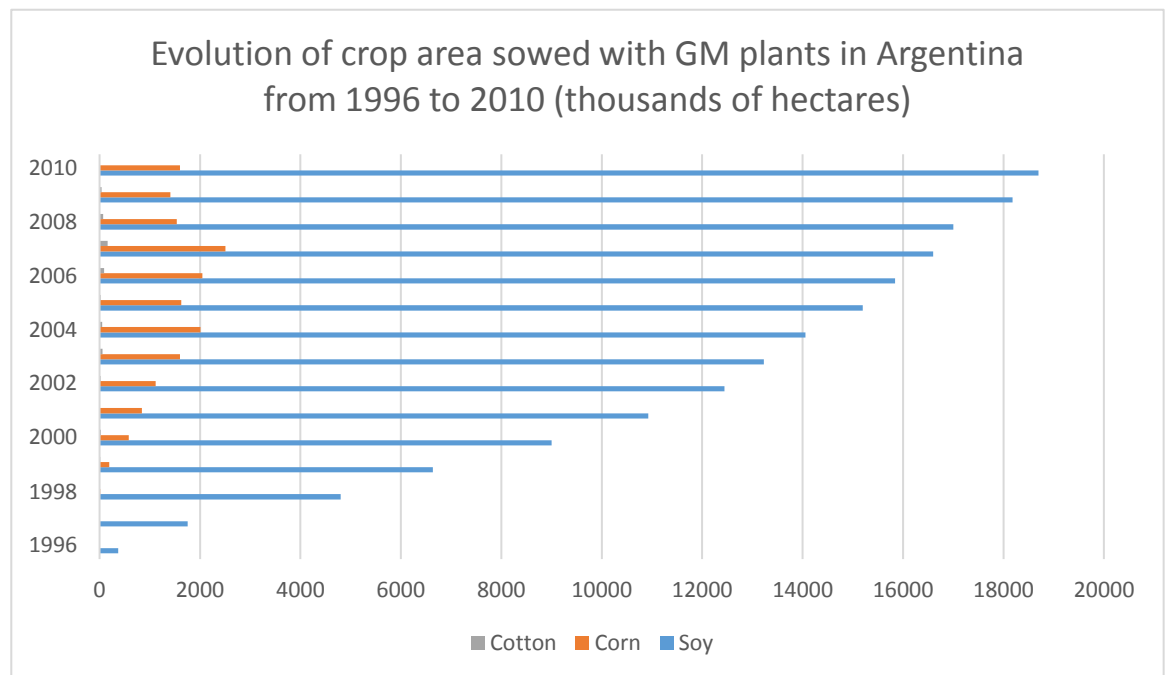
⁵ Abbreviated as RR.

experienced during the time (Anousheh, 2015). The company released commercially glyphosate-tolerant soybeans in the country under license of the multinational corporation Nidera, which possessed the capacity to access Monsanto's RR gene when it acquired Asgrow Argentina (Leguizamón, 2013), the former licensing the latter to commercialize the product (Fukuda-Parr, 2007).

In fact, glyphosate became the first transgenic implemented in the Argentinian economy and its combination with techniques of direct sowing proved a turning point towards accelerated growth (Vara, 2004). The company's commercial and productive activities started to grow exponentially in the country since many important decisions were taken by many government officials that met in a private session of the National Assessment Commission for Agriculture Biotechnology, also known as CONABIA, an agency of the agriculture secretariat on September 21, 1995. In this meeting, the agency decided that there were no major setbacks for approving the commercialization of RR soy (Montenegro, 2012). In 1995, the transnational corporation applied to approve its right to the Roundup Ready soy germplasm patent in the country (Anousheh, 2015). The figure below shows the sudden increase in the annual growth of genetically modified soy by crop as well as other plants. The first section of Chapter II will provide more insightful information about this.

GRAPHIC 1

EVOLUTION OF CROP AREA SOWED WITH GM PLANTS IN ARGENTINA FROM 1996 TO 2010 (THOUSANDS OF HECTARES)



Source: Monsanto (2010)

Elaborated by: Juan Carlos Borja J.

In 2000, the company officially opened its first glyphosate plant in the country although it had started its operations two years before (Observatorio de Empresas Transnacionales de FOCO, 2008). Since its initial launch, glyphosate has been a source of important income for Monsanto. From 1997 to 2000, sales of the herbicide increased 250%, from 28 million liters to 70 million (Paul et al., 2003). In 1999, 70% of Argentinian's soy crops were modified genetically (Anousheh, 2015). Only in 2000, approximately 58% of genetically modified soy crops used its Roundup Ready variation developed by Monsanto (Mastrinlich, 2006). In 2012, the company possessed one herbicide manufacturer plant, two seed processing plants and two experimental stations (Montenegro, 2012). Monsanto's presence is really important to the agricultural sector of the country since biotechnology provides an

exponential contribution with an output increase while the quantity of inputs utilized in the production process remain the same (Martinolich, 2006)⁶.

1.2. The Corporate Social Responsibility of Monsanto Argentina

The following section will start with the definition of corporate social responsibility to then establish the criteria with which Monsanto of Argentina will be evaluated in this matter. After this, the programs that the company has implemented in the country will be quickly examined. Finally, a quick review of the major issues caused by the company's activity in the country will be performed.

1.2.1. Initial considerations

Corporate Social Responsibility⁷ is defined as the relationship between a company and the local society in which it operates. More specifically this rapport is centered on the corporation and its stakeholders (Crowther & Aras, 2008), which are groups whose support is essential for the organization to exist; they are comprised of those directly involved with the company from employees to shareholders and suppliers⁸, as well as the local community and the government (Crowther & Aras, 2008). Barnard claimed that the analysis of this relationship is focused on the economic, legal, moral, social and physical aspects of the environment (as cited in Crowther & Aras, 2008). Four main areas, or actors, regarding CSR will be considered for the analysis of Monsanto Argentina, and are: consumers, local communities, market practices and the environment.

⁶ Monsanto's strategy to insert itself into the Argentinian market is a clear example of the company's internationalization processes in countries around the globe. The corporation first introduces its products through licenses to then steadily establish operations in a centralized way. This is a global approach, which means that Monsanto's methods have only slight changes depending on the country. In a broad manner, this is a description of its business model of internationalization.

⁷ Abbreviated as CSR.

⁸ Managers, employees, customers, investors, shareholders and suppliers.

The main point to be taken into account of CSR with consumers is that a company should provide clear, valid and complete information about the main products or services they offer. A company should also work with local authorities to prevent or undermine health threats that may be generated from the use of its products or services (Antona et al., 2008). When referring to environment, it is understood as the system comprised of elements such as the human being, the flora and the fauna, soil, water, climate and landscape, material goods, and cultural heritage (Antona et al., 2008). Considering that Monsanto's products in Argentina are principally in crops and applied by farmers, the human being and the soil will be the scope of the environmental section of the analysis.

The number of sales previously presented imply an important interaction of the company with several local actors in many levels. In 2013, Monsanto worked with 4.425 suppliers in Latin America of which 2.807 are from Argentina (Monsanto, 2014). Internal areas of CSR will not be analyzed since, at least at first glance, there may not be issues for Monsanto considering its position regarding the labor market in the country. For example, in 2013, Monsanto Argentina was located at the fifth place of top companies to work in Argentina, being awarded with this prize for the eight consecutive year by the program Great Place To Work Institute (Monsanto, 2014), which evaluates each company using two important assessment tools⁹ based on employee perception about their workplace experience (Great Place To Work, n.d.). Monsanto is recognized as a dream company in Argentina for young people starting their careers (Monsanto, 2017).

⁹ The Culture Audit Management Questionnaire and the Trust Index Employee Survey.

1.2.2. Monsanto Argentina corporate social responsibility programs

Monsanto's CSR activities are focused on the promotion of developing agricultural communities in areas such as education, health and environmental care (US International Trade Administration, 2007). Monsanto has created two programs in Argentina that work directly with the society. One is Monsanto Foundation, a philanthropist branch of the company that works with different organizations from civil society in areas such as education, health, nutrition and environment. Another program is that of corporate volunteering known as Monsantotogether in which the support of employees in humanitarian activities is promoted and their commitment is recognized. Monsanto grants monetary donations as an incentive to organizations that participate in projects related to this program (Gerlero, 2013). There are also donations of goods such as furniture to schools (Gerlero, 2013).

Nonetheless, Monsanto considers the program Seedbed of the Future as its flagship entity regarding corporate social responsibility, through which the company provides financial support to social projects in communities where activities directly or indirectly related to Monsanto are performed. It was created in 2005, after the implementation of the project *Max Solidario* which had the same scope of the program (Gerlero, 2013). Seedbed of the Future was the main program in 2017 regarding CSR with projects focused on strengthening non-governmental organizations working on hunger and malnutrition prevention of mothers with kids of ages 0 to 5 years. In that year, Monsanto invested 24 million dollars in corporate social responsibility related projects in Argentina. In 2016, 904 employees participated in 19 volunteering activities that accounted 2.115 hours (Radici, 2017).

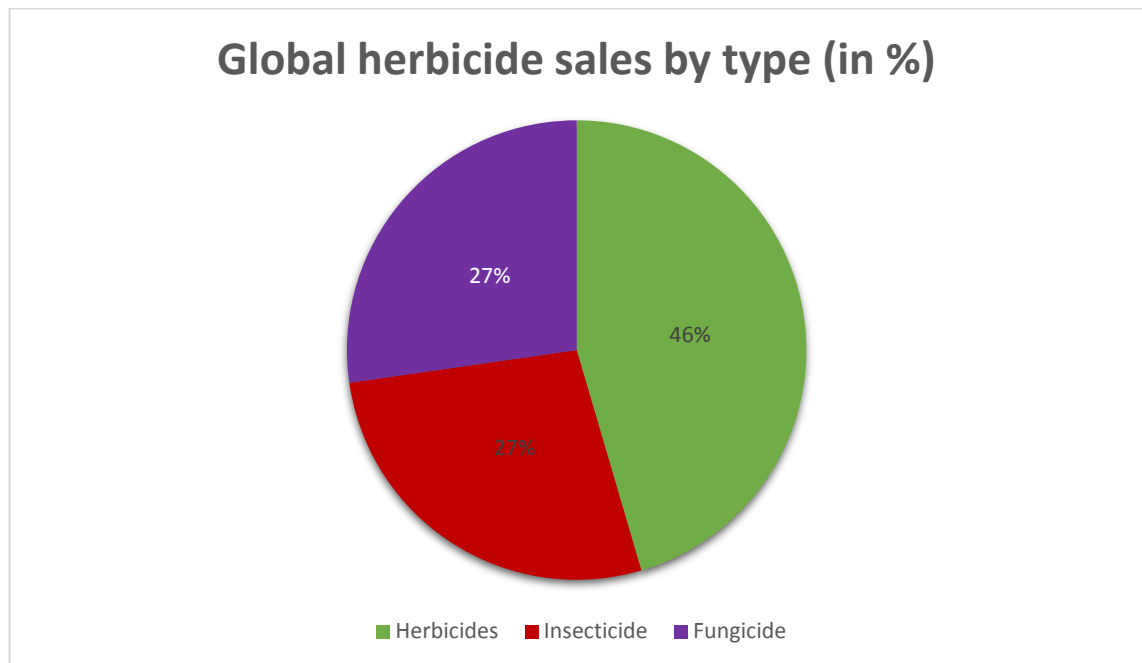
It is important to mention that, according to the Officer of Internal Communication and CSR of Monsanto Argentina María Soledad Coppa, the company's position regarding CSR is that "a company that does not commit with communities in which it is present, may lose the possibility of understanding what is happening there" (as cited in Gerlero, 2013). Argentina has become a focal point of initiatives from the company such as the Horticultural Demonstrative Units and the Valor Program, the latter being a project with the scope of improving competitiveness and opportunities of access for small local producers of cotton by training them on the implementation of better practices of corporate social responsibility. Both programs have been replicated in many nations of the region in which the company is present as well (Monsanto, 2014).

1.2.3. The effects of glyphosate and RR soy on local communities and the environment

The many projects of the company have been described according to Monsanto's approach to CSR. However, there may be negative effects caused by the corporation on the general society which the company is not trying to prevent or solve. Such effects may be even produced by their own products like glyphosate. Monsanto's glyphosate-based Roundup herbicide is used to virtually kill any green plant. The global market for pesticides represents almost \$40 billion in sales annually, with the commercialization of herbicides representing \$17,5 while both insecticide and fungicide sales amount to \$10,5 billion each. This information is more clearly shown in the following figure (Gore, 2013).

GRAPHIC 2

GLOBAL HERBICIDE SALES BY TYPE (IN %)



Source: Gore (2013)

Elaborated by: Juan Carlos Borja J.

Only in 1998, Roundup sales accounted for approximately one sixth of Monsanto's total sales per year and half of its operating income (Tokar, 1998). This occurs despite the harmful effects of the RR herbicide. Forty scientific studies on the effects of glyphosate were examined by the Oregon-based Northwest Coalition for Alternatives to Pesticides, which concluded that the compound is far more harmful than what Monsanto's advertisements claim. Roundup ingestion produces symptoms such as vomiting, gastrointestinal pain, swelling of the lungs, pneumonia, clouding of consciousness and destruction of red blood cells. Between 1966 and 1980, the Pesticide Incident Monitoring Systems of the U.S. Environmental Protection Agency had 109 reports of health effects related to exposure to glyphosate (Tokar, 1998).

In 1993, a study at the Berkeley's School of Public Health identified glyphosate as the most frequent cause of illness related to pesticides among

maintenance workers in California, and the number three cause among agricultural workers (Tokar, 1998). The growing acceptance of the use of crops tolerant to herbicides tends to increase farmer's dependence on herbicide, contrary to what Monsanto suggested by claiming that RR soybeans will reduce its use (Tokar, 1998). Nevertheless, many cases of intoxication in various countries have been reported with technical glyphosate herbicide formulation Roundup since its early applications (International Programme on Chemical Safety, 1994). In 2017, a report from an international medical entity in Argentina determined that environments polluted with glyphosate and other pesticides may be related to high frequencies of cancer (Avila et al., 2017).

Local studies regarding the effects of glyphosate have also determined negative effects caused by its application. An important one developed by a research team from Buenos Aires provided alarming clinical results on human offspring in locations exposed to glyphosate based herbicides, applied to crops. Other investigations in the region show that glyphosate is genotoxic¹⁰ compound (Bravo & Naranjo, 2016). This impact is more evident in provinces of the country like Santa Fé which has 3.5 million acres of transgenic crops where 80 million of poisonous substances are poured, generating serious epidemiologic problems in the region (UCCSNAL, 2015). Monsanto Argentina objects the accusations regarding the harmful effects to human health caused by its products as well as the connections with the government, claiming the absence of evidence that proof these statements (Monsanto, n.d.). Crops in which glyphosate is used do not only cause an impact on human live but also on the terrain as well. Due to the continuous application, there

¹⁰ Term used in genetics to describe the possession of a substance with destructive effect on the genetic material of the cell. Because of this, genotoxicity is one of the major causes for cancer (Saks et al., 2017).

have surged tolerant weeds to the herbicide in Argentina, Brazil and the United States, among other countries where RR is intensively used. There were warnings that stated that the adoption of RR soybeans has caused the manifestation of sorgo de Alepo, a weed with a complexity that makes it hard to be controlled, as well as other 15 glyphosate resistant types of weeds (Bravo & Naranjo, 2016).

The proposal for solving this issue according to Monsanto and other biotechnology companies is to produce transgenic crops that are resistant to herbicides even more toxic, which would increase the toxicity in the soil and the environment (Bravo & Naranjo, 2016). The implementation and effectiveness are yet to be shown. Aside from these problems, the transnational biotechnology corporation has been blamed of creating a monopoly in the Latin American nation, which explains why it concentrates 50% of glyphosate sales, for example, even though it is more expensive compared to generic products of the same type (Vara, 2004). Monsanto is also accused of experimenting with children, adults and elders with its hazardous substances (Montenegro, 2012).

1.3. Monsanto as a hegemonic bloc

The final section of the current chapter will focus on conceptualizing the levels in which Monsanto acts as a hegemonic bloc. For this, first, the relation of the company with the international agreements of UPOV and TRIPS will be determined which will open the way for establishing the depiction of a system developed and proposed by Monsanto in Argentina as an enforcer of these treaties: the royalty collection system. To conclude, a theoretical approach from the critical theory of Robert Cox will be elaborated based on the previous relations described, with a focus on the concept of hegemony from this framework.

1.3.1. The company as an enforcer of TRIPS and UPOV

Since the 1980s, multinational corporations and governments from core countries, led by the United States, have united in search of dominance of intellectual property protection. Two international treaties were created with the purpose of achieving this: the 1991 Act of the Union for the Protection of New Varieties of Plants¹¹ and the 1994 Trade Related Aspects of Intellectual Property Rights¹². The former was developed with the purpose of providing an effective system of plant variety protection based on the rights of plant breeders. TRIPS establishes that member governments may exclude several microorganisms from patentability, which is related to a major transformation in the distribution and development of agricultural technology that began in 1980. In this way, private companies started to replace the public sector as the leading actor in agricultural technology, pursuing profit and market share (Filomeno, 2013).

Following the trend of IP dominance, in 1985, several technological and pharmaceutical corporations from the United States started a strong lobbying campaign with the purpose of making intellectual property rights an advantage of the country's foreign trade policy by claiming royalties from the patents on all seed products present in developing countries (Anousheh, 2015). According to the World Intellectual Property Organization, a patent is an exclusive right granted to an invention, which is a product or procedure that provides a new way of performing a certain activity (Buitrago, 2015). In 1994, Argentina ratified UPOV (Rapela, 2016). Not only has Monsanto used patents and IP rights protection to enforce hegemonic postures of core countries but also has pursued its own hegemonic position regarding

¹¹ Abbreviated as UPOV.

¹² Abbreviated as TRIPS.

GM agriculture. Some activists have alleged that by implementing markets for its key crops, including soybean, in major producer nations such as the members of BRICS¹³, except for Russia, and Argentina, the company sought to thwart consumer resistance to transgenic crops anywhere (Glover, 2007).

1.3.2. Royalty collection regime

Following this international trend of intellectual property rights protection, Monsanto has sought to establish a system in Argentina similar to that of the United States for the soybean market, in which it charges farmers an additional fee for the technological development for each seed bag acquired. Also, the purchasers of these bags signed agreements that restrained the use of the seed. As it may result obvious, two factors determine the difference of the soy market context in both countries: the first one is the lack of the RR patent in Argentina while the second is legal restrictions in the US regarding authorization to farmers for reusing saved seeds from previous campaigns. Two factors determine the difference of the soy market context in both countries: the first one is the lack of the RR patent in Argentina while the second is legal restrictions in the US regarding authorization to farmers for reusing saved seeds from previous campaigns. The company's success in this strife would give Monsanto the dominance of the seed market in the Argentina, although up to date, it has not accomplished this (Martinolich, 2006).

Monsanto intends to implement the royalty recollection regime, also known as Monsanto Law (Buitrago, 2015), as a system in which farmers that sign contracts with the company are compelled to pay it royalties constantly enforced by Monsanto's patent right on seeds. Through a contract, Monsanto forbids farmers that buy patented seeds from reutilizing for the next sowing with the consequences of

¹³ Brazil, Russia, India, China and South Africa.

having to attend trials and paying penalties worth millions of dollars. In this way, farmers are forced to buy Monsanto seeds periodically, which means that the ancient practice of saving part of the harvest for future crops is banned (Buitrago, 2015). This issue will be explained in a more elaborated manner in chapter 3. This practice exists because soy, being an autogamous plant, can reproduce through self-fertilization and its seeds preserve their agronomic qualities from one generation to another. This characteristics make soybean an optimal choice for future cultivation, including the RR strain, which renders the seed saving right as a setback for Monsanto (Filomeno, 2013).

Despite its many attempts to charge fees or at least get some profit from external use of its claimed intellectual property, Monsanto has not managed to achieve this. Some argue that this has occurred due to the judicial system in Argentina recovering integrity under the presidency of Nestor Kirchner, which lasted from 2003 to 2007, up to the point of *The Economist* calling him a benevolent judicial reformer¹⁴ (in Anousheh, 2015), with the core of Argentine regulation on intellectual property remaining the same as it was since the early 1970s (Filomeno, 2013), thus jeopardizing the company's dominance of seed rights. Monsanto managed to implement a successful royalty recollection system in Paraguay and Brazil for RR soybeans, thus virtually deleting the right of rural producers to save seeds freely (Filomeno, 2013). The estimate number for planted seeds certified in Argentina is 25%, with the other 75% being saved seeds or seeds commercialized in the black market in which soybeans bundles are referred to as white bags (Leguizamón, 2013).

¹⁴ See *The Economist* (2005) for more details on the article.

Farmers continue to use GM seeds as its use represents an increase of 15% in profits by combining the cheap costs of these seeds and glyphosate. The application of both products was rapidly and widely spread throughout the main agricultural regions of Argentina, adopting the technology in only seven seasons compared to the United State where it took 15 years to reach the same milestone (Leguizamón, 2013). Seeds represent a key input for production in the industry, which implies that those in control of the seeds, possess the skill to influence the whole value chain of food production as well as the skill to determine the outcomes of any agricultural policy (Marin, 2015).

Nidera, the company that first commercialized RR soy in Argentina through a license as previously described, did not apply for a patent for the product because Monsanto was the company responsible for developing the RR gene (Leguizamón, 2013). In 1995, the company requested the patent for the Roundup Ready soybean, which was nonetheless denied by the Argentinian government in 2001 despite the approval for its commercialization in 1996. In 2003, the company presented alternatives using royalties charged for the use of technology included in vegetal research arguing that the current system benefited producers but not the actual developers of such investigations (Martinolich, 2006). This decision is explained by the former Secretary of Agriculture, Miguel Campos, claiming that the patent was not granted to Monsanto because the company presented the request after 12 months after the presentation of the first request in any part of the world (Martinolich, 2006).

However, the real cause for this lies in the fact that by the time Monsanto requested a revalidation of the patent, RR tolerant plants were not a novelty as they

were already sued in Argentinian soil, which is protected under UPOV¹⁵ (Leguizamón, 2013). Since then, the company has promoted projects by which there could be guarantees of benefits for the company from the use of its developed products, especially the RR herbicide, in the country. Monsanto has invested large amounts of money into lobbying political parties in Argentina (Anousheh, 2015). Monsanto's lobbying processes are considered by civil society as the cause for the absence of transparency in the legislative processes on GMOs (Buitrago, 2015).

1.3.3. Theoretical considerations on Monsanto from the Critical Theory of Robert Cox

The concepts of core and periphery were taken by Cox for the elaboration of his theory from the dependency theory, formulated by Raul Prebisch. According to the latter, South American underdevelopment is of structural nature as its economy is perpetuated by international economic relations (Hryniewicz, 2014). In this context, the United States hold the primacy of the new economy development of the world (Hryniewicz, 2014). The enforcement of the agreements marks a hegemonic approach from core nations on intellectual property¹⁶ rights through both governmental and non-governmental organizations. Monsanto is one of the actors aligned to this hegemonic strategy which, as will be explained further, benefits from it directly. For the elaboration of this point, the concept of hegemony should be defined. Hegemony was conceived by Gramsci as the leadership position that the bourgeoisie had attained over other classes. The hegemonic domination was not

¹⁵ Article 6 establishes that "Whatever may be the origin, artificial or natural, of the initial variation from which it has resulted, the variety must be clearly distinguishable by one or more important characteristics from any other variety whose existence is a matter of common knowledge at the time when protection is applied for. Common knowledge may be established by reference to various factors such as: cultivation or marketing already in progress" (UPOV, 1978).

¹⁶ Abbreviated as IP.

exercised through the state but by the structures of civil society as the basic limits of their political action (Cox, 1983).

Traditionally, this term was used as the dominance of one country over others, however this relationship referred only to States. Cox saw this concept beyond its classical conception, establishing it as an order within a world economy with a mode of production that is dominant and not merely an order among States. In fact, world hegemony is described as a social, economic and political structure (Cox, 1983). Also, he claimed that there is a close tie between institutionalization and hegemony, the former acting as an expression of the latter (as cited in Cox). This is evidenced in the formality of both agreements. Another relevant concept to the present case is predatory capitalism, which is directly studied by the author on how it had become a strong influence on society. Cox explained that capitalist production relations are the source of new social forces in the periphery (1981). In this sense, peripheral economies are dominated by those of the core, because these determine the conditions in which peripheral economies produce and extract surplus from peripheral production for its enhancement. After all, the core requires the periphery economy to be open to foreign investment, to imports of core goods and services, like soy in Argentina, and to export profits (Cox, 1992).

Despite the legal historic struggle for soybean genetically modified IP rights, Monsanto still generates considerable revenues from its activity in the country. In fact, it is the fourth country by net sales in the world, with \$969 million in 2017 (see annex 1) (Monsanto, 2017). This demonstrates that even with the problematic regarding soybean seeds, Argentina is an important market for related multinational companies. This occurs because of the extensive material capabilities that companies such as Monsanto poses in terms of production. Production is the activity that

creates the material bases for all kinds of social existence and the method through which human efforts are combined in processes of production that influence all other areas of social life (Cox, 2002). In the framework of critical theory, production is conceived as the generation of ideas institutions and social practices (Cox, 2002), thus referring to a process rather than to a group of existing things (Cox, 2002).

Monsanto is a company with more than a century of age, being related to the chemical and trait products since its creation. Throughout the years it has changed its core activities and expanded in all regions in the world, becoming an important multinational company. Its entrance into the biotechnology market made Monsanto relevant to introduce itself into the Argentinian market, an important agricultural country, providing products that enhanced the country's production. The relevance of the corporation in Argentina led the former to seek to establish a royalty collection system in the country through the government, thus complying with the purposes of UPOV and TRIPS. The theory applied to the case of study relates this behavior with that of a hegemonic bloc. Through the different insights provided in the present chapter, the first objective of the dissertation "to evaluate the relevance of Monsanto in the Argentinian agriculture industry" has been accomplished.

CHAPTER II

THE ARGENTINIAN STATE ON AGRICULTURE

2.1. The agriculture industry

In chapter I the importance of Monsanto in the biotechnology industry and the economy of Argentina was explained, but how did the country's dependency on agriculture develop? Is it really a dependency? The first section of the second chapter will provide information in order for these questions to be answered by describing the historic importance of the activity in Argentina, showing economic information of the participation of agriculture in the overall economy of the country and its exports, and then passing to the review of the soy market in Argentina with the purpose of establishing the bases for a more specific scenario between the three actors and will be further elaborated in the final chapter of this thesis dissertation.

2.1.1. Historic relevance

The agricultural activity is essential for Argentina (Marin, 2015). Historically, this sector has been the main pillar that sustained its economic development. Agriculture had an important growth during the first globalization stage¹⁷, following European models of development based on land exploitation, which managed to increase Argentina's exports participation in the world from 0,8% to 4% from 1850 to 1920 approximately (Pinilla & Rayes, 2017). The agricultural nature of the Argentinian economy relies on the richness of the Pampean region, being a vast plateau of prosperous soil with warm temperatures located in the heart of the country (Djenderedjian, 2008). The Argentinian cattle industry, another important sector of the local economy, has been tightly related to the agriculture

¹⁷ First half of the nineteenth century (Pinilla & Rayes, 2017).

sector as a complement since many plants sown in the region, such as alfalfa, were common feed for cattle during the 1890s (Švepeš, 2016).

After a slow growth during the first half of the 19th century¹⁸ (Míguez, Gelman & Djenderedjia, 2008), Argentinian agriculture experienced one of its first booms during the second half of the same period, when the country passed from being a mere producer of flour and cereal to becoming a great exporter of related products in less than three decades: in 1895, sowed terrain in the Pampas increased at least 39 times compared to its status four decades before (Djenderedjian, 2008). This was achieved through ambitious campaigns from the Argentinian government. The most important one put the increase in sown areas and agricultural development a priority (Švepeš, 2016). For this, it pursued a strong project to extend the territory of the Pampas, where many indigenous people lived. The government the swiftly proceeded to the sale of newly acquired land, which was bought mostly by businessmen, politicians and landowners from Buenos Aires, falling into the hands of roughly 400 landlords. By 1879, the government had sold 9 million hectares of land, the second largest state sale to private actors since the 1840s (Švepeš, 2016). The growing importance of agriculture had an impact on education as well, an important element for the development of the sector. The State was well aware of this. During the end of the 19th century and beginning of the 20th, the Ministry of Agriculture of the Nation, trained farmers that did not have access to education (Hirschegger, 2017) on related fields of study.

Specialized agriculture public schools, such as the National School of Viniculture in 1896, were also spread throughout the Pampean region. Institutes with a more local scope were created as well, for example the San Rafael Farm school,

¹⁸ Compared to the growth of livestock production, demand of agricultural goods or even the population. The scarce growth of agriculture in Argentina in these years made some believe that it was stagnant (Míguez, Gelman & Djenderedjia, 2008).

which nonetheless closed several times due to periodical lack of students (Hirschegger, 2017). Three agricultural schools of micro-regional scope were created at the end of the decade of the 1930s (Hirschegger, 2017), and the State played an essential role in passing agricultural knowledge to the population. For example, it created a program in which agriculture-related subjects were implemented in elementary schools of Pampean Provinces, with the purpose of generating child awareness on agricultural labor. This was a major project from the government as most farmers' children used to drop elementary school without completing it (Hirschegger, 2017).

In 1890, Argentina exported 260 kg of wheat per capita, an indicator that was increased 500 times, from 0,5 kg to 5 kg in five years (Švepeš, 2016). As explained before, food exports became the basis for high incomes in Argentina until foreign demand plummeted due to the crisis caused during the Great Depression which was also related to the fall in customs revenues, a situation that caused a chain reaction of fiscal crises (OECD, 2017). The resurgence of Argentinian agriculture started in the decade of the 60s, when an agricultural intensive model expanded across industrialized countries all over the world (Viglizzo et al., 2010). Only in the late part of this period, there were a total of 540.00 farms in the country (Lema & Gallacher, 2015). During the early 1970s, the State executed an education programme that aimed to convince its population of the health benefits of soy consumption, perceiving it as a necessity taking into account the fact that the majority of proteins came from meat-based sources in the country. The real reason behind this to increase exports and solve the balance of payment crisis of that time through reduction of meat domestic consumption. What the government was not

aware is that, with an intensive promotion of soy¹⁹, it was creating a gateway of acceptance for GM soybeans (Newell, 2009). Agricultural production in the Pampas expanded on natural lands until the 80s, when this resource was exhausted. It is during the 80s that production had to be increased through a more intensive use of external inputs, technology and management (Viglizzo et al., 2010).

2.1.2. Agriculture participation in the Argentinian economy

During the early 1990s, Argentina fell into a critical hyperinflation that originated from overwhelming spending that was common in many Latin American countries since 1982 and resulted in debt crises in many of its nations, including Argentina (OECD, 2017). The country was trapped in a severe recession that lasted from 1998 to the end of 2001 (Weisbrot et al., 2011). Agriculture played a key role in the economic recovery of Argentina since it failed to pay its national debt of \$140 billion dollars in December 2001 (Newell, 2009). By the end of the century, the seed market of Argentina was the second largest in Latin America, reaching sales of \$850 million dollars in 1997 (Newell, 2009). This occurred because of the adoption of transgenic crops in Argentina, which posed an unprecedented process of technology incorporation at a local and international level (Trigo, 2016), and boosted the industry to even higher levels of production. Even before the world became embroiled in a controversy about the future of biotechnology, Argentina promptly embraced and adopted genetically modified organisms²⁰. In 1999, when the Alert

¹⁹ Through talks and workshops in the Argentinian countryside that were sponsored by the National Institute of Agricultural Technology, as well as publications of recipe books (Newell, 2009).

²⁰ The South African Agency for Science and Technology Advancement defines it as an “plant, animal, bacteria or virus whose genetic makeup has been modified for a particular purpose” (SAASTA, 2009).

Network on Transgenics²¹ was created, 75% of Argentine soybeans were already genetically modified (Newell, 2009).

Only in the period between 2002 and 2010, agriculture has maintained itself as the top sector of exports (Weisbrot et al., 2011). This industry represents more than 60% of total exports from Argentina (Solari-Yrigoyen). It is no surprise that Argentina is a member of one of the largest economic blocs on agriculture and livestock, which is MERCOSUR, comprised also of Brazil, Paraguay, Uruguay and Bolivia, as Argentina produces food for 400 million people (Solari-Yrigoyen, 2017). Despite all of this, exports have lost relevance with time. From 2002 to 2010, exports participation in the Gross Domestic Product has decreased 6,5%, reaching 18,4% in 2010 (Wesbrot et al., 2011). Argentina is the third producer of corn, soybean oil, soybeans, and soymeal, generating 55 million tons of soybeans and 25 million tons of corn. The area of crops in all the country is of 34 million hectares, of which 20 million are used for soybeans (Solari-Yrigoyen, 2017).

In 2009, Argentina became the second largest producer and exporter of GM crops in the world, with 23% of global production in 18 million hectares under cultivation (Newell, 2009). The economy of the country grew 94% during the period between 2002 and 2011 (Weisbrot et al., 2011). In 2015 food and agriculture comprised the largest export items, covering about 40% of total exports (OECD, 2017). The agricultural sector of Argentina is the only one that has performed relatively well recently in the country while the other sectors, especially non-tradable services, have had a weak performance (OECD, 2017), proving itself the most dynamic sector of the economy during last decades (Lema & Gallacher, 2015). In conclusion, the agriculture sector is strong in Argentina, a situation that can be

²¹ Argentine organization formed by Greenpeace, the Network for Rural Reflection and others (Falkner, 2006).

explained by the rapid productivity growth and the increased demand for agricultural commodities both at the domestic and foreign level (Lema & Gallacher, 2015).

Regarding social aspects in Argentina, agriculture also provides a big impact, by generating anywhere from 18% to 35% of the nation's total jobs (Regúnaga and Rodriguez, 2015). In the period between 1996, when many innovations in technology were introduced to the industry, and the last crop season of 2015-2016 a total of 2.052.922 jobs could have been created (Trigo, 2016).

Tax income imposed on GM soybeans exports have been allocated to fund programmes of assistance, for example the Plan Jefes y Jefas de Hogar, which assigned \$48 dollars a month to unemployed household heads (Montenegro, 2012). On the other side, the adoption of GM crops has brought many issues to the country as well, such as deforestation of land that is cleared for GM sowing and concentration of land tenure. The former is caused due to the tendency of soybean crops to be sown in large farm monocultures which required the clearance of forests to make way for soybean plantations. However, this adoption has evaded much of the public consumption that surrounds human consumption of GM food as Argentina's GM production is exported mainly as animal feed (Newell, 2009).

2.1.3. The soy market

One of the main products that comprise agriculture exports from Argentina is soy. Soybeans are a commodity used mainly as feed for pigs and chicken. Its oil is used in processed foods (Anousheh, 2015). Compared to other products of the sector, soybean production is the one that has grown the most since its boom in 1970 and 1971, as it is clearly shown in the following graph:

GRAPHIC 3

MAP OF ARGENTINA WITH THE ZONE OF GM SOY PRODUCTION AND PAMPAS ECOREGION HIGHLIGHTED



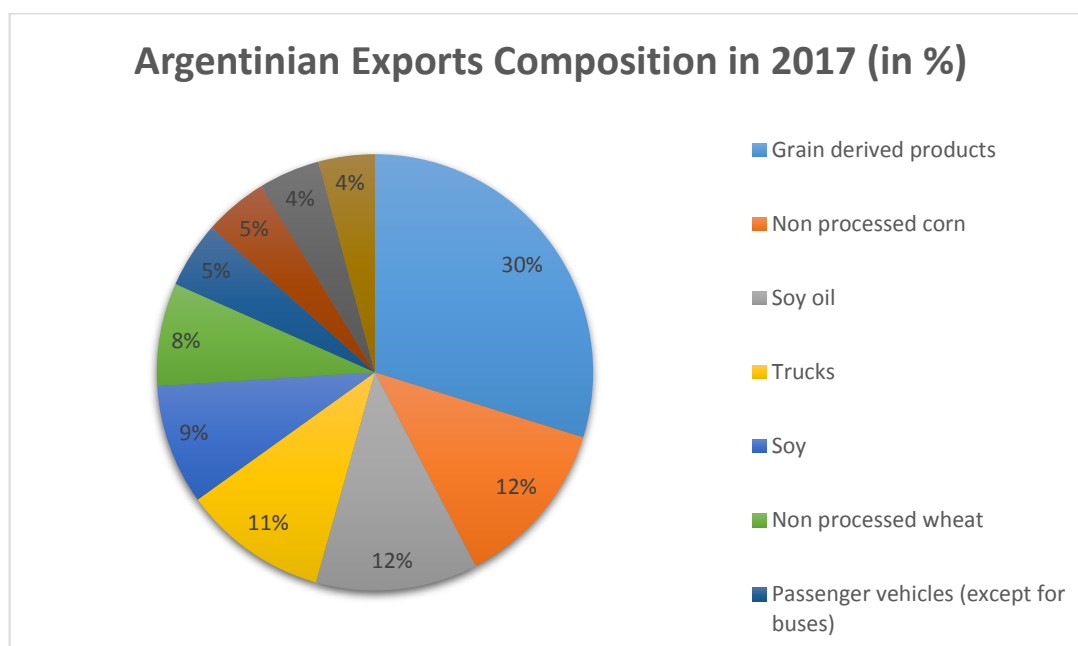
Source: Leguizamón (2013).

Elaborated by: Leguizamón (2013)

Since 1970, when it started, soy production has even surpassed corn by almost 2 times (Mastrinolich, 2006). The soybean market was forever transformed with the addition of GM seeds, by introducing the technological package of GM, which started in the Pampa's, a region that is the historic center of agricultural production for exports and covers the core provinces of Buenos Aires, Córdoba, Entre Ríos, La Pampa, and Santa Fe. More than 80% of GM soy is produced in this region. Years later, production would expand into the northern provinces of Chaco, Salta and Santiago del Estero (Leguizamón, 2013), which is demonstrated in the graph below.

GRAPHIC 4

ARGENTINIAN EXPORTS COMPOSITION IN 2017 (IN %)



Source: CEPALSTAT (2017)

Elaborated by: Juan Carlos Borja J.

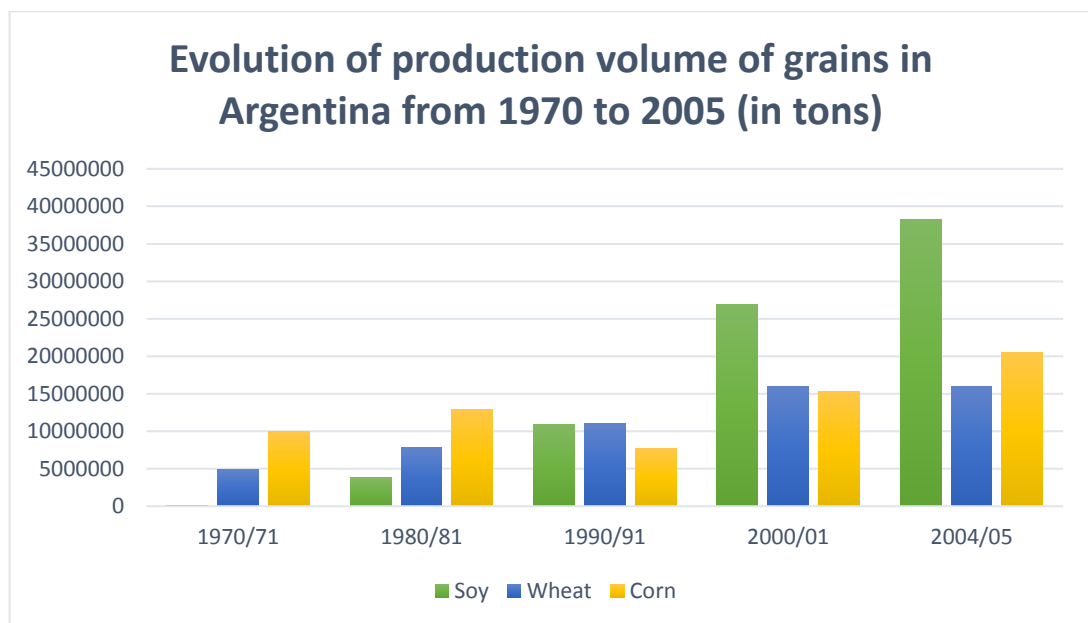
From 1990 to 2010, genetically modified soybean had been the dominant crop as it expanded swiftly at the expense of diverse crops on already cultivated lands, through the use of the ‘soybean package’, a simple, effective and, most importantly, cheap product for local farmers (Viglizzo et al., 2010).

Many claim that foreign income derived from soy exports aided the revival of an almost dead economy during the 2001 crisis. GM soybeans became Argentina’s most extensive GM crop with almost 90% of the 12 million hectares sowed in the period between 2001 and 2002, and almost half of all the agricultural production in Argentina by the period of 2002-2003 (Newell, 2009). This product has an important participation in the exports composition, not only of agriculture commodities but of every other commodity overall. Soy oil represents 6,6% of exports while soy per se represents 4,9% of the exported products. The commodity

at the first place by export participation is flour derived from oleaginous seeds such as corn, wheat and, of course, soy. This is 16,4% of exports. Just summing the first and second products described, soy and its derivatives represent approximately 12% of Argentinian total exports (CEAPSTAT, n.d.), which is depicted in the following figure:

GRAPHIC 5

EVOLUTION OF PRODUCTION VOLUME OF GRAINS IN ARGENTINA FROM 1970 TO 2005 (IN TONS)



Source: Martinolich (2006)

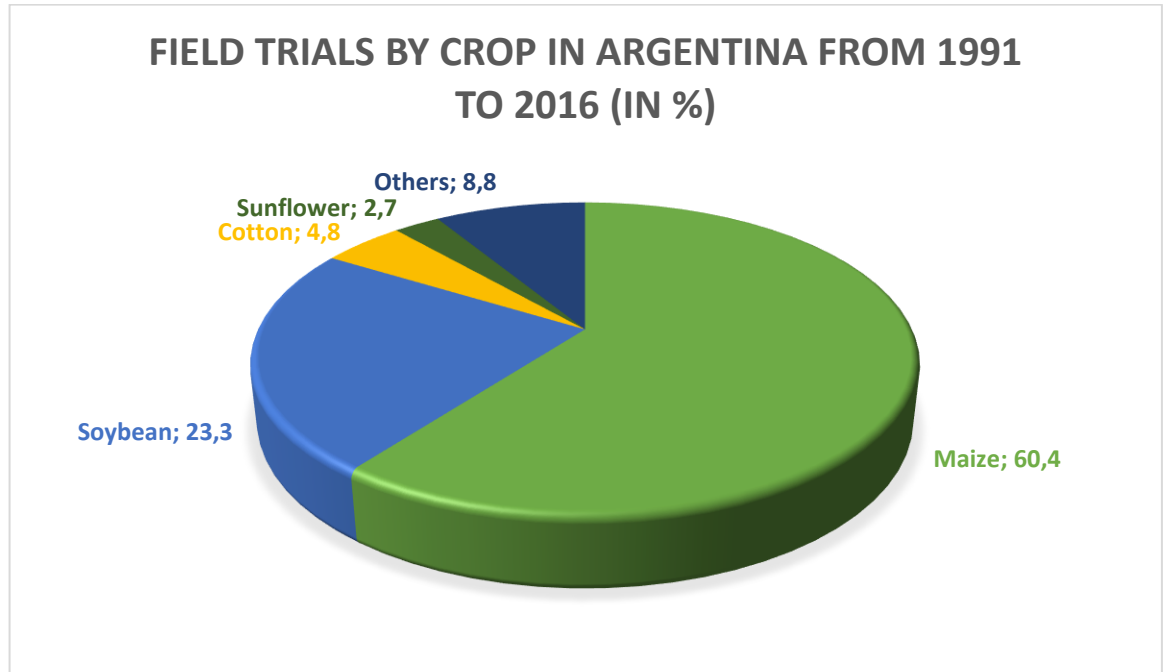
Elaborated by: Juan Carlos Borja J.

Soy is exported mainly to China, South and East Asia, and the European Union. Argentina is the third largest producer and exporter of soybeans in the world (Leguizamón, 2013). The main incentive for this milestone can be traced back to the introduction of GM soybeans. Since the first GM trait for soybeans was inserted in the plant's production, the number of hectares in which it is sowed and the gross benefits from its production have grown exponentially. From 1996 to 2016, both

indicators have increased roughly 56 times, the latter from 7,40 to 414 million dollars, data that can be shown in a deeper manner in the graph below.

GRAPHIC 6

FIELD TRIALS BY CROP IN ARGENTINA FROM 1991 TO 2016 (IN %)



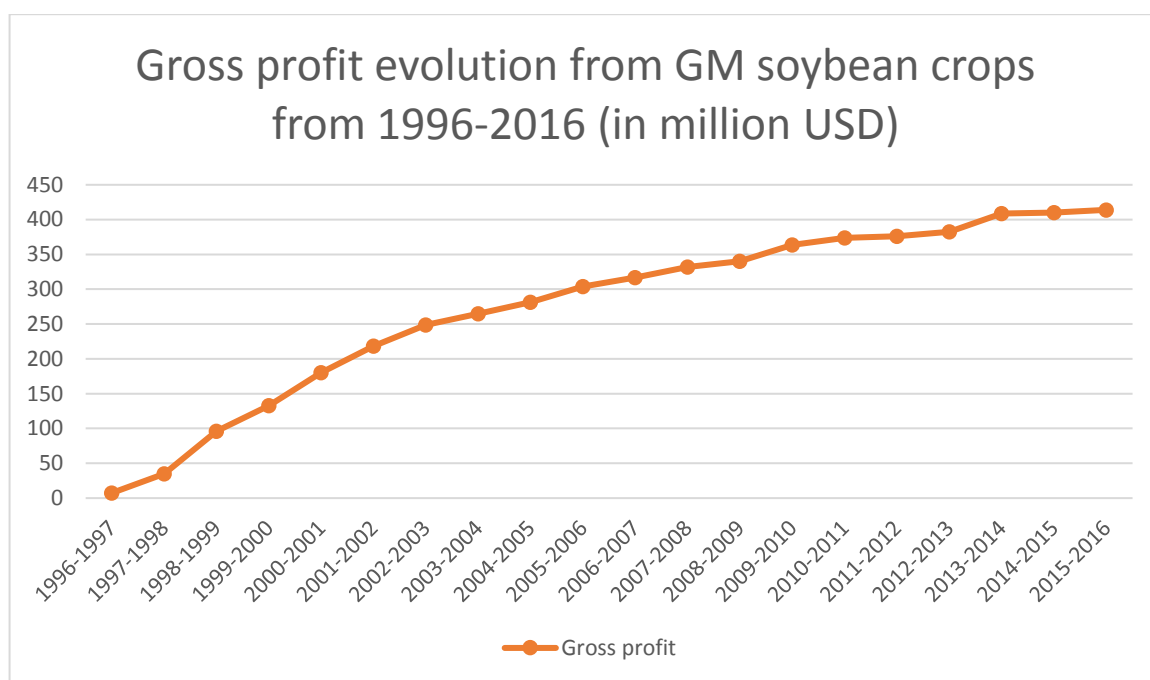
Source: Trigo (2016)

Elaborated by: Juan Carlos Borja J.

Adoption of GM soybeans greatly enhanced this process due to the reduction of production costs (Trigo, 2016), which are a result of savings from reduced pesticide use and soil erosion from less intensive tilling (Newell, 2009). This growth has been of grand benefit for the State as well. In the distribution of profit from GM soybeans, 27,4% belong to the State, the second major share after the farmers'. This share has increased almost 6 times in the same period of the previous indicators, reaching a number of \$3,080 million dollars (Trigo, 2016), as demonstrated in the following figure:

GRAPHIC 7

GROSS PROFIT EVOLUTION FROM GM SOYBEAN CROPS FROM 1996 TO 2016 (IN MILLION USD)



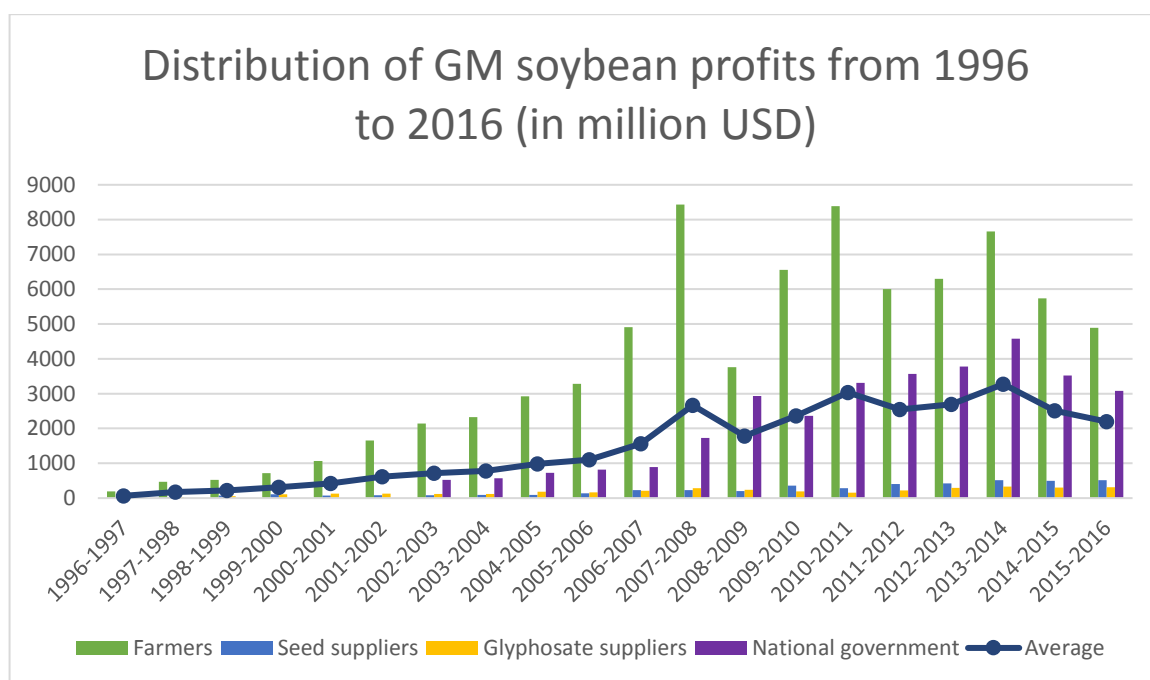
Source: Trigo (2016)

Elaborated by: Juan Carlos Borja J.

It is comprehensible why soybeans are the products with the second most trial crops from 1991 to 2015, the first one being maize (Trigo, 2016), a relation that can be clearly distinguished in the following graph:

GRAPHIC 8

DISTRIBUTION OF GM SOYBEAN PROFITS FROM 1996 TO 2016 (IN MILLION USD)



Source: Trigo (2016)

Elaborated by: Juan Carlos Borja J.

Many of these are requested to be evaluated by different multinational companies, which leads to the approval for commercialization of GM types. From 1996 to 2007, eleven events and seven GM crop types were approved to be commercialized (Newell, 2009).

2.2. The Law of Seeds

The hypothesis and main objective presented for the current dissertation included the depiction of civil society as the essential actor that prevented Monsanto from influencing the modification of national legislation to the latter's advantage. The law that will serve as the realm in which these actors clashed is the Law of Seeds and Phytogenetic Creations, a major legal body regarding the framework of genetically modified organisms in Argentina. This section will commence with the

description of the original version of the law that was drafted, to then explain the amendments attempts on this regulation and conclude with an overview of the institutional framework that was established with the creation of this law.

2.2.1. Original version

Because of the importance of agriculture to the Argentinian economy, since the 70s, the Argentinian State started to introduce regulations on the agricultural industry regarding many aspects such as the intellectual property rights and the management of seeds. The Law of Seeds was introduced in March 30, 1973 as the main legal body to regulate the concept of protection to the property of phylogenetic creations²² (Montenegro, 2012). It aimed to become an efficient mechanism to provide minimum intellectual rights to the property of the varieties creators. Since its introduction, the seeds market has experienced deep technological, economic, productive, legal and institutional alterations that justify the need of a specific codification for the subject. It is the legal tool created for the intellectual protection of new vegetal varieties created for the application of technological and scientific knowledge. When conceived, the elaboration of this law was justified by the lack of insufficient legislation at the time, the changes in the market as well as the growing responsibility of the State to regulate seed commercialization (Rapela, 2016).

Going by the code number 20.247, this law was drafted by the agriculture Ministry and used the Plant Variety Protection Act as a base for this. In the end, it was the product of the joint work between agronomist engineers and nonprofessional farmers of the seed activity that belonged to the National Directorate of Agricultural Audit and Commercialization, the National Institute of Agricultural Technology, also known as INTA, and the private seed industry of Argentina (Rapela, 2016). The

²² It is defined in article 2 as “any cultivar obtained by discovery or by the application of scientific knowledge to the inheritable improvement of plants” (Law of Seeds, 1973).

law was reinforced on 1990 and on 1991 the National Seed Institute was created as the agency in charge of this area (Montenegro, 2012), through decree 2183 (Anousheh, 2015). This organization was created with the transformation of the already existing National Seed Service, which gave it economic self-sufficiency, jurisdiction for the entire country and representativity to participate in both public and private law (Rapela, 2016). This was also part of a macroeconomic reform program implemented in 1990, which represented an important shift of direction for the agricultural sector (Lema & Gallacher, 2015).

2.2.2. Amendment attempts

When created, the Law of Seeds was an advanced instrument for its time, being source of similar initiatives throughout Latin America. Nonetheless, several arguments from both the government and the private sector were presented regarding an update for the law, which may have a significant impact considering that deep changes have occurred in the industry since the enactment of the law. These include evolution of legal figures such as the agricultural producer, which has morphed into more complex entities both natural and juridical, individual and collective (Rapela, 2016). Private companies question the effectiveness of this law arguing that it does not provide protection for innovation investments (Marin, 2015). An amendment stated to explicitly protect producers from being charged with royalties on saved seed was passed on 1992. It also established measures to avoid farmers from receiving sanctions for seed savings. In 1996, resolution 35 was proposed introduced as “Farmer’s Privilege” and sought to add a requirement for authorization from the seed cultivator to store seeds outside the private property of the producers. When presented, the law passed but eventually got null by 2005 (Anousheh, 2015).

In 1994, a new regulation by the name of “The Law of Patents of Invention and Utility Models” was introduced as a measure from the Argentinian government to comply with the requirements of TRIPS, which was briefly reviewed in chapter I. However, the law was labelled as null and void due to the existing Law of Seeds (Anousheh, 2015). In 2003, two important moments occurred. The first one is the presentation of resolution 52, a regulation that aimed to establish a system where rural producers may be fined if they refused to share information about the seeds they possessed. The second was the undermining of the private royalty system known as *Regalías extendidas*, which was an initiative of four agro-organizations and proposed to the congress as a Proyecto de Comunicación. The former did not pass (Anousheh, 2015). During the final quarter of the same year, Monsanto halted its own seed commercialization in the country and in 2004 it stopped soybean research and marketing, both actions as a strategy to push the State into negotiations about technology and compensation fees. With the same aim, in 2005, the Argentinian government called a meeting between functionaries of the Ministry of Agriculture of countries of MERCOSUR to gain support from the bloc against paying Monsanto royalties from soybean crops (Newell, 2009).

Finally, in 2006, Monsanto presented a lawsuit against European importers of Argentinian Soy to the European Union. For this, the government of the South American country played its role as a third party in the case, which ended with the European Union ruling against the transnational corporation in 2010 (Anousheh, 2015). Several decrees have been generated depending on the circumstances such as that established for the Law of Sanitary Defense on Agricultural Production (Tamasi et al, n.d.). In 2016, four modification projects were presented, with the addition of two more as an initiative from associations of production and seed farmers (Rapela,

2016). In the end, the real issue appears when determining the ownership of the rights of commercial seeds because two systems of intellectual property overlapped: the Law of Seeds and the Law of Patents. The latter is utilized by private companies to protect its enhancements on seeds through genetic engineering. Focusing on the Law of Patents, those who possess a patent generated by a genetic event can prevent farmers from saving genetically modified seeds or researchers from using them for new investigations as well as utilizing future generations of this seed. There is a critical lack of balance between both systems especially when addressing farmers who, with the Law of Seeds, possess a special privilege by which they could use any seed freely; nevertheless, the Law of Patents theoretically prohibits them from doing so (Marin, 2015).

The last debate focuses on a lineal base of soy Patents from Monsanto and experienced a strong rejection from many sectors of the industry to a new form of system based on contracts of biotechnology development which the multinational corporation made and applied since 2015. With the purpose of neutralizing this type of control based on the Law of Patents and not on the Law of seeds, a figure of public order was introduced, which once again gave a special regime for farmers explicitly or implicitly through many law projects (Rapela, 2016). This is the main point of conflict as farmers special privileges are implicitly stated in the Law of Seeds as well as the UPOV of 1978 (Mastrinolich, 2006). The various efforts to modify the Law of Seeds have failed because of the difficulties of appeasing all the interests and positions that come from the various social and economic functions that appear with the use of seeds (Marin, 2015). In 2015, the agriculture Ministry informed that the government would sign a special decree to modify the Law of Seeds with the purpose of constraining Monsanto from using private contracts in

which it charged tariffs for harvested grains and even intended to play a role as a supervisory body that determined if a harvest comes from patented seeds by the company or not (Marin, 2015).

2.2.3. Related institutions

The Law of Seeds has established and maintained an important framework regarding agricultural production. Keeping this in mind, it is relevant to review the institutions that are related to this law. Article 3 of the law establishes the Ministry of Agriculture and Animal Husbandry, with the National Seed Commission, as the entity that “shall implement this Law and establish the requirements, standards and tolerance levels, both in general and for each class, category and species of seed” (Law of Seeds, 1973). The latter institution is set up within the jurisdiction of this Ministry, and has the nature of a collegiate body, with functions assigned to it by related regulations as well as those pointed by the Law (Law of Seeds, 1973). In summary, The National Seed Commission is a corporatist committee that advises the Ministry in the rule making for the seed market (Filomeno, 2013).

INTA also plays an important role in the problematic as it is the main government organization for research and development. Together with the National Service of Agri-food Quality and Health, also known as SENASA, possesses huge budget allocations, which only from 2007 to 2012 increased almost 3 times, from \$134 million to \$382 million. The latter is in charge of inspection services regarding plants and animals (Lema & Gallacher, 2015).

Since 1991, the framework of Argentine regulations has authorized more than 2.000 field trials that include different combinations of crops and traits, with soybean being one of the most tested crops (Trigo, 2016). In Argentina, the institution in charge of controlling transgenic food for consumption and agriculture

is the Secretariat of Agriculture, Livestock, Fishery and Food²³. This organization provides the license for commercializing this kind of products. The monitoring of compliance of activities with transgenics is responsibility of the National Seed Institute and the National Service of Agri-food Health and Quality²⁴. It is important to mention that when talking about transgenics, it refers to transgenic crops which are genetic modifications for agricultural purposes (Schahczenski & Adam, 2006).

There is also the National Commission for Biotechnology Agri-food Assessment, created on 1991, is comprised of 21 members from institutions that are the Secretariat of Environment and Sustainable Development, the National Food Institute, the National Institute of Sustainable Technology, the National Institute of Agri-food Technology, the SAGPyA, the SENASA, the National Council of Scientific and Technical Research, the University of Buenos Aires, representatives from the private sector, the Association of Argentinian Seed Farmers, the Chamber of Agricultural Health and Fertilizers, the Argentinian Biotechnology Forum, the Chamber of Veterinarian Products, and the Argentinian Ecology Society (Tamasi et al, n.d.). In 2004, the Office of Biotechnology of the Secretary of Agriculture was established with the purpose of coordinating the overall policies on agricultural biotechnology, for which it developed a Strategic Plan for Agricultural Biotechnology to function from 2005 to 2015. This meant a reaffirmation of the critical role that biotechnology plays as the main source for technological solutions for the productivity of agriculture in Argentina (Newell, 2009).

²³ Abbreviated as SAGPyA. Since 2015, it has been better known as MINAGRO, and this term will be used accordingly (Trigo, 2016).

²⁴ Abbreviated as SENASA.

2.3. The state: a theoretical approach

Now that the importance of agriculture for the Argentinian economy has been determined, and the legal framework regarding genetically modified organisms has been depicted, it is appropriate to set the theoretical bases through which this information will be analyzed. For this, key concepts from the Critical Theory of Robert Cox that were briefly described in the introduction will be further elaborated in this section. The first one will be the concept of State forms, then, term of external social forces will be explained. The present chapter will end with a brief review of the external social forces that influence the Argentinian State in the current case of study.

2.3.1. Forms of State

According to Pearson and Rochester, the actor defined as State or more specifically as nation-State appeared in history in the half of the 17th century, after the treaty known as the Peace of Westphalia. It is since this moment that the State would be embodied into four elements: territory, government, population, and sovereignty, and would be the basic unit of the international system (as cited in Buitrago, 2015). The concept of State is designated to a political aspect of an entity conceived in economic terms primarily (Cox, 1992). The various forms of State are determined by the different degrees of autonomy that they possess in relation to their external environment, which is the inter-state system and the world economy. The shape of states take form in a context in which society may sustain it through legitimacy, below it, and the external environment that affects its behavior and form above or beyond it. States, along with the domestic society, participate in the development of the external politic and economic environment (Cox, 2002).

Legitimacy is the degree to which the State is securely supported by its population. Its condition can vary enormously, depending on the context of each State (Cox, 2002). It is based on popular support for political authority going from the bottom to the top (Cox, 2002). Through institutionalization, the State pursues stabilization and perpetuation of a particular order, reflecting power relations and encouraging collective images consistent with such (Cox, 1981). Such consolidation of the State can be achieved through different forms of State, and it is a permanent process that has to be continuously attended to by the authorities (Lindberg, 2013).

The State is comprised by the institutions that rule in an authoritative manner in relation to the balance of social forces that can either sustain or undermine them (Cox, 2002); these institutions are expressions of State forms (Lindber, 2012). Institutions, material power, and ideology combined together are means to maintain hegemony (Cox, 1981). Human institutions are identical with human history (Cox, 1981). Domestic politics also play an important role on state configuration. According to Leonard (1980), they are a political power dimension of multinational companies that are established as local circumstances that possess a fundamental impact on the corporation. This order is reflected in policies as these are an expression of State interests (Cox, 1981).

2.3.2. External social forces

A very important element in the critical theory of Robert Cox is social forces. According to the author, they are society shapers that go beyond the classical realms of political and military interactions of states. It is what defines the larger sphere of world order (in Moolakkattu, 2009). Social forces overflow state boundaries (Cox,

1981). Whether activated by the state itself or social forces, historical analysis is the method through which the current state form is determined. Expansive capitalism is an evidence of transnational social forces that have influenced states in the world structure (Cox, 1981). In fact, there exists an internationalization of the state as well as a tendency of international capital to dominate the national one (Cox, 1981). This influence is present when the economic life of subordinate nations is penetrated by and intertwined with that of powerful nations, situation that can be accomplished by transnational companies (Cox, 1983). Forms of State change under the influence that emanate from global orders and pressures from civil society (Moolakkattu, 2009). In chapter 3, social forces that configure the form of the state from civil society as only those from external actors will be reviewed in this section.

2.3.3. The influence of external social forces on the Argentinian State

The state may be vulnerable to foreign corporations since there is a powerful globalizing economic trend aimed to achieve a market utopia on a world scale, which includes the opening of national economies by deregulating transactions (Cox, 1992). Argentina is one of the developing countries that are considered to be the most vulnerable to the influence of multinational corporations (Leonard, 1989). Also, the extent to which Argentina has committed and accepted biotechnology, considering opposition from many countries or at least a precautionary approach towards it, shows an insightful case of hegemony in practice (Newell, 2009). Nowadays, every seed producer in Argentina produce new varieties of the Roundup Ready soybean (Martinolich, 2006). Even the oil public company, Yacimientos Petrolíferos Fiscales, produces this herbicide (Blois, 2016).

Argentina's domestic politics generate an impact on global ones just as the latter shape policies at the national level. This position is exemplified in the proactive participation of the country in the United Nations biosafety negotiations and as a proponent of the World Trade Organization case brought against the European Union's regulations on genetically modified organisms (Newell, 2009). Argentinian participation in the global economy and its absorption of knowledge on GMOs provide an insight of the strength of transnational forces on the country as well as of local ones such as agriculture, which has been promoted regardless of the ideological trends between governments. For example, when President Néstor Kichner rose to power, followed later by her wife Cristina Kirchner in the next period, activists hoped that the State would take a different approach regarding biotechnology, however, successive governments have still committed to promote it (Newell, 2009). The current government, which was elected in 2015, inherited an economy jeopardized by the risk of experiencing another severe crisis. To solve this, the country may correct the various imbalances with reforms that aim to stabilize the economy, including the elimination of export taxes except for soybeans, which were only reduced (OECD, 2017).

The review of the historic importance and the evolution of agriculture in Argentina, the overview of economic relevance of this activity, and soy more specifically, for the national economy, and the examination of the forms of State as well as the external forces that influence it, have set the bases to achieve the second objective of the present dissertation, which is "to review the evolution of the legislation of agriculture industry and how the government has managed it".

CHAPTER III

THE LEVEL OF RESISTANCE OF CIVIL SOCIETY

3.1. A critical perspective of civil society and related elements

Chapter III will start by setting the theoretical bases with which civil society will be analyzed. For this to be performed, the definition of civil society will be provided from the lenses of Critical Theory first, including its relation with the State and the framework in which it operates. Next, the concept of hegemony will be studied in a deeper manner than that of chapter I, focusing more specifically on its rapport with counter hegemony instead of the role of the corporate world in the matter. The current section will finish by explaining the conceptualization of forces from civil society developed by Antonio Gramsci, and adopted by Robert Cox, the main author of the theory that is being used.

3.1.1. What is civil society? An answer from Critical Theory

Civil society comes from the Latin term *societas civilis*, with *societas* being any kind of society or association, whereas *civilis* refers to the citizen. Etymologically, this term is the society of the citizens, or the association of citizens (Buitrago, 2015). According to Latour, this term has been conceived as a natural realm of freedoms and activities that acts outside the politics legitimating sphere (as cited in Rose & Miller, 1992). Nowadays, this concept has been designated to define autonomous groups, in relation to both the State and corporate power, that possess the capacity to express and pursue collective ends of social improvement and emancipation²⁵ (Cox, 2002). However, it has become steadily less accurate to refer

²⁵ In this sense, it is relevant to briefly explain how social movements act within a complex context. Collective action is an answer to political restrictions. A social movement is based on social and compact social networks that include link structures (Tarrow, 1998). For the present case of study, an important factor to determine how

to societies as confined groups within territorial borders; instead, it should be viewed as a stratified global society in which global elites may have the impetus in shaping social order (Cox, 1992).

Gramsci perceived civil society as a realm in which the existing social order is established. It can also work as the realm in which a new social order can be founded (Cox, 2002), this is why civil society can act as both shaper and shaped and, in other words, is a potential agent of transformation as well as an agent of reproduction and stabilization. This is derived from the fact that civil society appears to be autonomous up to a certain point and could be more fundamental than the State itself (Cox, 2002). However, in the end it is a heterogenous group considering that it is comprised of several actors with different capacity of action, and different interests that may even be opposed to each other (Buitrago, 2015). This does not imply that civil society is permanently, or at all, seeking to replace the State. The default purpose of civil society is to be certain that governmental institutions and its authorities accomplish the promotion of its citizens' rights and support their causes (Buitrago, 2015). More than that, civil society is the space in which those disadvantaged by the world economy's globalization seek alternatives and mount protests (Cox, 2002).

The distinction between civil society and the State is determined through their nature regarding human activity. The former is based on contract and market relations while the latter is focused on maintaining the requisite conditions for markets and maintaining internal peace and external defense. Nevertheless, they are interpenetrated (Cox, 1981). It can be stated that there exists a delicate limit between

can diverse organizations of a heterogenous group such as civil society unite for a common purpose is the social networks developed within the context of soy production.

what makes civil society an inherent element of the State and what separates the former from the latter. The first relation refers to civil society constituting the State by participating in democracy exercises, whereas the second relation in which civil society defend its own rights. In the end both actors are closely tied to each other (Buitrago, 2015).

The state cannot take any decisions autonomously because non-governmental actors can exert a strong pressure when their interests may be at stake (Buitriago, 2015). It is important to remark the mobilizing capacity of non-governmental actors outside institutions and country borders. This is a bottom-up globalization in which these transnational actors can operate peripherally from the parliamentary politics system, thus defying political organizations and establishing interest groups. This is achieved by the international civil society, which is comprised of a group of non-governmental organizations with borderless operations that can be formally and non-formally constituted organizations, the former being movements and any kind of citizen associations (Buitrago, 2015); in the end international civil society is focused on issues that overflow territorial boundaries. Nevertheless, the scope for the present case of study will remain at the local level in Argentina.

3.1.2. Counter hegemony

Hegemony manifests itself as the acceptance of ideas and is supported by material resources and institutions that are originally determined by social-class forces that occupy a leading role within a State but are projected on a global scale (Newell, 2009). The first approach that Gramsci took regarding hegemony was attained by applying it to the bourgeoisie, more specifically the mechanisms of hegemony of the dominant class, a concept that allowed him to distinguish cases in which a hegemonic position over other classes had been established by the

bourgeoisie. This first outlook was strongly rooted in civil society (Cox, 1983). This initial perception led Gramsci to transfer the concept of hegemony to that of the State, concluding that when the different levels of the government were indeed constrained by hegemonic groups and that the concept of State was not only to be based on governmental elements (Cox, 1983).

Of course, the original concept of hegemony was based on local society, which will be applied to the current actor of study: organizations of civil society. Nevertheless, it is important not to forget the implications of hegemony on the world order. According to Gramsci, at the international level, hegemony does not work only as an order among States but as an order within a global economy that follows a dominant mode of production, capitalism, thus penetrating into every nation and linking into other subordinate modes of production (as cited in Cox, 1983). Capitalism, for example, is a global force itself as gigantic corporations based in diverse parts of the world compete for shares in a world market (Cox, 2002).

According to Gramsci, the dominant group is coordinated concretely with the general interests of the subordinate ones (Newell, 2009). When a structure is hegemonic, what critical theory suggests is to look for a counter one (Cox, 1981). Counter-hegemony is an organized social challenge that eventually replaces the former political order through the creation of an alternative hegemony in the realm of civil society. Counter-hegemony also provides a viable political alternative supported by a coalition of social forces (Ramesh, 2008). Gramsci claimed that the working class possess the capacity of building a counter-hegemonic coalition to defy the established order. To maintain hegemony, any social group or class must represent the most hegemonic force in a particular society (Im, 1991).

Counter-hegemony implies the creation of an alternative hegemony in the realm of civil society in preparation for political change in the whole structure (Pratt, 2004). A dominant position and function in the economy is necessary but not enough for hegemony to be perpetuated as political and ideological bases are also needed to achieve this (Im, 1991). Morton claims that Counter hegemony shall adopt the organizational capacity to set a rival historical bloc to the prevailing hegemony by sustaining a positional war (as cited in Carroll, 2006). In this sense, a subaltern class rises against the dominant one and aspires to establish another world vision and can only become hegemonic in turn by passing from the economic and corporative state of action to an ethic-political one (Campione, 2005).

3.1.3. Gramsci's conceptualization of forces

Gramsci's conceptualization of the relation of forces will serve as base for the analysis of the participation of civil society in the presented problematic. This method provides a chance for elementary exposition of science of politics, approached as a practical framework for research (Gramsci, 1999), through the study of three levels that, in summary, are: the relation of social forces, which means the objective relations established by the degree of development of the material forces of production; the second level addresses the question of consciousness, which is the determination of a specific motivation as the engine that moves different groups towards a same collective aim; the third level is the relation of military forces, referring to the morale of a population and the degree of coherence or disintegration among people (Cox, 2002).

The first level for the conceptualization of forces is the relation of social forces which is closely tied to the structure, thus being objective, independent of

human will and can be measured through the use of systems of exact sciences. Fundamental data provides the insights necessary to determine if there exists the needed conditions for a society to be transformed. This level reviews the degree of realism and practicability of the various perspectives in the groups of which a major section of civil society is comprised. The following moment of the method is the relation of political forces, which evaluates the degree of organization, homogeneity and self-awareness accomplished by the various groups that wish to pursue a common objective. For this, the moments of collective political consciousness, depending on how they manifested in history, are divided into levels for its analysis and differentiation (Gramsci, 1999).

The first and most basic of these levels is the economic corporate one, in which members of a determinate professional group stand by one another and create a collective awareness of their homogeneity and unity. The second moment is when this awareness, or consciousness, is attained through interests among all members of a social class. The third and final moment occurs when the individual comprehends that his or her own corporate interests transcend corporate limits to the purely economic class; this interests become the interests of other subordinate groups, rendering this third moment as the most political one in which the unison in all levels shall prevail, spreading throughout society, creating the hegemony of an elementary social group over the others. All these moments perform at a socio-economic level, horizontally, and at national level, vertically, thus diverging and combining in various kinds (Gramsci, 1999).

An additional relevant concept that Cox took from Gramsci regarding the second level of the relation of forces is the elaboration of a common strategy that subordinated the world economy to a regime of social equity. This implies the

construction of a counter-hegemonic historic bloc that has the skill to confront a hegemonic formation of globalization in a long-term position (Cox, 2002). It is also important to determine the nature of the civil groups of the case, through the classification given by Gramsci: organic or conjunctural. The former is structural, long-term or relatively permanent, whereas the latter is a short-term phenomenon of the moment (Cox, 1983).

The third and last moment is based on the relation of military forces, which can be directly decisive from time to time. In this moment, two levels shall be remarked: the military level in the technical sense, and the level known as politico-military, a term that acts as a synonym of political action that has the potential of causing military consequences in this way: to destroy the potential of the dominant from within (Gramsci, 1999). It is also important to determine their nature which can be organic or conjunctural. The latter refers to those with an occasional, immediate or almost accidental nature that depend on organic movements, thus not posing a long term significance in history whereas organic organizations generate socio-historical criticism, which focus on wider social groupings beyond top leaders and public figures (Gramsci, 1999).

3.2. Agricultural organizations in Argentina

The second section of this chapter will start by describing the main civil organizations relevant to the case of study with the purpose of clustering the thousands of farmers that may have been affected in important matters regarding the agricultural sector. The rest of this part of chapter III will focus on evaluating the actor's participation in politics and the mobilization capacity of the presented agricultural organizations.

3.2.1. Main actors

As previously stated, civil society is a heterogenous actor, however, if the interests of different groups are similar they may form a bloc or coalition to fight for such interests, a reason for which it is important to group the main organizations that participated in the case of study, even if they belong to a specific sector which is agriculture. Five major agro-organizations acted against Monsanto and any other company that attempted to dominate the market of agriculture in Argentina: The Argentinian Rural Society, The Argentinian Agriculture Federation, The Argentinian Rural Confederacies, the Inter-cooperative Agricultural Confederacy, and the Confederation of Rural Associations of Buenos Aires and La Pampa which may have stood a real barrier to stop Monsanto's efforts from influencing local policies (Anousheh, 2015). These organizations pose a significant group that stands for civil society, as they are comprised of smaller units of people.

The first agricultural organization in the country is the Argentinian Rural Society²⁶, founded in 1868, roughly 100 years before Paraguay's or Brazil's most important organizations in this matter were created. When it was conceived, the SRA was an elitist organization that accepted the wealthy and refused State intervention in their business (Anousheh, 2015). The SRA identifies itself as a civil association and its main objectives are to promote human stability in the countryside, to improve rural lifestyle, to cooperate in perfecting techniques, methods and applications that enhance the development and progress of the agricultural industry, and to assume a more effective defense of agribusiness interests (Sociedad Rural Argentina, n.d.). This organization was founded as an

²⁶ Abbreviated as SRA.

elitist association of landlords of large terrains in the Pampas and are interested in trade and finance (Filomeno, 2013).

On the other hand, there is the Argentinian Agriculture Federation²⁷, which initially opposed the SRA as it was founded by small producers in 1912 (Anousheh, 2015). The Agricultural Argentinian Federation is a private entity that was established after a strike declaration of land tenants and sharecroppers was redacted in June 25, 1912, an event that is recorded as the Cry of Alcorta (Federación Rural Argentina, 2014). The FAA is comprised of 100.000 farmers that are strongly tied to a cooperative system, thus leading protests against the changes to seed laws that aim to protect Monsanto's technology (Newell, 2009). The FAA is comprised of family farmers that are organized in subsidiaries, youth centers and member entities that are scattered throughout the country (FRA, 2014). In 1932, many small cattle owners wanted to join the SRA, however, they did not meet the necessary requirements, which is why they created the Confederation of Rural Associations of Buenos Aires and La Pampa²⁸ (Anousheh, 2015).

CARBAP was constituted in 1932, after an assembly was gathered by ten rural societies in the town of Nueve de Julio. Conceived after the crisis context that started in 1930, this confederacy has the goal of generating an entity that reflects the needs and thoughts of those that are tightly related to the agricultural activity. Nowadays, 114 organizations from the provinces of Buenos Aires and La Pampa comprise the CARBAP, representing 34.000 farmers of all the region. At a national level, this organization is represented by the CRA (Confederación de Asociaciones Rurales de Buenos Aires y La Pampa, n.d.). There is also the Inter-cooperative

²⁷ Abbreviated as FAA.

²⁸ Abbreviated as CARBAP.

Agricultural Confederacy²⁹, created in 1956 by cooperatives of producers of small and medium size (Filomeno, 2013).

It is an organization that groups the agricultural cooperative sector in the country, comprised of 10 federations that unite 120.000 agricultural cooperative companies and its main purpose is to represent and defend the interests of affiliated producers, federation and the agricultural industry as a whole (CONINAGRO, n.d.). Finally, there is the Rural Argentinian Confederacies³⁰, which was established in 1943, and it is made up of 16 confederacies and federations which are comprised in turn of 300 rural societies from all the country. Approximately 109.000 agricultural producers are represented by the CRA, considering that either small, medium or big producers are welcome to the organization (Confederaciones Rurales Argentinas, n.d.).

3.2.2. The impact of agriculture on civil society and its participation in politics

Considering that the relevance of agriculture in the Argentinian economy was established in the previous chapter, a relevant question to this one would be: what is the impact of agriculture to local farmers? Argentina is a country where agriculture generates strong cultural resonances that are closely related to the nation's identity, which guarantee rural issues a high place in the political agenda. The usual discourse in the country regarding biotechnology for agriculture is that it represents an economically significant, safe, socially beneficial and environmental-friendly technology (Newell, 2009). Traditionally, farming was performed in medium and small sized family farms that mostly used their own land, workforce, loans and

²⁹ Abbreviated as CONINAGRO.

³⁰ Abbreviated as SRA.

agricultural equipment that was enough to cope with all necessary activities of the production season (Senesi, Chaddad & Palau, 2013).

This practice changed with the innovations introduced in the 1990s, GM seeds being one among them (Senesi, Chaddad & Palau, 2013). The method of direct sowing was perfectly matched with RR soybeans as a method to manage pests and weeds in a more effective manner and reducing workforce and input costs at the same time. The size of land in which this method was applied increased from 4 to 15 million hectares between 1997 and 2002, of which more than half were soybeans (Newell, 2009). The new agricultural production mode was the first step to the complete reassignment of the social relations in the industry (Bravo et al, 2010).

The rural sector of Argentinian agriculture has been historically fragmented both into territorial and socio-economical levels. The central Pampean region is dominated by the wealthiest farmers while the extra Pampean region is controlled by smaller grain producers (Anousheh, 2015). Because of this, agricultural organizations have been of relative importance since their origins with soy growers possessing the material capabilities to influence national politics (Filomeno, 2013). These organizations take heed in providing technical and financial support, aiding producers in surviving the difficult economic transitions of Argentina (Anousheh, 2015). For example, the SRA started to get involved with the central government since 1912, when it accomplished this through the National Autonomist Party (Anousheh, 2015).

Between 1983 and 1989, agricultural organizations established a coalition formed by the SRA, CRA, CONINAGRO and CARBAP to confront the government of Raúl Alfonsín, in a time when Argentina had developed a heavy dependency on agriculture to overcome the inherited debt from the military regime with high taxes

imposed to producers who were already dealing with the decreasing grain and meat value in the world. This coalition was known as the group of 11 and was comprised of the most relevant interest groups regarding the industrial, commercial and agricultural sectors. In 1985, the coalition introduced above called for a national strike that was initially proposed by the CRA and the SRA which had won the cooperation of the FAA (Anousheh, 2015).

When President Carlos Menem rose to power, the government closed various agencies that protected farmers. This event, together with the arrival of the economic crisis, increased the tendency of the State to be replaced as a source of financing with private capital institutions. Menem's approach of opening the country to the global market brought the introduction of technology and multinationals too. This last event implied the increase of competition for local farmers, to which the SRA responded by introducing biotechnology research workshops as well as three educational schools and creating the agriculture and industry chain forum, which was comprised of 40 agricultural organizations (Anousheh, 2015).

The role of agricultural biotechnology is perceived as the tool through which fiscal crisis may be overcome and national development is enhanced, while in a broader perspective helping to reduce climate change and world hunger (Newell, 2009). The Law of Seeds itself was redacted by a committee of corporatist nature comprised of representatives from both the private and public sectors, the former including rural producer's associations (Filomeno, 2013). Agricultural organizations have sought the means to actively participate in the political agenda of the country regarding this sector, either as a part of the political parties themselves or through other tools, such as massive meetings or educational programs.

Considering the size of these organizations, they are often engaged in propositional processes of legal projects that, according to them, may benefit and improve many areas of the agricultural activity. For example, in 2015, the FAA issued a document with a series of public policy proposals regarding the cattle and agricultural sectors. This included the suggestion of a draft on a new law of seeds, phytogenetic creations and biotechnological applications that is aligned with UPOV and with the purpose of modernizing some essential aspects of the original Law of Seeds. This draft promotes the know-how share regarding small and medium farmers, and also the legitimate right of seed saving to the farmers with no restrictions in any aspect and its use depending on the sole decision of the producer (Federación Agraria Argentina, 2015).

3.2.3. Mobilization capacity

Argentine civil participation is known to be very active. For example, regarding mobilization against economic reforms to counter the crisis of 2001, there were two cycles of protests related to agriculture: the first one is a pre-crisis moment between 1997 and 2001 in which 25% of protest events were performed, a number of 7.263. The second cycle, referred to as post-crisis, occurred between 2002 and 2006, period in which 33% of the events were concentrated (Natalucci, 2011). During the early 2000s, the SRA opposed the policies of the entering government of the Kirchners, calling these interventionist, while the FAA supported them because they defended small farmers from the abuse of the landlords (Anousheh, 2015).

The FAA claimed that, apparently, the government was only concerned to provide security to the increasing multinational companies (Anousheh, 2015). In 2008, when President Cristina Fernández introduced a tax reform that seriously

affected farmers, the entire sector went on strike, called by the CRA, CONINAGRO, FAA and SRA, thus freezing the supply of meat and grain. This resulted in the weakening of the Argentinian economy for five months. Since then, a coalition known as the Enlace Committee has been maintained (Anousheh, 2015). One of the proposals of the kirchnerist government was to increase the export tax to agricultural products through Resolution 125/08. This was not only opposed by the farmers but also by other large multinational companies³¹, Monsanto being one among them (Natalucci, 2011). This legal instrument, Resolution 125/08, will be better described in the next section.

It is important to mention that this was one of the unique events in which Monsanto and the depicted agricultural organizations actively participated against a State decision. The biggest agricultural organizations, SA, FAA, CRA and CARBAP, led the mobilization against the government by installing protests in the main national routes and cutting people and goods transit. They also built a strong speech in which they predicted themselves as the countryside, inserting themselves in the collective imaginary rooted in the Argentinian culture of associating crops with national development. In the end, the economic and legal proposal regarding tax exports did not pass in July 2008, four months after the conflict started (Natalucci, 2011).

3.3. The struggle against the royalty collection regime

So where is Monsanto? A field in which the multinational company had direct, and indirect, confrontations with agricultural civil society through the realm of State institutions is the royalty collection regime, which was explained in chapter I. Considering counter-hegemony as a relevant theoretical element for the analysis of

³¹ Nidera and Cargill.

civil society, the seed-saving regime will be described as a system that opposes the hegemonic one which is focused on royalty collection. This section will aim to describe the functionality of the seed saving regime as well as the events in which local organizations have participated in maintaining this regime, opposing Monsanto, and the outcomes that have derived from this processes.

3.3.1. The seed-saving regime

Seeds fulfill four major functions: to provide a key input to family agriculture, to supply technological improvements that enhance large scale production, to save key genetic information, and to be a source of biological diversity. Traditional farmers each year save seeds that have not been sowed in the previous season with the purpose of using them the next year. Small producers are especially accustomed to this practice, however, every other actor in the sector acknowledges the benefits of this custom (Marin, 2015). Agricultural producers had adopted the practice of storing their soybeans instead of exporting them through the use of silo bags, which functions as a strategic political protest tool implemented as a sign of refusal against export taxes as farmers can save the beans later in 2015 when a new government rose to power (Anousheh, 2015).

According to estimated calculations, 20% of soy sowed annually is acquired from authorized sellers, 30% from saved seeds by the producers, and 50% comes from authorized vendors (Craviotti, 2017). Back to the introduction of GM seeds and the agricultural boom, the Argentinian government legally implemented the seed saving right of the producers, which stands as the main legal argument for that right over any other intellectual property regulation. This can be comprehensible, as a

range of public, and private, actors were part of the committee that elaborated the 1973 Law of Seeds (Anousheh, 2015).

3.3.2. A clash of actors

More than twenty years ago, agricultural rural producers already started to position themselves as an IP rules shapers in Argentina. In 1991, INASE issued decree 2.183 which ruled over the Law of Seeds, in which Art. 44 reiterated the right of farmers to save seeds³², however, it also established precise conditions regarding this right, for which consent from the owner of the cultivar would be necessary (Decree 2183/91, 1991). In response to this, in 1992 the leader of the CRA and representative of the province of Santa Fe³³, Marcelo Muniagurria, proposed a declaration project that amended the Law of Seeds by banning royalty collection on stored seeds as well as the enforcement of sanctions on farmers that saved seeds for their own use; the project was approved by the congress (Filomeno, 2013).

INASE issued Resolution 35 in February 28, 1996, in which it detailed new regulations in addition to the Law of Seeds and to decree 2.183, related the seed saving regime, including restrictions on the management of seeds aside from their exploitation (Resolution 35/96, 1996). If interpreted literally, this resolution discriminated those producers who did not possess their own storage facilities. The FAA declared that this regulation affected small producers while CONINAGRO labelled it as an arbitrary restriction on seed saving. Because of the resistant from agricultural organizations, what is stipulated in resolution 35 has not been enforced. Nevertheless, due to the inefficacy of the regulation, the government argued that

³² “An authorization won’t be required from the obtainer of a variety according to article 27 of Law 20247, when a farmer reserve and use seed for its exploitation, regardless of the ownership regime, harvested product as a result of sowing in the determined place of protected variety” (Decree 2183/91, 1991).

³³ It is the largest area where soybeans are produced.

pirate seeds were stored and mixed with seeds that had been legally obtained (Filomeno, 2013).

To counter this problem, SAGPyA issued resolution 52 in which it stated that 75% or 80% of acquired seeds illegal seeds were already commercialized or delivered, remarking the existence of an illegal seed market of huge proportions. The regulation enforced resolution 35 and added strict rules of seed identification that must be complied with by the farmers. The infringement of this law would result in the confiscation, and a fine, of the illegal seeds (Resolution 52/03, 2003). FAA claimed that this measure was a mean to promote the interests of seed companies and that SAGPyA had a wrong perception about considering seed saving as the source of piracy in the market. In fact, the federation blamed the absence of the State in the development of technology in seed varieties, which was overtaken by local and foreign private corporations, as the main cause of this piracy of large proportions (Filomeno, 2013).

The FAA also alleged that technological sovereignty should be achieved and asked INTA to actively participate in developing and transferring technology (Filomeno, 2013). This had occurred simultaneously as a royalty collection system was quietly introduced by the Argentinian Association of Vegetal Attainments Protection³⁴, which designed a system that reduced freely commercialized seeds and increased official seed sales from 12% to 50% between 1991 and 1996. In 1990, the association designed the regime known as extended royalties by which seed acquisition was regulated by a series of private contracts. The scope of ARPOV was to separate the technological value from that of the seed themselves to demand the payment of a technological bonus, alleging that the right to use these seeds should

³⁴ Abbreviated as ARPOV.

not be free of charge (Brieva, Ceverio & Iriarte, 2008). This was criticized by FAA, which issued a document arguing against this system (Filomeno, 2013) and even provided legal assistance to rural producers whose facilities were inspected by ARPOV (Filomeno, 2014).

At the end of the year, Senator Mirian Curlett presented a document signed by SRA, FAA, CONINAGRO and CRA, that proposed a request to oppose the extended royalties system, which resulted in the limited efficacy and coverage of the system. In March 2004, FAA claimed that these organizations had reached an agreement to join forces against the ARPOV lobby, a relevant position considering that the group claimed that they provided 9.2 billion Argentinian pesos in fiscal revenues in 2003 only in export taxes (Filomeno, 2013). This coalition proved to be strong. When Monsanto threatened both the State and the local producers to file a lawsuit in markets to which Argentinian soybeans are exported, which was in fact carried out, the FAA quickly answered this claiming that the actions were illegal and violated international treaties signed by Argentina (Filomeno, 2014).

Monsanto issued a letter to 20.000 rural farmers affirming its decision to put into effect a private royalty collection system based on recognized IP rights by importing nations in 2004. This regime would imply the value charge to local producers on harvests, virtually deleting the seed saving practice and solving the companies setbacks with piracy. The SRA published a statement claiming that seed royalties should only be charged when they are sold and proposed that farmers should have the right to sow stored seeds with conditions that minimized charges. In 2011, the FAA alleged that Monsanto was signing contracts with farmers that wanted to access new GM treats. These contracts were another attempt of implementing a royalty collection regime, which for the FAA was a direct violation

of the Law of Seeds. Up to 2013, no bill had been presented to the congress and no consensus had been reached on the proposals for a new Law of Seeds (Filomeno, 2013).

3.3.3. Aftermath

Up to date, the Law of Seeds has remained the same since its original draft of 1973 and the seed saving right of rural farmers have prevailed against the royalty collection system that Monsanto and other private companies, mostly multinationals, have sought to establish in the country. This context has led the United States Department of Agriculture (2016) to label the intellectual property system of Argentina as “inadequate from the perspective of the biotechnology industry”, remarking the absence of a biosafety law in the country. The use of penalties for unauthorized use of protected seed varieties continue to be useless as well as judicial enforcement processes in Argentina if used as a mechanism against the commercial use of these varieties when such is unauthorized (USDA, 2016). The resilience of the 1973 Law of Seeds has been applauded by the FAA as an achievement of the organization (Filomeno, 2014). Argentina is present in the watchlist of countries which are not complying with their obligations under TRIPS of the United States government (Newell, 2009).

The review of the theoretical base regarding civil society according to critical theory, depictions of the nature and capabilities of agricultural organizations, and the examination of particular events in which these groups confronted Monsanto through the government with the purpose of preventing the implementation of the royalty collection system in the national legislation, have provided the insights necessary for the third specific objective which was “to determine the level in which

Argentinian civil society has organized itself against Monsanto's detrimental activities this influencing governmental decisions on agriculture legislation" to be accomplished.

VI. ANALYSIS

The present dissertation will conclude by providing the sufficient insights that support the achievement of the general objective, which is to analyze the relevance of the organization of Argentinian civil society against Monsanto's activities of influencing the national government on modifying regulations to include the royalty collection system. First of all, it is important to mention that the historical analysis provided by the Critical Theory of Robert Cox has been useful to remark certain milestones for each actor. For example, Monsanto is a company of global proportions that has created its path towards the biotechnology industry by means of its intense diversification of the core activity it has performed through the years since its creation, more than a century ago. It is probable that its specialization into the study of genetically modified organisms has occurred thanks to its participation in sectors related to this activity. This can be clearly seen in the figure below.

TABLE I
TIMELINE OF MONSANTO'S ACTIVITIES DIVERSIFICATION

Activity	Year
Manufacture of artificial sweeteners	1901-1912
Production of compounds used in pharmaceutical substances 1915 Manufacture of basic industrial chemicals	1921
Production of plastics and synthetic fabrics	1940
Diversification boom into engineered, composites, semiconductor materials	1967
Manufacture of genetically modified seeds	1969
Specialization of Monsanto into the GM market and closure of its other branches	2002

Sources: Various

Elaborated by: Juan Carlos Borja J.

From the manufacture of food additives to the production of basic industrial material, Monsanto's scientific research and development have not been strange to the application of chemical-related product development. The company has its first

contact with the biotechnology industry in 1969 and finally specialized in this activity in 2002, which may imply an importance of field experience considering that nowadays Monsanto has become the leading company in this sector with almost half a century of experience. Star products such as glyphosate and RR seeds, especially soybeans, transformed the agriculture industry of many countries, including Argentina, with a heavy participation in this area. The base for such a transformation is simple to explain: GM seeds boosted economies of scale by drastically reducing inputs while increasing outputs.

Monsanto's commercial strategy pursued a reduction of its production costs on seeds, charging the use of GM seeds and selling only products such as its glyphosate-based herbicide. This is meant to be implemented through regimes, or systems, of intellectual property rights protection. As explained in chapter I, UPOV and TRIPS were created to perpetuate such systems and empower large US based companies such as Monsanto, thus promoting the hegemonic position of the country through these corporations, acting as extensions of this hegemony, at economic and technical levels. Nevertheless, these international agreements proved not to be enough to secure a hegemonic level on intellectual property in the case of Argentina.

Timing proved to be a fundamental element to be considered by Monsanto when introducing its technology to the country as the companies request for a patent occurred when the use of its RR soybeans was already spread throughout local producers, even if these seeds were already approved for commercialization through Monsanto's licensee Nidera by the time of the request. Lacking the patent, Monsanto sought to create a royalty collection system for RR soybeans, among other products, in which local producers had to pay for the use of the company's technology and their freedom to save seeds that remain from previous crops were restricted if not

banned. This regime, known as Monsanto Law, was meant to be enforced by local regulations, especially a modification of the 1973 Law of Seeds and Phyto-genetic Creations.

This law provided a large framework for the use of intellectual property rights in the agricultural sector through an intense institutionalization of various areas regarding this sector, creating new actors or enhancing existing ones such as SENASE, CONABIA and the SAGPyA. The creation of these institutions did not only happen due to the dependency of the country on agriculture but as a compliance from the country to what is established in UPOV and TRIPS. Nevertheless, it is not wary to minimize the importance of this sector in the national economy. Agriculture has only gained importance through the passing of years, with its territory being a source of a competitive advantage due to the richness of its soil and the weather of the region.

The state has historically sought to promote this sector with education programs and granting access to the activity through the commercialization of large sizes of terrain for sowing. It is no surprise that the agriculture industry gladly embraced GM seeds and spread it throughout local producers. The second boom of soy and agriculture happened thanks to this. The development of GM technology transformed the industry, as stated before. Nonetheless, before this event occurred, civil organizations in this sector had been well organized for many years before. The Argentinian Rural Society was established almost 50 years before the creation of Monsanto in the United States, and approximately a century before organizations of such size were created in Brazil or Paraguay, two countries of important participation in agriculture of the region. Since the last decades of the XVII century, the organization of these groups has only gained strength.

Now that the most important milestones for each actor have been established, it is important to ask: what is the relation between Monsanto, the civil organizations and the State? It is relevant to start with premise set by Gramsci regarding civil society, that it is both shaper and shaped. This can be applied not only to civil organizations but to the other actors as well, which can be demonstrated through the case of study. Before the foundation of Monsanto, Argentina had already experimented historical processes of enhancing and increasing its participation in the agricultural sector, with the government implementing programs that promoted the involvement of rural producers in the development of agriculture. So the State shaped itself and its civil society into perceiving agriculture as a fundamental activity in the national economy.

Monsanto would forever impact the agriculture industry, not only in Argentina but at a global scale, with the implementation of its products, being RR seeds like RR soybean a great example. When first introduced, the state took a collaborative approach on the technology, spreading it throughout the producers, which would become attached to this inputs and combine it to ancient practices with those that they had historically used, such as that of saving seeds for next seasons. As many companies from the United States were technological innovators, the country sought an opportunity to perpetuate such innovation as a means to insert its hegemony at an industrial level. This can be established as the external social force, which arrived late to the country as GM technology were already common among farmers.

To establish the internal social force, it is important to use Gramsci's conceptualization of forces to the case of study with the purpose of exposing the nature of civil society related to agriculture. Regarding the relation of social forces,

the first moment is the determination of a necessity for a society to be transformed. For the case study, more than a need, the collaborative implementation of GM technology was an opportunity too great to be passed on, and the State boosted this collaborative approach and also historically created a high level of awareness in civil society on the importance of civil society and the use of GM technology respectively. It can be established that the state itself awoke and promoted the political participation of local society regarding agriculture. This is demonstrated by the number of farmers, no matter their production size, represented by the organizations described in chapter III, which together sum up approximately 373 thousand agricultural producers in spaces when their interests may be at stake. The number of members for each association is shown in the following figure:

TABLE II
NUMBER OF FARMERS REPRESENTED BY AGRICULTURAL ORGANIZATION

Organization	Farmers represented
Argentinian Rural Society	10.000
Argentinian Agriculture Federation	100.000
Argentinian Rural Confederacies	109.000
Inter-cooperative Agricultural Confederacy	120.000
Confederation of Rural Associations of Buenos Aires and La Pampa	34.000

Source: Various

Elaborated by: Juan Carlos Borja J.

Considering that agriculture was inserted in the local civil society as an important source of wealth and a means to overcome economic crises, agricultural organizations did not have major setbacks to transcend the idea of a collaborative culture of agriculture in the country, which is proved by the formation of coalitions with joint forces or the political participation in the protests of 2008 against tax reforms, which was depicted in chapter III. This, together with the historical processes that agricultural organizations experienced during its creation and

participation in politics, can define these groups as organic and not conjunctural. Regarding the moment when Monsanto's interest of implementing a royalty collection system through the law clashed with the seed saving practice of local producers, the second level occurred as civil organizations created a common strategy that subordinated the world economy to a regime of social equity, on the use of GM technology, thus creating a counter-hegemonic historic bloc that had the sufficient cohesion to confront the hegemonic position of Monsanto, which sought to impose a regime through the law.

Regarding the last moment of the conceptualization of forces, which poses the scope of destroying the potential of the dominant bloc from within, civil organizations managed to undermine Monsanto's, and other foreign corporations, attempts to implement their royalty collection regime in the law. Monsanto tried to shape national regulations, through the Law of Seeds, into embracing this regime. In fact, as it was explained, the state did develop legal documents based on the Law of Seeds that explicitly enforced the implementation of this regime as a system for all producers. Nevertheless, the importance of agricultural organizations and their organic condition managed to generate a process of socio-historical criticism in the country regarding the disposition of GM technology. In the end, the position of agricultural organizations has prevailed over that of foreign companies like Monsanto. The figure below summarizes the three laws through which the State sought to restrict the farmers' freedom to manage their seeds, which nevertheless ended either nullified or have not been enforced.

TABLE III
NATURE OF DECREES AND RESOLUTIONS ON THE LAW OF SEEDS

Law	Nature
Decree 2.183/91	Strict conditions to save seeds
Resolution 35/96	Restrictions on seed management
Resolution 52/03	Enforcement of Resolution 35/96

Source: Various

Elaborated by: Juan Carlos Borja

In the shaping of the state, the internal social force of agricultural organizations and the seed-saving regime defeated that of Monsanto and its royalty collection system. Cox's spheres of activity and the elements of historical structures are embodied with the elements of the case of study in the annex 2, which may serve as a graphical depiction of structure regarding the variables provided by the reviewed events. The clash of hegemonic and counter-hegemonic blocs is represented in annex 3, through a graphic named as reflected funnels, based on the broad and specific forces that manifested through various tools, such as TRIPS or the seed saving regime, as well as the actors and the conditions of each one of these explained throughout the present dissertation.

VII. CONCLUSIONS

The present dissertation proposed the hypothesis: Argentinian civil society has been the key to prevent Monsanto from influencing the national government on modifying regulations of the agriculture industry regarding intellectual rights properties. This statement has been completely verified, which is summarized in the following conclusions:

- The evolution of Monsanto through the diversification of its activities for roughly a century has positioned the company as one of the leading sources of biotechnology in the world. Its relation to chemical-based products and elaboration of internationalization strategies that have provided the material capabilities have been the means for the company to achieve this. Such material capabilities are the tool through which Monsanto has posed a significant influence on national governments, such as the Argentinian one, in order for it to accomplish its purposes, even to the point of attempting to influence law modifications. Such material capabilities are not only translated in traditional tangible means such as production or wealth accumulation, but also in the generation of intangible assets such as technology and know-how development, especially for companies like Monsanto.
- Argentina, from the perspective of both from the state and civil society, has created a heavy dependency on agriculture that has grown for more than a century. Such dependency can be transposed to a dependency on the use of genetically modified organisms when the agricultural sector of the country extensively embraced it. The relevance of agriculture in the local society has inserted this activity in the national imaginary as a source of wealth and a means to overcome economic crisis. This is

reflected in the approach of the Argentinian State towards agriculture, seeing it as the national major project which has prevailed despite the ideological shifts of the governments that has risen to power through the years. All these elements have led the Argentinian State to its current form of State.

- Agricultural organizations of civil society is indeed the key that prevented Monsanto and other foreign companies from influencing the State considering that, at a certain point, the latter indeed started to issue decrees and resolutions that enforced the application of a royalty collection system that granted a hegemonic position to corporations such as Monsanto. Only the resistance and organization capabilities, to the point of creating a coalition of more than 5 large agricultural organizations, managed to make null such decrees and resolutions, thus leaving the Law of Seeds unmodified to this day.
- Historic relevance is very important when actors with opposed interests clash in the same context. Despite the importance of Monsanto's technology to the Argentinian agriculture, agricultural organizations were already well implemented in local society which made them prevail against Monsanto when both sides ultimately confronted over the royalty collection system, which was possible through the joint organization and mobilization of large agricultural associations of historic importance that managed to create a joint speech based on the national relevance of agriculture and its actors. More than that, agricultural organizations have suffered transformations that have rooted them with transcendental ideas in local society regarding agriculture and the management of technology, linking these groups to the

defense of farmers' rights regarding their capacity to freely manage their economic activity.

- All actors, Monsanto, the Argentinian State, and local civil society are shapers and shaped. When Monsanto's products entered the Argentinian market, the State and civil society already had an extensive history of mutual interactions that molded each other. The company, together with the external forces it promoted, entered this interaction with the same mechanics that the other two actors used, forever transforming the approach of the state and society on agriculture, while the two others shaped Monsanto on its strategy on how to take benefit from a market that had rejected its right for a patent on GM seeds.

VIII. RECOMMENDATIONS

With the conclusion of the analysis and the verification of the proposed hypothesis through the insights that are presented above, various recommendations have been elaborated, which are:

- Considering that there is still a tendency for a debate on amending or even elaborating a new Law of Seeds, the State should set once and for all both if there is a need for this and the criteria to establish which aspects of the law should be changed or added. A referendum to local farmers could be a tool through which these aspects could be determined as agricultural producers are well aware of the improvements or stagnations that the sector currently experiences. This referendum could include clause votation, which means that the government should propose the changes that shall be done to the Law of Seeds, and each change should be an item to which each farmer should vote.
- Other civil society groups should mimic the organizations that associations or federations such as the FAA, SRA, CRA, performed to resist governmental changes on laws or regulations with which such groups did not agree. This should not be taken in a literal level, but as structural one, that includes actions such as the creation of a strong coalition to demonstrate the number of supporters against a certain policy, the elaboration of a speech that links such coalition to a strong element that is rooted in civil society, and the joint efforts to create mobilizations, policy proposals and relevant statements on a governmental decision.
- Argentinian civil society should not be only concerned about royalty collection systems or policies that tax the commercialization of certain goods but also the

effect of certain activities on the environment. In chapter I, some effects from the use of glyphosate on soil were depicted. However, no relevant resistance has been posed by agricultural groups or any other kind of groups against the harmful effects derived from the use of heavy pesticides such as glyphosate or the overuse of soil for crops. This issues do not only affect agricultural groups but society as a whole, directly or indirectly.

- Regarding innovation, local or foreign large companies should develop a cautious strategy when introducing a product, technique or element that adds a groundbreaking advantage to those that participate in a certain economic activity. Timing proved to be essential for Monsanto to dominate the intellectual property rights regime regarding GM seeds as its early license granted to another company for commercialization of the RR varieties swiftly undermined Monsanto's claim to their patent as it occurred when they were no longer considered to be innovative.
- Academic scholars of international relations could perform a deeper application of the Critical Theory of Robert Cox as it provides one of the biggest perspectives of a certain case of study of all international relations theories. This occurs because this theory includes elements that few, if any, theoretical frameworks take into account such as historical structures and historical analysis, which proved to be very useful to determine certain behaviors or defining moments for the actors that participate in the reviewed events.
- This case of study could be addressed from other fields such as economics, laws, international relations, among others, as it poses a extraordinary and multidisciplinary phenomenon in which civil society won against a powerful multinational corporation.

- As previously, the Critical Theory of Robert Cox provides a useful perspective to study phenomena of international relations. Cox develops several tools to understand the role of each actor involved in complex situations. However, such tools are scattered throughout his many works. An academic guide to these resources should present a pragmatic introduction to this complex theoretical framework.

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- Resolution 35/96*, Argentina 1996.
- Resolution 52/03*, Argentina 2003.

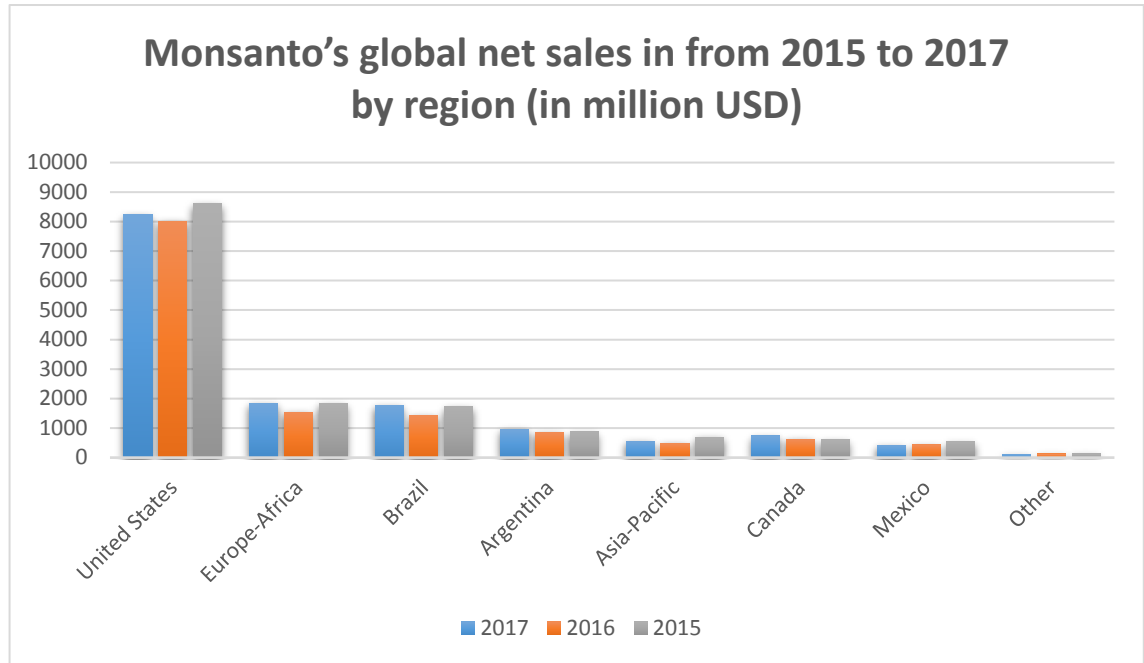
International Agreements

- Act of 1978*, 2 December 1961, International Convention for the Protection of New Varieties of Plants, (revised 10 November 1972 and 23 October 1978)

X. LIST OF ANNEXES

ANNEX 1

MONSANTO'S GLOBAL NET SALES FROM 2015 TO 2017 BY REGION (IN MILLION USD)

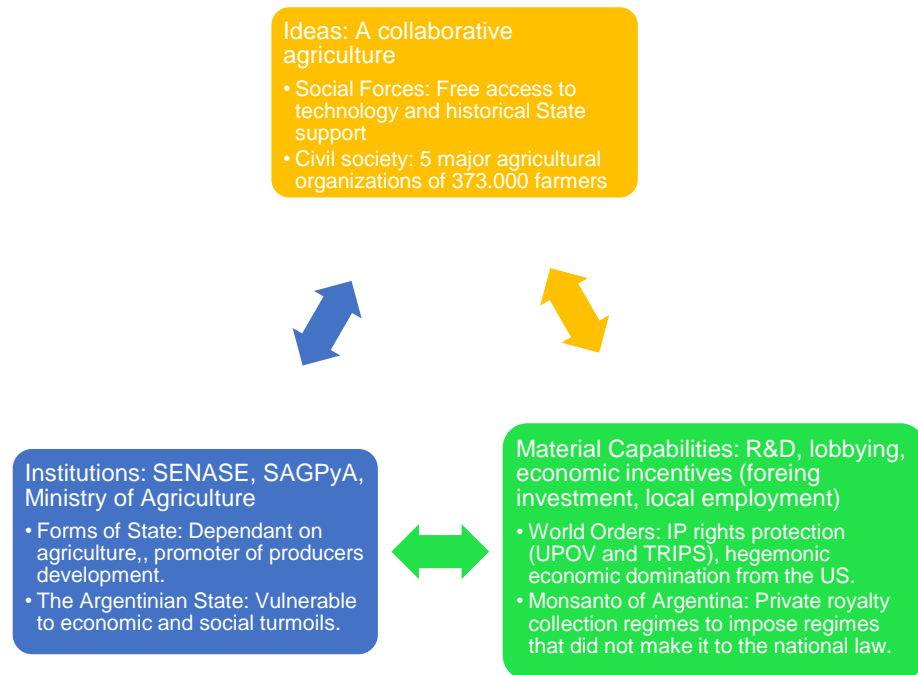


Source: Monsanto (2018)

Elaborated by: Juan Carlos Borja J.

ANNEX 2

THE HISTORICAL STRUCTURES' METHOD APPLIED TO MONSANTO, THE ARGENTINIAN STATE AND CIVIL SOCIETY

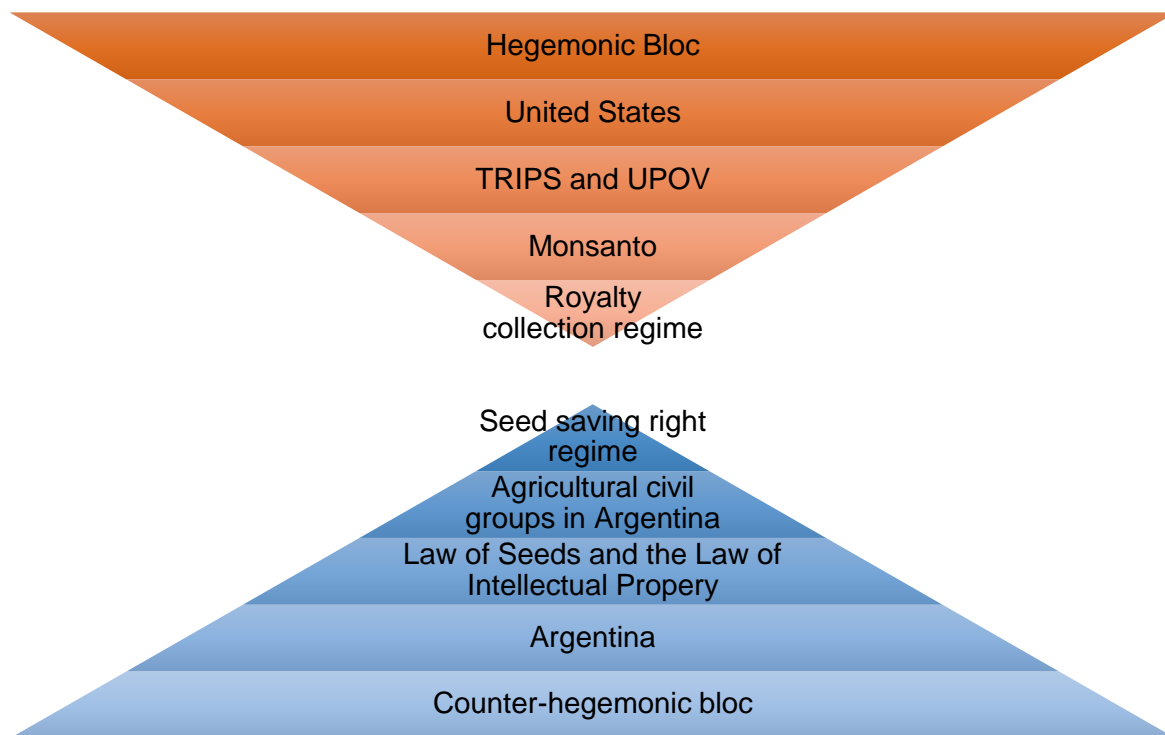


Source: Cox (1981)

Elaborated by: Juan Carlos Borja Jaramillo J.

ANNEX 3

REFLECTED FUNNELS: MONSANTO AND THE ARGENTINIAN CIVIL SOCIETY AS HEGEMONIC AND COUNTER-HEGEMONIC BLOCS



Source: Cox (2002)

Elaborated by: Juan Carlos Borja J.