

THE COMPLEX OF THE TRANSGENIC SOY IN BOLIVIA

**(OR THE FOUR HORSEMEN OF THE APOCALYPSE
FOR MOTHER EARTH)**

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(La Paz, June 2019)

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The opinions expressed in this document correspond to the author and do not necessarily reflect the socio-political views of the professionals.

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GLOSSARY

APIA	Association of Agricultural Input Suppliers
ANAPO	National Association of Oilseed Producers
AFP	Pension Fund Administrator
ABT	Supervision and Social Control Authority of Forests and Lands
BM	World Bank
CAO	Agricultural Chamber of the East
CPE	State Political Constitution
CSUTCB	Unique Trade Union Confederation of Rural Workers of Bolivia
CIDOB	Confederation of Indigenous Peoples of Bolivia
CIPCA	Peasant Research and Promotion Center
COPROFAM	Confederation of Organizations of Family Producers of Mercosur
CNA	National Agricultural Census
CIOEC-B	Integration Coordinator of Peasant Economic Organizations Indigenous and Native of Bolivia)
ET	Transnational Companies
FES	Social Economic Function
FAN	Friends of Nature Foundation
FAO	Food Agricultural Organization
GFW	Global Forest Watch
IBCE	Bolivian Institute of Foreign Trade
INRA	National Institute of Agrarian Reform
INE	National Statistics Institute
MDRyT	Ministry of Rural Development and Land
MMAyA	Ministry of Environment and Water
NADEPAS	Associated Numbers of Agricultural Production
GMO	Genetically Modified Organisms
GDP	Gross Domestic Product
PIEB	Foundation for Strategic Research in Bolivia
PROBIOMA	Productivity Biosphere Environment.
PLAGBOL	Pesticides Bolivia
PLUS	Land Use Plan
TIPNIS	Indigenous Territory and Isiboro-Sécore National Park
UMGRM	Universidad Mayor Gabriel René Moreno

FIRST PART

THE FOUR RIDERS OF THE APOCALYPSE FOR THE MOTHER EARTH

In recent years, in the country different investigations have been carried out on the soy complex, analyzing and describing this problem in deep.

However, despite these diverse and meticulous studies, there is a lack of analysis or of explaining further the role that an actor who is important in the soy complex is playing, as are the farmer farmers now called Intercultural.

The lack of information and analysis about that actor - which has gained importance in recent years - is what moves us to the approach of the following article.

1. THE CURRENT CONTEXT OF THE SOYA COMPLEX

At present, there is an agricultural model that is dominating much of the planet and that is presented as "the solution" in the fight against poverty and hunger.

This model that is driven by big Transnational Corporations (TC)¹; by different international development and cooperation institutions and also by agribusinesses with the complicity of national governments, it presents new forms and mechanisms of international capital investment² and value appropriation. It is changing relations of production, of possession of land, implementing new forms of extraction, control and power, among other aspects.

This model - which is proven to pollute the earth, the environment and biodiversity; that monopolizes, depletes and contaminates the water; that deforests and affects human health - is implemented in several countries in South America through the exploitation of export products³, whose star product is transgenic soy⁴, which is used as food for humans (in small percentage), to animals; as fuel (bioethanol) and also as raw material for other industrial products.

This agricultural model and the transnational capital have been introduced in the country several years ago, in complicity with the agroindustry of Santa Cruz, with the social sector now called intercultural and with the support of government policies.

¹ Bayer, Basf (German); Bonge, Cargill, DuPont, Monsanto (purchased x Bayer recently) and Krat (USA); Unilever (British); Danone, Carrefour (France); ChemChina, Cafeo (China); Glencore, Nestle and Syngenta (Switzerland); Dreyfus, Nidera (Holland) among others

² Not only buying land in different countries for the production of products with transgenics, but now inducing / investing to produce those products that will then buy them.

³ To cite a case, for example cherries in Chile (Pavez Alexander 02 9 2019 Rebelión Chile newspaper).

⁴ And in the short term, they also want to implement transgenic sugar cane (for bioethanol) and transgenic corn (for livestock feed) in Bolivia, among others.

It is important to highlight the latter social actor because it constitutes the fundamental difference with respect to the model implemented in other countries of transgenic soy production such as Argentina, Paraguay and Brazil, where there is no space for the family economy, where they completely excluded farmers/indigenous people appropriating their lands and establishing only extensive monocultures.

2. THE CONFIGURATION OF THE SOYA COMPLEX

How is the soybean agricultural development model configured?

¿Who compose it and how? ¿What role does each actor play in that complex?

In recent years, an interrelated circuit has been established between various actors⁵, the main ones are Transnational Capital; Agribusiness; the Government and Interculturals⁶, who together form the “Bolivian system of transgenic soy production”.

A brief account of the conformation of the actors in this hybrid agricultural model - unique in the countries of South America - is as follows:

i. The great capital

The agrarian model is structured by the large capital – whose main feature is uncontrolled extractivism for agricultural export to the world market - who is the owner of the technology (agricultural machinery)⁷, of the inputs (transgenic, agrototoxic seeds) and in several cases, owner of land and agribusiness directly or indirectly; and with great influence in agronomic research centers.

Despite the anti-empire, anti-capitalism and food sovereignty discourse of the government, this great capital is expressed through Transnational Corporations (TC) present some time ago in Santa Cruz⁸ through the trade of agricultural products and supplies.

These are the ones that produce, control and provide transgenic seeds (GMOs) as well as agrochemicals, fertilizers, herbicides, fungicides - with glyphosate - and technological machinery⁹.

⁵ The intermediary merchants of the inputs, the producers of the Mennonite colonies, the Association of Suppliers of Agricultural Inputs (APIA) and even recently the financial system (the FASSIL Bank) and some media and communicators among others.

⁶ The 4 horsemen of the apocalypse (in reference to hunger, war, death and plague) for mother earth in Bolivia.

⁷ Modern agricultural machinery that is often not suitable for use in certain soils / land.

⁸ Monsanto, Cargill among others.

⁹ Not the only ones to market those products. There are also several individuals and intermediary commercial companies dedicated to that business, which is why it is called “agribusiness”.

They are also the ones that determine international prices and those that have a monopoly on export market access. They are present all over the world, with many complaints and questions about their products (glyphosate) and their procedure¹⁰.

ii. Agribusiness

They are agribusinesses affiliated with the CAO / IBCE / ANAPO¹¹ that are characterized, mainly, by owning a large amount of land (own, rented, shared lands) with transgenic soybeans and using a large amount of agrochemicals.

They have storage silos; they are the owners of the agro-processing industries of soy and derivatives; they own transportation mostly; and have contact with exporters¹² and the international market.

They are also the ones that provide the producers, the technological “packages” (seeds, agrochemicals)¹³, have agricultural machinery for the production of transgenic soybeans; and in part, those who work through “contract farming”¹⁴ with small and medium producers, to rescue / buy them the soy produced.

iii. The state.

The State has become the third component of this system, being the national body that accepts and encourages the expansion of this capitalist/extractivist¹⁵ agricultural model through a series of laws, policies, programs and government provisions, as well as its institutions such as INRA¹⁶ and INIAF¹⁷ whose purpose is to support the production of transgenics (soy and other products) and their expansion.

¹⁰ "They condemned Monsanto to pay \$ 81 million for negligence" ([http // eju.tv / 2019/03 / condemned-a-monsanto-to-pay /](http://eju.tv/2019/03/condemned-a-monsanto-to-pay/); <https://www.bbc.com/mundo/noticias-47645376>; "Bayer sinks for fines and round up" (page Seven 03/21/2019); "Bayer sued internationally" (03/10/2019 Page Seven); Monsanto faces 13,400 legal remedies for glyphosate herbicide INFOBAE (<https://infobae.com/america/eeuu/2019/04/025/monsanto-engrenta/>); Monsanto faces 13,400 legal remedies for the herbicide glyphosate (<https://www.infobae.com/america/eeuu/2019/04/25/monsanto-confron-13/>) among others.

¹¹ Although it should be clarified that ANAPO is constituted not only by large companies but also by medium-sized entrepreneurs and peasant producers; several of which are concerned with reducing the use of agrochemicals, preventing their abuse, promoting sustainable agriculture and even do not have modern and technical machinery.

¹² With the ETs that dominate the export market like Midland; Bunge; Cargill; Dreyfus (which dominate 70% of the world market for soy, oil palm, corn).

¹³ With the proper instructions for use, the exact number of days needed from sowing to harvest and the standards required for the quality of the grain.

¹⁴ "Contract farming represents a form of control without dispossession (of land) that, however, produces differentiation, exclusion and marginalization of farmers" (Ben M. Mac Kay (2018). Although it is necessary to clarify and complete the above, that the differentiation produced is not only with respect to the other actors in the system, but also within the peasant farmers themselves, producing soybeans, as discussed in later chapters.

¹⁵ Very similar to the socialist-extractivist model (not in the sense of the use of GMOs, but if in the extraction as it gives rise, without the care of the environment, without the replacement of the fertility of the land, without the care of biodiversity, regardless of pollution among others).

¹⁶ That works for years with a loan capital from the Inter-American Development Bank (one of the most representative institutions of capitalism, as well as the World Bank, according to the government) of approximately

For this purpose, in recent years the State has promulgates several laws and regulations. Among the most important are:

- . Forgiveness for illegal deforestation (that is, unauthorized deforestation) through Law No. 739 (29 / IX / 2015).
- . The extension to the term of the verification of the Social Economic Function (SEF) from 2 to 5 years, by means of Law No. 740 (29 / IX / 2015), which prevents the reversal of unworked agricultural properties.
- . The authorization by Law 741, of clearing (thus legalizing what has already been dismantled) for small productive units (up to 20 hectares), that is, increases the limits of deforestation.
- . The diesel subsidy (diesel used mostly by machinery that works with soybeans) that is increasingly imported in volume and value¹⁸.
- . The deliberance of the charge of specific taxes for the export of soybeans as do the other countries (Argentina, Brazil).
- . The facilitation to exports through the construction of roads and expansion of the terminal of Puerto Busch¹⁹
- .The promotion of this model considers it essential in its Development Plan²⁰.
- . The provision of the financial resources of the Pension Fund Administrators (PFA) to grant loans to farmers in Santa Cruz (soybean producers).
- . At the request of the agribusinesses of the east (03/22/2019, ABI) the concession of the extension of the agricultural frontier of the east to 250,000 hectares for the production of soybeans destined for biodiesel²¹

US \$ 40 million, mainly to grant the lands of the Indigenous Peoples of the East (Chiquitania) and fiscal lands, to the intercultural.

¹⁷ Another institution complicit in the agricultural model, imitating the role and functions performed by state-owned companies in other countries of transgenic soy production (such as the Biotechnology Commission, the Agro-Environmental Health and Quality Service; and the National Institute of Agricultural Technology INTA, in Argentina), emphasizing the investigation of the seeds of export products and scarcely in the seeds of basic food products.

¹⁸ In 2016, 967 MT were imported for a value of US \$ 504 million, while in 2018, 1,200 MT was imported for US \$ 897 Million (Times 03/7/2019).

¹⁹ "The Strategic Alliance of the Government with Private Entrepreneurs for the construction of the Puerto Busch terminal, exit to the Paraguay River (construction of the road infrastructure, rail and basic services) will increase soybean exports (Ricardo Paz, ANAPO president) (01 / 2/2019 Pagina Siete).

²⁰ See "Sector Plan Agricultural Development 2014/2018. By 2025 "(Pilar 8) and also" The Unity Pact "of May / 2018

²¹ "Biodiesel is the next great link in the public-private partnership" (A. García L.Vice President El Deber 03/23/2019)

The legalization of the use and production of transgenic corn that has been taking place in Santa Cruz and the Chaco region for some years - despite the prohibition of the State Constitution - and which has been denounced so many times²², will occur in any moment.

To this transgression of the State Constitution must be added that, according to experts²³, there is no control in the use of transgenics which are different in their potentiality and danger. A RR or BT transgenic has other dangers than a drought resistant or virosis tolerant transgenic.

. The modifications to the environmental regulations by means of the DS 3856 (of the 3 / IV / 2019) that changes the DS 3549 that “modifies, complements and incorporates an Regulation of Prevention and Environmental Control of the Law 1333 of the Environment” (making more flexible activities that go to cause very serious environmental impacts).

. The Supreme Decret 3874 (04/17/2019) Authorizing the National Biosafety Committee to establish abbreviated procedures (60 days) for the evaluation of “soybean event HB4” and “soybean event intact” destined to the production of biofuels²⁴.

iv. Intercultural

Interculturals are the fourth component of this Bolivian complex of transgenic soybeans as they contribute with lands²⁵, produce part of the soybeans²⁶, use transgenic seeds, agrochemicals, glyphosate and others, within the framework of monoculture production, thus facilitating the operation of the soybean complex.

They are closely linked to the other actors of the soy complex: with agribusiness and large capital selling their soy production and acquiring inputs, GM seeds, technology ... and with the State being co-beneficiaries of the financial resources of the Pension Fund of retired employees, among several others.

However, deep down, interculturals are used both by large capital and agro-industrial, as well as by the Bolivian State.

²² In the same style of the legalization of transgenic soy that was produced (with the knowledge of the government) several years before its legalization and was not eradicated despite being prohibited by the State Constitution. Then, before its massive extension and under pressure from the agricultural entrepreneurs of the East, the government legalized the production of GM soy.

²³ Friedrich Theodor (2019).

²⁴ This is intended to abbreviate procedures of impact on the environment and human health, surpassing regulations of the State Constitution and laws such as Mother Earth; like the Cartagena Biosafety Protocol of which the country is a signatory (ratified as Law 2274 of 22 / XI / 2001). According to PROBIOMA agronomists, this procedure involves serious studies and research, which involves sowing (in summer and winter harvest) to see its agricultural impacts on rotational crops such as corn, sorghum, sunflower. (minimum 3 years to evaluate in situ and have results).

²⁵ The minority with respect to the total land cultivated with soy. According to ANAPO, interculturals represent 78% of the total soybean producers but have 9% of the total area with soybean (cited by Ben Mc Kay -2018)

²⁶ As also the Mennonites.

For the agroindustrial, because it is the intercultural ones that publicly and persistently²⁷ request that the production of transgenics²⁸ for corn, sugarcane and others be freed, under the pretext of drought, low productive yields, high production costs, floods, poverty conditions, land and other constraints.

They are also used by the State / Government, because interculturals²⁹ now serve the government as their social and political base; and they give the pretext to the government to justify its speech that it is representative of the Indigenous Peoples; that he watches over mother earth, that he seeks food security and sovereignty among others.

In this way, interculturals have become a vital piece of this productive system, of this type of capitalist exploitation.

Graphic No. 1
Main actors in the transgenic soybean complex in Bolivia



This hybrid configuration between the State, private corporations and part of the peasant movement is dominating the national agrarian structure, establishing a new relationship between the public, the private and the peasants.

²⁷ Requests made by the Single Federation of Peasant Workers of the 4 provinces of the North of Santa Cruz (Resolution Extended 01/2019 of 01/25/2019, Montero). The institutional reactions and rejections to these requests (clarifying what transgenics really mean for national production) can be seen in the pronouncements of the Archeology Society of La Paz (04/02/2019); of PROBIOMA (01/26/2019 www.probioma.org.bo), and the pronouncement of the Confederation of Indigenous Peoples of Bolivia (CIDOB) rejecting the release of transgenic seeds (reproduced by CIPCA Santa Cruz on 01/31/2019, www.cipca.org.bo).

²⁸ Despite being prohibited in the Political Constitution and in the Law of Mother Earth.

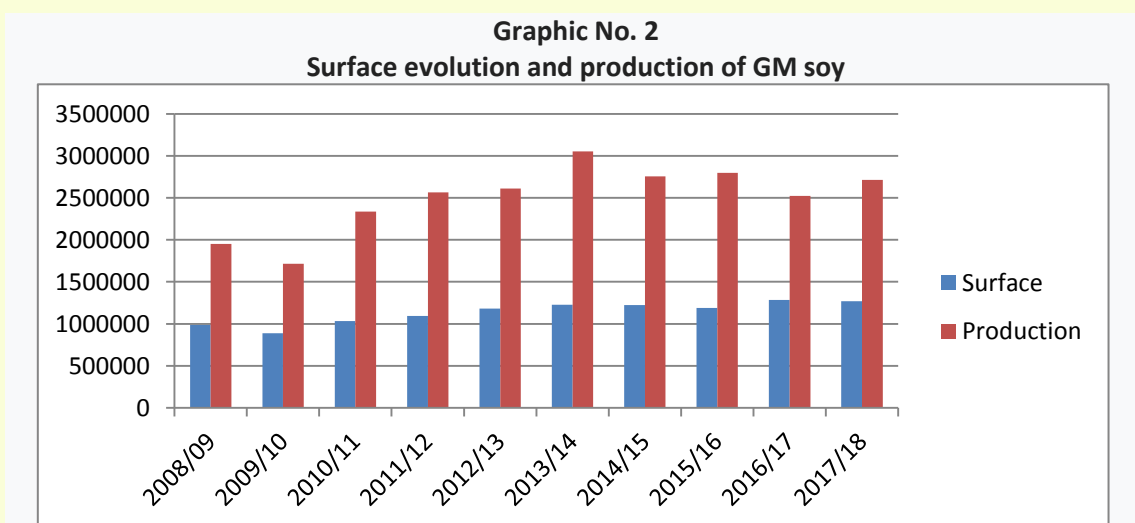
²⁹ Using in turn the (ex) leaders of social organizations such as the Confederation of Women Bartolina Sisa, and the CSUTCB among others.

Similarly, this conglomerate, with a crucial role of intercultural peasants, is producing a new way of extracting natural resources with serious socio-political repercussions at national and international levels³⁰.

3. THE IMPACT OF THE SOYA COMPLEX

The production of transgenic soybeans has had permanent growth for years, both in its cultivated area and in the total produced, with a stagnant productive yield³¹ and much lower than that achieved in Argentina, Paraguay, Brazil.

According to the representatives of the association of soy producers, in 2018 70% of the total soybean was exported, for a value greater than US \$ 1 billion (Jaime Hernández General Manager of ANAPO, El Deber 11/05/2019).



Source. ANAPO Memoria anual 2018

From the growth of the production and expansion of transgenic soybeans, a series of effects are generated in the country, among which stand out:

i. Displacement of food crops for export

By exporting more and generating more financial resources, the acreage of basic foodstuffs has been displaced by those export products, that is, export products increased and stagnated or even decreased the internal production of basic consumer products, which leads us to cover domestic demand or our food supply through imports and contraband, as discussed below.

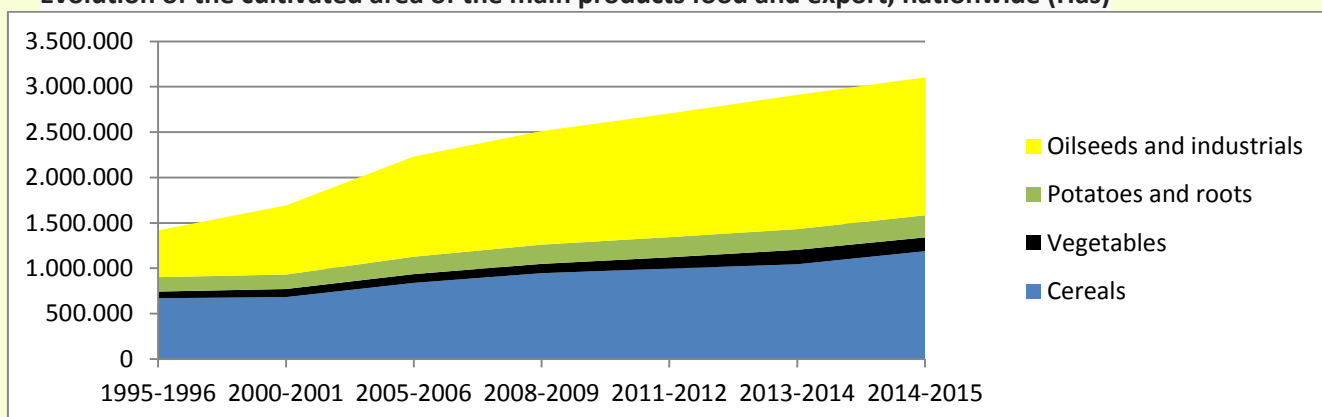
For example, in 1995/6 the tubers and roots represented 9% of the total cultivated area nationwide; in 2008/2009 they represent 8.4% and in 2016/17 only 6%, while oilseeds and

³⁰ Dividing the world peasant movement expressed in Vía Campesina that raises food sovereignty; also to the recent Confederation of Mercosur Family Producer Organizations (COPROFAM) that demand agroecological, diversified production, rescue and protection of traditional seeds, not monoculture, among others

³¹ The highest productive / average / year yield (winter and summer campaigns) was achieved in the 2013/14 campaign with 2.43 Tm/Ha and the lowest in 2008/09 with 1.46 Tm/Ha. For 2017/18 the yield was 2.19 Tm /Ha

industrials accounted for 36% in 1995/96; 49% in 2008/9 and 45% in 2016/17 (https://ine.gob.bo Agricultural statistics).

Graph No. 3
Evolution of the cultivated area of the main products food and export, nationwide (Has)



Source.- Built based on data from INE/MDRyT

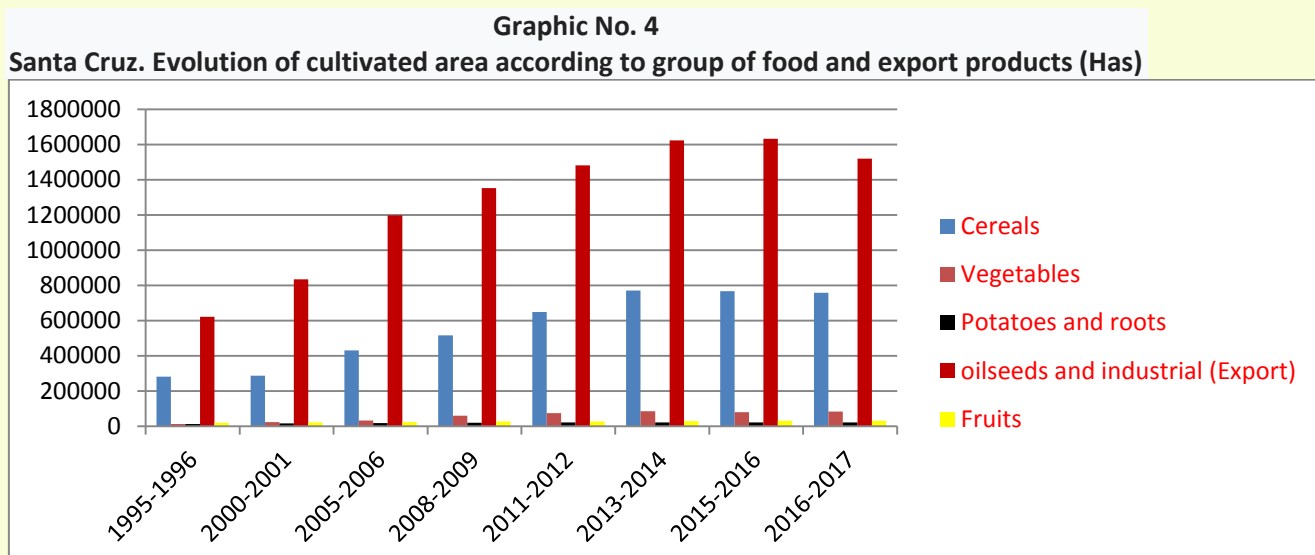
The tendency to increase export products at the expense of food products is best appreciated by analyzing the evolution of the cultivated area in the department of Santa Cruz.

Table No. 1
Santa Cruz. Evolution of the cultivated area of the main products (1995/96 - 2016/17) (Has)

	1995-1996	2000-2001	2005-2006	2008-2009	2011-2012	2013-2014	2015-2016	2016-2017
corn grain	96.705(14.7)	104.000(11.6)	153.000(12.3)	222.773(14.9)	201.950(12.5)	267.378(14,5)	197.077(10,7)	236.955(13,8)
Wheat	55.680(8.57)	36.000(4,0)	48.000(3,8)	70.361(4,7)	82.878(5,15)	93.000(5,0)	168.776(9,1)	114.871(6,7)
Lettuce	164(0,0002)	164(0,0001)	175(0,0001)	628(0,0004)	621(0,0003)	708(0,0003)	717(0,0003)	730(0,0004)
Tomato	964(0,001)	1.160(0,001)	1.565(0,001)	1.831(0,001)	1.748(0,001)	1.711(0,0009)	1.722(0,0009)	1.762(0,001)
Corn	910(0,001)	1.077(0,001)	1.124(0,0009)	1.359(0,0009)	1.356(0,0008)	1.915(0,001)	2.472(0,001)	2.500(0,001)
Carrot	344(0,0005)	364(0,0004)	423(0,0003)	481(0,0003)	534(0,0003)	522(0,0002)	502(0,0002)	491(0,0002)
Potato	3.707(0,005)	4.338(0,004)	5.289(0,004)	6.052(0,004)	6.766(0,004)	6.733(0,003)	7.002(0,003)	7.302(0,004)
Soy	454.000(69,4)	606.900(68,8)	940.000(75,9)	932.183(62,7)	1.091.700(67,8)	1.267.843(69,1)	1.321.584(71,5)	1.249.004(72,8)
Sunflower	41.000(6,23)	135.000(15,6)	99.350(7,9)	250.617(16,8)	220.768(13,72)	193.800(10,6)	146.484(7,9)	101.000(5,8)
Total	653.474(100%)	889.003(100%)	1.248.926(100)	1.486.285(100)	1.608.321(100)	1.833.610(100)	1.846.336(100)	1.714.615(100)

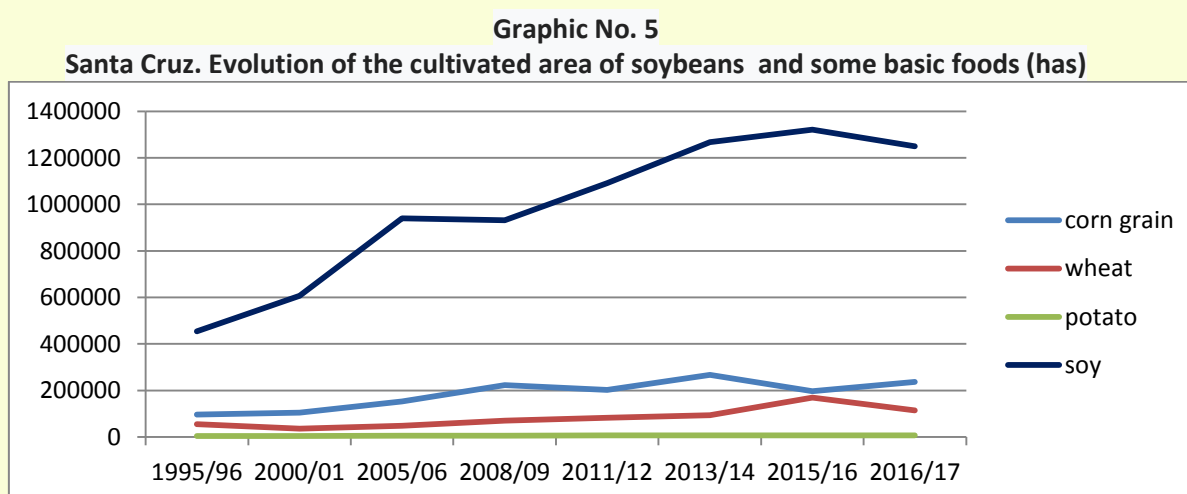
Source. -Built on data from https://INE.gob.bo (MDRyT statistics)

Although in the last 20 years the cultivation of soybeans has been predominant in the whole of the cultivated area in Santa Cruz, it has been increasing permanently, since representing 63% in 2008/9, it went to 69 % in 2013/14 and 72.8% in 2016/7. Meanwhile, basic crops such as tomatoes, carrots, corn, for example, have stagnated in their representativeness, and some, such as potatoes, even declined (2013 / 2014-2015 / 2016).



Source. Built on data from INE/MDRyT (www.ine.gob.bo)

The evolution of the cultivated area of soybeans in the last 20 years presents a tendency to permanent ascent, while the tendency of the main food products is stagnation and even low.



Source. Built on data from INE/MDRyT(www.ine.gob.bo)

As a brief conclusion, we can affirm that the current problem in Bolivia is no longer the dispossession of the land of small farmers or their displacement, the problem is the displacement of essential food crops by soy (there is an exclusion of food).

ii. Increase in food imports deepening the country's food dependence.

Food imports show an increasing trend in the last 14 years as they go from US \$ 218 million (2005) to US \$ 700 million (2014) and US \$ 580 million (2018). That is to say that between 2005 and 2018 food imports increased 2.66 times more. In those 14 years, the accumulated represented US \$ 6,562 million, equivalent to 16.2% of current GDP.

In terms of volume, imports show a general tendency to increase, although with some variations according to the years. According to the National Statistics Institute (NSI), the

volume of food imports between 2005 and 2018 ranged from 676,269.8 MT / average / year (see graphic No. 6).

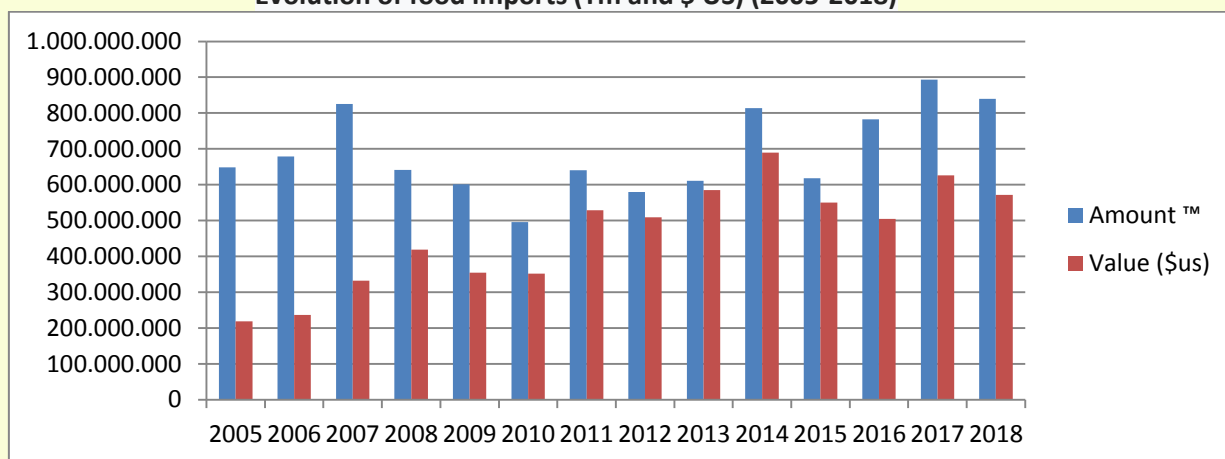
The types and groups of imported foods also vary according to the year³². According to a study on food imports (Prudencio J. 2018), in 2005, the main imported food groups were cereals (wheat, wheat flour and cereal derivatives) representing US \$ 128.7 million (53.14% of total imports). Ten years later (2015), Prepared Foods represent the first group of imported foods with almost 162 million (25% of total imports), a trend that remains in 2018.

The two food groups - which have a strong impact on the overweight and obesity of the Bolivian population - represent almost 40% of the total imported by the country, and increase the availability³³ of food for the general population.

The rest of the food imports are basic food products, which the country has always produced but which in recent years, due to the promotion of export products, has stopped producing and resorting to imports, as is the case of vegetables, tomatoes, fruits, tubers and others, causing the country to lose its food sovereignty and fall more and more into food dependence.

An example of the permanent increase in imports of consumer commodities are the imports of potatoes, the staple food of the population and whose origin is the country itself. According to National Statistics Institute (NSI) data in 2018 (04/26/2019 El Diario), 28,750 kg of fresh potatoes were imported; 3.8 million kg of frozen potatoes and 818,459 kg of chuño and tunta; In other words, potato imports accounted for US \$ 100 million.

Graphic No. 6
Evolution of food imports (Tm and \$ US) (2005-2018)



³² In other words, there is a permanent increase in food imports and their diversification; and on the other hand, an absolute lack of control because they are not subject to any regulation in terms of nutritional value.

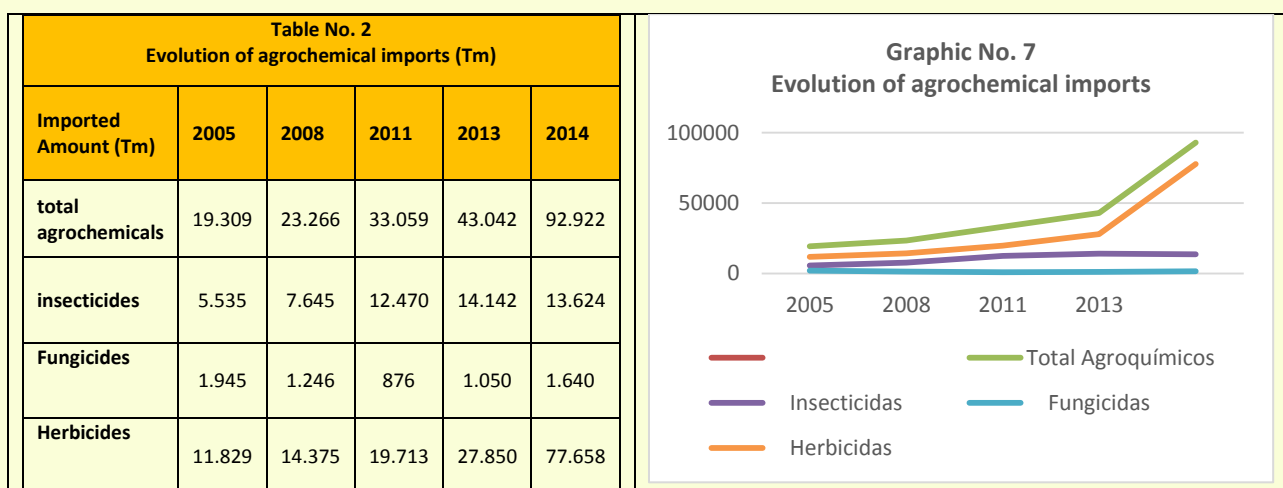
³³ "Wheat flour" increased its availability from 41.6 kg / pers / year / average (2005) to 44.5 kg / pers / year (2015). This availability, which represents 124 gr / pers / day, is very high for the population's consumption and contributes to an inadequate diet due to the excessive consumption of bread, noodles and other pasta - made with that product - therefore, an excessive amount of carbohydrates consumed. The availability of "prepared products" also called ultraprocessed foods, increased from 6.7 gr / pers / day to 12 gr / pers / day / average in the same years, that is to say it had an increase of 179%. This is a phenomenon linked in part to the worldwide expansion of processed products - especially of Chinese origin - as well as to the expansion of supermarkets in the last decade.

iii. Excessive and intense use of agrochemicals that exhaust the soil, pollutes the water, menace human health and intensify the country's dependence on the outside.

In fact, “the factor that most exhaust the soils and with this also leads to excessive use of agrochemicals, and that they pollute water and threaten human health, it is still the soil tillage system, which the government is not yet controlling (or implementing). On the contrary, it is promoting another system by donating plows and disk harrows” (Friedrich T. 2019 /FAO). This statement is very clear and forceful and points out one aspect - that of soil and land - not considered in government policies and also by farmers as discussed in the following sections referring to production costs.

Regarding the excessive use of agrochemicals, it is difficult to specify the increase in their use due to the constant change and misrepresentation of data referring to imports of agrochemicals by the state agencies specialized in the subject matter (NSI).

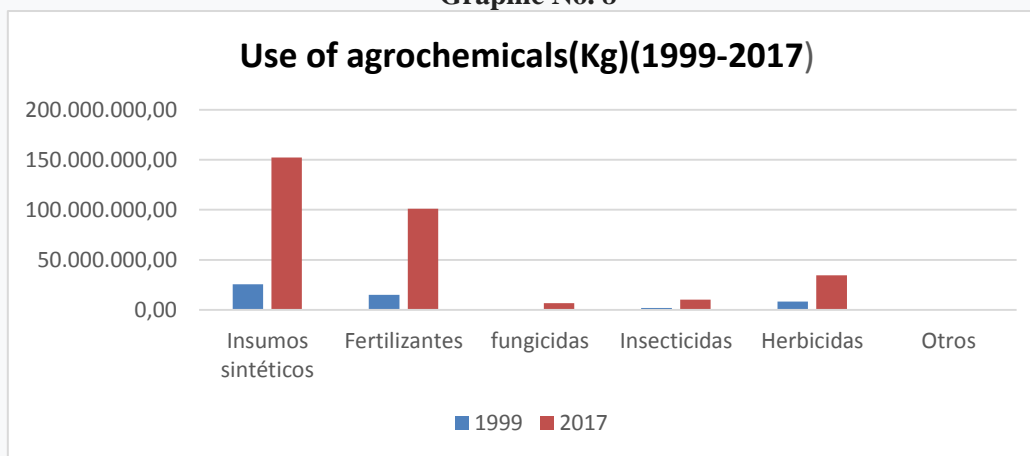
Until 2016, that institution had offered a series of data on which the following tables and graphs were configured, showing that the evolution of imports was permanent, having increased between 2005 and 2014; about 5 times more plus the amount of imported agrochemicals, the herbicides being the largest increase.



Other referential sources such as the Faculty of Biochemistry of the Universidad Mayor de San Andrés (UMSA) point out that between 1999 and 2017 the use of “agrochemicals”³⁴ increased by 500% (from 25,369,582 kg to 152,308,653 kg) as shown in figure 8.

³⁴ That includes synthetic fertilizers (herbicides, fungicides, insecticides) and pesticides.

Graphic No. 8



Note- Agrochemicals include synthetic fertilizers and pesticides/ Source. www.probioma.org.bo

Since the described agrarian model was implemented, with emphasis on soybean exports and monocultures, the use of agrochemicals at a general level increased from 32 kg / Ha (2007) to 44 kg/ Ha (2017); that is to say, it increased 137.50% while the productive yield increased from 4.36 Tm / Ha (2007) to 4.96 Tm / Ha (2017), that is 92 %³⁵.

Table No. 3

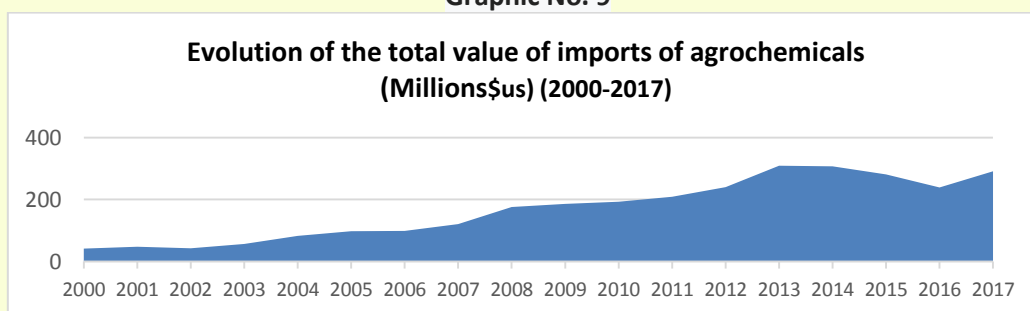
Use of agrochemicals and productive yields (2000-2017)(Kg/Ha)

	2000	2005	2007	2009	2011	2013	2015	2016	2017
Agrochemicals (Kg/Ha)	14	33	32	28	40	40	36	32	44
Productive yields	4,25	4,56	4,36	5,28	4,52	4,80	4,73	4,33	4,96

Source. Carvajal R. "Transgénicos en Bolivia: Impactos en la economía, el medio ambiente y la salud."

In terms of value, agrochemical imports also had a permanent increase. From a value of US \$ 42 million in 2000 they have increased to US \$ 121 million in 2007 and to US \$ 291 million in 2017. In the last 10 years (2007-2017), the country's dependence on the value of imports of agrochemicals increased 240.49%. (See graphic below).

Graphic No. 9



Source. Built on INE data

³⁵ Although with various increases and decreases every year, as the following table shows. The average of these increases is 4.71 Tm / Ha.

It also highlights that the use of agrochemicals is very intense, without control, without proper precautions and totally chaotic.

According to various investigations, in 2016 in the municipality of San Pedro where they grow soybeans:

“.. 64 brands of pesticides were identified. 4.7% of them corresponded to red labels ("very toxic or toxic"), 35.9% to yellow labels ("harmful"), 14.1% to blue labels ("be careful") and the balance (45.3%) a green labels ("care").
(PIEB 10/16/2018 www.pieb.com.bo).

A recent study by the UMGRM university of Santa Cruz (www.uagrm.edu.bo) conducted at the end of 2018 in 4 rural locations in Santa Cruz indicates that:

... At present there is an intense use of agrochemicals because they registered 243 containers with different brands of agrochemicals, in the production of soybeans, but also of corn, cayenne, tomato and other products. 8.3% of these agrochemicals are red label (extremely dangerous agrochemicals), 29.3% are yellow label, 18.8% are blue label and the balance (43.6%) is green (not very dangerous).

Decontrol is also carried out in the containers of already used agrochemicals, many of them associated with risks of environmental contamination and damage to health.

"The Pesticides - the prohibited ones - are found in almost every farmer's house approximately 540 tonnes of containers are generated per year that are a potential source of contamination a farmer generates approximately 30-40 kg / container / year ... 91% of these containers are thrown outdoors... "(cited in Prudencio J. 2017 PLAGBOL. "Healthy Food and Environment Project-AMAS 2014-2016").

All this shows us that there is a lack of very large information and, above all, lack of education and training for producers for the proper use of agrochemicals. In general, they are subject to merchant sellers who sell them anything under any indication highlighting the absence of regulations and provisions for those products, control and monitoring by government authorities and due control - "You cannot leave this issue of agrochemicals to market forces ... has not worked in any country "(Friedrich T./FAO 2018).

The intensive use of agrochemicals not only exhaust the soil, overexploits the land and pollutes the water, affecting the loss of biodiversity (in micro organisms and invertebrates). It also menace human health and intensify the country's dependence on the outside world.

iv. Increase deforestation.

According to FAN studies (2012), from 1999 to 2015 in Bolivia, 5.7 million hectares of forest are lost, the majority located in Chiquitanía and Chaco as shown in the following graph.

Graphic No. 10



The causes for this deforestation are: i) mechanized industrialized agriculture, which focuses mainly on the issue of soybean cultivation (and on a smaller scale, sunflower, coca, rice); ii) small-scale agriculture (intercultural producers, Mennonites and local farmers); and iii) land authorization for the management of livestock.

The Ministry of Environment and Water (MMAyA / ABT -2018) indicate in a recent report, that in the last 12 years (2005-2017) Bolivia lost 4 million hectares. of forests In 2005 there were 47.3 million Ha, but by 2017 the figure dropped to 43.8 million Ha, which shows a decrease in the area. The most affected region was the department of Santa Cruz.

The annual average of deforestation between 2000 and 2005 was 195,000 Ha; between 2005-2010 was of 205,000 Ha and between 2016 – 2017 it increased to almost 350,000 Ha.

This means that Bolivia, after Brazil, is the country that loses the most forests in South America (in recent years, it has the highest growth rate of the Andean countries in the loss of primary forests).

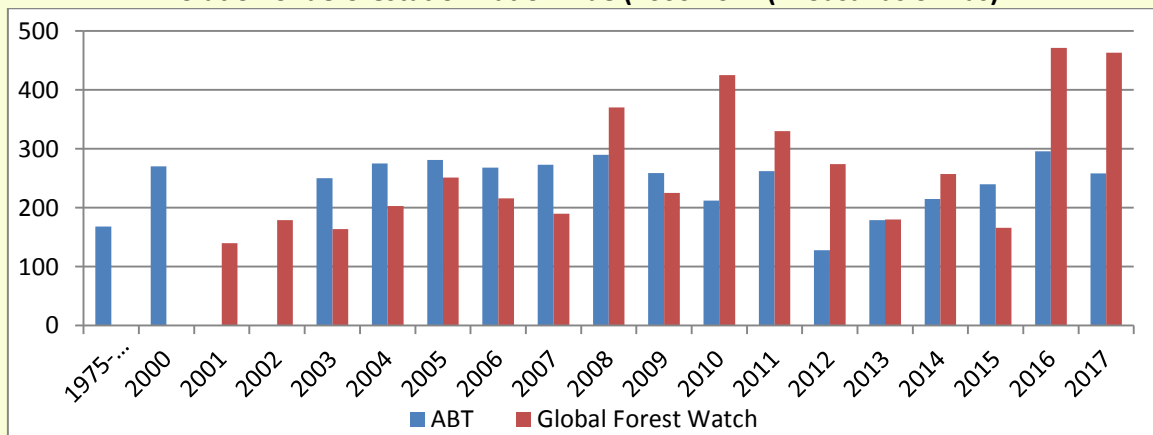


Of the total deforested areas, 76% (1.3 million Ha) are located in the department of Santa Cruz (throughout the Amazon region, the Chaco and Chiquitanía). Equally, of the 25 municipalities with the highest deforestation levels in 2016-2017; 23 correspond to Santa Cruz³⁶ and two to Beni (MMAyA ABT 2018).

Another source of international information (<https://www.globalforestwatch.org>) points out that deforestation in Bolivia is higher than that shown by ABT, especially in the years 2010, 2012, 2016 and 2017, as shown in graph No. 11.

In 2017, deforestation was 1.8 times more and in 2016 it was 1.6 times more than that indicated by the MMAyA / ABT in the same year.

GRAPHIC No. 11
Evolution of deforestation nationwide (2000-2017 (Thousands of Has)



Source.- Built on data from MMAyA/ABT , GFW y PROBIOMA.org.bo

³⁶ There are 10 municipalities (Pailón, San Julián, San Ignacio de Velasco, San Pedro, Charagua, Santa Rosa del Sara, El Puente, Ascent of Guarayos, San José de Chiquitos and Cuatro Cañadas that in 2016/17 presents the deforestation rate highest annual corresponding to 15.5%) that report the greatest loss of forests and they are in the department of Santa Cruz, with soy as the main crop.

v. It pollutes the water and generates an aquifer deficit.

The monoculture of soybeans, as well as the extension of the agricultural frontier for this monoculture, have a direct impact on water (not only because the agrochemicals used to produce soybeans strongly pollute the water) and also in deforestation.

When deforestation, in the absence of forests, water is no longer released into the atmosphere in a gaseous state (water vapor that cools at a certain altitude and condenses into clouds). Therefore, no clouds³⁷ are generated, also affecting the decrease in rainfall of the towns near to the soybean crops.

Some years ago, the PLUS (Land Use Plan) of Santa Cruz identified the expansion of the agricultural frontier, that is to say deforestation, as one of the main causes for the increasing frequency and intensity of floods, drought and erosions³⁸.

vi. It negatively impacts the seeds, which are the heart of food security and sovereignty.

The use of transgenic soybeans, in particular those that come from large Transnational Corporations, has a negative impact on the traditional seed system because it establishes a specific commercialization system for these seeds dependent on private companies, as well as a specific system for the conservation and commercialization of transgenics.

³⁷ Formation of clouds that are normally dragged from the Amazon and collide with the Cochabamba mountain range. With fewer clouds, less rainfall is generated, and with less rainfall there will be less water going down to the east, which creates an aquifer deficit and drought.

³⁸ In addition "that directly or indirectly affects biodiversity, the loss of species of plants and animals of their habitat, the loss of carbon sequestration capacity and the atmospheric accumulation of greenhouse gases, and the reduction of biomass "(Gobierno Departamental Autónomo de Santa Cruz 2009. PLUS of Santa Cruz).

SECOND PART

AN ESCASAMENTE MENTIONED RIDERS: THE INTERCULTURAL

The various studies / research conducted and / or supported by institutions on the situation and problems of the soy complex, describe, among other things, the different actors in the complex and the role they play.

However, although they are exhaustive and very valid scientific studies, which reveal a little known situation, these studies lack analysis or explain in depth the role played by an actor who for years has become an essential link in the Bolivian Soyero complex: soy producers that are now called Intercultural.

1. WHAT DOES RESEARCH ON INTERCULTURAL FARMERS ARGUE?

In summary, several of the studies / reports carried out³⁹ on the soybean complex in Bolivia argue, among other aspects, that:

- “..... .. (peasant farmers) are those who struggle to survive within the soybean value chain”.
- “... .They are forced to join the last link of agribusiness under highly unfavorable conditions”.
- “... .. peasants are incorporated into the soy system adversely (for low wages, for technology and supplies, for capital ...).
- “.... There is a new State-Capital alliance and as a result, small (soybean) farmers are marginalized and excluded”.
- “.... Their production conditions are difficult ... for example, they don't have credits”.
- "... their production costs (are high) do not cover their expenses ..."
- “....They do not have labor regulations (laws) that protect them as rural workers producing GMOs; of big capital and agribusiness (... absence of a labor regulation that defends the interests of the peasantry)”.
- “..... many (of peasant farmers) do not know the science behind transgenic seeds and are not conscious that agrochemicals remain in the soil for many years after their use.”
- They recommend that: “... .. (The organization) is crucial today... organizing can bring more benefits..... organizing to: a) Improve access to land... ..b) improve access to markets ... c) facilitate the participation of small producers so they can improve the results of their work, satisfy demand and reduce rural poverty and obtain food security.

From that perspective, it is noted that small farmers and peasants are victimized workers and forced to integrate into the GM soy complex.

³⁹ Ben M. MacKay (2018); Colque and Urioste (in Ben M. Mac Kay -2018); TIERRA Foundation “Small producers producers opportunities and threats” (Cartilla juin/ 2017), among others.

2. WHO ARE THE INTERCULTURAL?

They are families of peasant migrants who arrived mainly from Cochabamba, Potosí and Chuquisaca in the late 1970s⁴⁰ to the areas of Yapacaní, San Julián and others⁴¹ as part of the colonization process in the context of the PDRI (Integrated Rural Development Program) funded by the World Bank (US \$ 20 million) to solve the problem of peasant poverty in the western part of the country through the creation of new human settlements on tropical agricultural borders (Source: Population Policy Project. Ministry of Planning 1980).

Most of the families settled in directed and oriented settlements. In Yapacaní the system was oriented, creating 16 colonies for 1,779 families with 89,950 hectares for approximately 7,116 people. Access to land for new settlers It followed a slow, mediated and partial process.

In the San Julián area, the system was managed creating 27 colonies for 1,392 families with 69,500 Hectares, for approximately 4,172 people. Unlike Yapacaní, in San Julián, access to land was immediate and without bureaucratic obstacles.

Each colonist family was provided with a plot of 50 hectares⁴², although there were minor modifications in the San Julián region, since 9% of the colonist were provided with 2 plots (each of 50 hectares). Also, approximately 15% of the colonist bought land in the various NADEPAS (Associated Nucleus of Agricultural Production) that were part of the radially configured gaps, as in the Casarave gap for example. (Project BOL / 78PO1 Ministry of Planning 1979).

The settlements provided for the construction of roads, deforest, food assistance, communal water and health centers along with technical training; aspects that in the gaps nearby to the main road were partially met and not in the furthest gaps, which caused serious social and health problems.

Agricultural production in the colonies was done manually, with very little machinery (rented) but diversified, registering at least 14 products (rice, corn, cassava, peanuts, beans, fruit diversity - bananas, pineapple, citrus) whose main destination was family self-consumption, with the exception of rice⁴³ (its main source of income) with higher productive yields than in other similar areas (due to the fertility of the land).

Its main activity was agriculture but a segment of the colonist combined their independent agricultural activities with other complementary activities (trade, transport) and also as rural salary workers.

⁴⁰ Like the establishment of foreign immigrant colonies (Japanese, Mennonite and Okinawa), in the late 50s and 60/70.

⁴¹ Actually the settlements of colonies directed in Santa Cruz were Yapacani / Puerto Greter; Buen Retiro; Cotoca; Norte de Montero / Mineros / 4 Ojitos, Huaytu-San Pedro-Chané / Piray and San Julian in an earlier period; all of them under the Colonization Program CBF-INC (source: Colonization Program CBF-UN).

⁴² Actually 48 hectares. Well, 2 hectares. They were scheduled for the communal area (Squares, sports fields, school, health center and others).

⁴³ The 25% of the total production was destined for sale to merchant intermediaries who paid prices well below the Montero market, between 40 - 45% of the real price.

From the mid-1990s, these colonist ventured into the production of transgenic soybeans, now becoming an important actor not only in the field of soybeans but also at the socio-political level and in the Bolivian salaried rural peasants.

To this population of colonist, various functional actors of the MAS government are also added⁴⁴, both former officials of various ministries and former leaders of the various social organizations (CSUTCB-Bartolinas Sisa and others) to whom the government gave large extensions of land and now cultivate transgenic soybeans, despite having initially and repeatedly sustained the governmental discourse of food sovereignty, love of mother earth, the prohibition of the use of transgenic seeds and others.

3. WHAT THE INTERCULTURAL DOES?

i. They are inserted in the transgenic soy complex

According to the association of producers, interculturals represent a little more than 78% of soybean producers in Santa Cruz, cultivating approximately 10% of the total surface area of that product⁴⁵. This means that in 2018 they produced 278,042 MT (of a total of 2,713,681 MT in 2017/18) considering the average yield of 2.19 MT / Ha (ANAPO Annual Report 2018).

Being producers of transgenic soybeans, interculturals have assumed all the practices and actions that this productive system implicate, that is, they buy and use transgenic soybeans; agrochemicals - many of them prohibit internationally - damaging the land, polluting water, biodiversity and the environment.

They are also those who contribute to the heavy deforestation already described above, through deforest of their land and surrounding areas to cultivate more extensions with soy (for this reason, the government facilitated them and forgave the overflow through Law 741).

On the other hand, by extending the cultivation of soybeans, they have stopped producing other food crops⁴⁶, losing productive and consumption diversity, and assimilating monoculture to increase the export model.

With these actions, they are supporting the operation of the soy system, that is, the interests of large capital by exercising a model incompatible with peasant and indigenous family

⁴⁴ According to the INE, of the total population of soybean producing areas, 9% arrived after 2009 with the government party (MAS).

⁴⁵ That reached 1,269,600 hs have cultivated in 2017/2018, in the integrated zone (Municipalities of San Pedro, F. Alonso, Yapacaní, San Julián Norte, El Puente Norte; Okinawa and the South Mennonite Colonies), in the East Zone (Pailón, Cuatro Cañadas; San Julián; El Puente; San José de Chiquitos, Guarayos) and with the recent incursion into San Ignacio de Velasco (ANAPO 2018).

⁴⁶ Now they are dedicated to soybeans for export, but tomorrow they can change to another product whose price is high in the international market. This modality will not change as long as the State gives priority to international markets and export products, even in spite of its discourse on food security and sovereignty. If the State truly seeks national food security and sovereignty, it would support with adequate policies to recover exhaust land, recover seeds, increase productive yields, diversify production, combine agricultural and forestry, reduce production costs, support transformation / processing of products ... through subsidies to productivity (not to commercialization as EMAPA currently does), training, adequate and accessible credits, adequate machinery to the floors, short marketing circuits among others.

farming. They justify their actions in the name of poverty, lack of economic income and ignorance of the impact of GM soy⁴⁷.

ii. They demand the government for the liberalization of transgenics

As this is a social movement linked to the government party and in its constant search for greater benefits with soybeans, and given the current impossibility of empowering some phase of the soy system (of export management for example, of the supply of agrochemicals or of the transgenic seeds) they make the game to the great capital becoming spokesmen of this one and of the agroindustrial ones, manifesting constantly in favor of the release of transgenics, whether through the press, TV, demonstrations in the streets of the city of Santa Cruz and / or public pronouncements⁴⁸.

They have created some organizations⁴⁹ through which they argue that transgenics are necessary (for corn, sugarcane, rice, corn (Bt), cotton, soy, wheat, sorghum) for their virtues and to deal with pests such as the worm cogollero⁵⁰; to improve the productive yields that are very low with respect to the yields achieved in other countries; and to better face drought / floods.

They also suggest that ...

“These requests must be framed in the Political Constitution of the State and in the Law of Mother Earth; ... There must be a regionalization of transgenics⁵¹ and the early creation and operation of a National Biosafety Committee to regulate the use of genetically improved seeds⁵²”.

(Deisy Choque, executive of the Single Federation of Peasant Workers of the Four Provinces of the North of Santa Cruz - February / 11/2019 El Deber).

While these organizations facilitate the participation of the (small) intercultural farmers, they have become the spokespersons and spearheads of the economic and political interests of the other actors in the soybean complex, calling for more transgenic, new regulations and legal modifications.

iii. Demand for more Lands

For interculturals, owning more land is an important active, not only to continue to depend on soy agribusiness and large capital (and thus obtain the necessary inputs for the production of soybeans and the sale of this) but also to market / commercialize the lands⁵³.

⁴⁷ Some intercultural leaders justify their actions arguing that “they don't know of the damage for the introduction of the transgenic seeds” (Ben M. McKay 2018).

⁴⁸ See PROBIOMA 06/7/2016; Página Siete 07/15/2017; El Deber 01/25/2019 between others.

⁴⁹ The FSUTCPA - 4PN; CAPPO; ACIPAC; APPAO (Following the advice of the training received by the NGOs ?

⁵⁰ Plague in 2016 that attack from northern Argentina.

⁵¹ As if there was no contamination by air, genes and microorganisms.

⁵² Request that was immediately rejected by various national organizations / institutions (the Tropic and Chaco Agroecological Platform; SALP; the Confederation of Peoples of the East, the Bolivia Transgender Free Platform (<https://drive.google.com/file/d/1611Tmn93gOgc3d6teloF9LAmFP6fD808/>), among others, but accepted by the government with the DS 3874 of April 17, 2019 that authorizes the National Biosafety Committee to establish abbreviated procedures for the evaluation of Soy.

⁵³ Becoming the new landowners in the east of the country

For this purpose, they have not hesitated to take / traffic / overwhelm the lands and territories of the Indigenous Peoples and national reserves such as the taking of land in the Lomerío-Guarayos area (Ben M. Mac Kay 2018 page 5), in the Chore or in the TIPNIS.

According to the former director of INRA (León Rodas) in INRA there are more than 100 processes against land traffickers and it is a big problem without solving... "It was found that there are people who pretend some properties. It is a big problem to face"⁵⁴ (04/18/2019 El Deber)

Mr Rodas and the report on the "Public Accountability - Final INRA 2018" indicates that so far 86.1 million hectares (84% of the total) of land have been cleared, but both INRA sources do not report who they are the new owners of land or where they are located.

On the other hand, the government of Santa Cruz demand INRA/Santa Cruz several times for reports on the endowment of land in Chiquitania (municipality of San Miguel de Velasco) for the delivery of land indiscriminately to non-local families⁵⁵, without response until the date (04/15/2019 Página Siete).

A recent report about INRA (FTIERRA, 01/23/2019 Página Siete) indicates that this institution is not being able to face the problem of traffic and subsidence of fiscal lands, indigenous territories and national reserves⁵⁶. That there are people who despite having land, are accessing new lands⁵⁷. That there is no equitable distribution of land as there are at least 100 properties that exceed 5,000 hectares, which is the limit set by the Constitution. There is also no data on who is benefiting from the titling of fiscal lands and on what size of ownership. (FTIERRA, G. Colque 01/23/2019 Página Siete).

iv. They make requests that outline agricultural public policies

In the "First National Meeting of Small Producers of the Unity Pact", held at the Chuquiago Marka Fairground in La Paz on May 17-18 / 2018, there were various requests from intercultural delegates to President Evo Morales (who personally led part of the meeting) showing the concrete actions of this social sector as well as their aspirations.

The main requests raised⁵⁸ are summarized in:

⁵⁴ However, it does not provide more information about it (¿where is that traffic carried out? ¿who is involved? ¿in what situation are the processes? ... how much land are involved?)

⁵⁵ The denunciation of the Government indicates that INRA granted thousands of hectares of land to 37 families that are not from the place, which caused a series of protests from the authorities and residents of the place. The newspaper Pagina Siete (04/7/2019) also register that on March 30, 2019, about a thousand people attended the call of the Pro Santa Cruz Committee to meet in the central square of San Miguel de Velasco in defense of the Chiquitania menace by the arrival of people from the west, as there were INRA authorizations for the settlement of 69 communities in 130 thousand hectares of the Chiquitan region. It also presents various testimonies of indigenous Chiquitanos affected by the subsidence.

⁵⁶ For example "the case of Río Negro where there is a large Mennonite settlement, where there was already an eviction resolution since 2009 and the Government does not enforce that resolution".

⁵⁷ This is the case of "the Tucavaca reserve, where the beneficiaries, the Tupac Amaru Community, were all from the west, where they already had land. This shows that communities are being created and are giving fiscal land to people who, in many cases, already had land. In other cases, they are people who come from the Tropic of Cochabamba".

⁵⁸ In open contradiction with the requests of the delegates and organic producers who attended the event.

. We need more land, so we want the Mennonite lands since the land is for Bolivians and not for foreigners.

. We also want to distribute the lands of the department of Pando ... there are many lands fiscal and unused.

. In the east there are many free lands (that of the Indigenous Peoples ... the natural parks ... the forest reserves) and very little population ... those lands must be redistributed to us.

. The government must provide us with the direct purchase of agrochemicals because the intermediary traders present in the places of soybean production, sell us very expensive, in addition to obsolete products.

. That the government intercede with agribusinesses to improve sale prices of soybeans.

. That the government facilitates the direct export of soybeans because the agribusinesses of Santa Cruz (and the Brazilians and / or Paraguayans) pay us very little ... international prices are higher than what they pay us in Santa Cruz.

That agricultural insurance also covers soy producers.

. That there is banking credit for producers (intercultural) and at low interest rates.

All these requests and claims show on the one hand the way in which agricultural policies are delineated in the country (since several of the applications are already in the process of being implemented and or legalization) and also how this social sector wishes to be included socially and economically in the soybean complex, but no longer in the last link of the appropriation of soybean capital income.

v. They create a socioeconomic differentiation between them.

The various studies on soy maintain that small (intercultural) agricultural producers are marginalized and excluded from the soy complex, however, as the different data and information show, there is a simultaneous process of incorporation / marginalization.

There is an intercultural sector that is in the process of incorporating the soy complex along with the agro-industrial and large capital at the expense of generating greater marginalization within its sector. This means that there are new power relations between the intercultural themselves, between those who have more resources and are integrated into the soybean complex and those who have fewer resources and are marginalized, which can be checked by briefly analyzing certain variables.

In the possession of agricultural machinery. In the various soybean producing areas there are intercultural farmers who own agricultural machinery (harvesters, fumigators, tractors) evaluated at more than US \$ 100,000 each, which they rent to large and small producers, displacing manual labor and thus transforming the production process.



For example, according to the 2013 National Agricultural Census (INE, CNA), in San Julián, 6% of the farmers have tractors and harvesters, and 17% in Cuatro Cañadas⁵⁹.

Other studies (Suarez, Camburn and Crespo 2010) indicate that one third of the farmers in San Julián and Cuatro Cañadas own a tractor.

Although both sources of data are not similar and show large differences in the availability of machinery, it is clear that among the intercultural there is a small sector that can be classified as medium / large capitalized producers; and a large sector that does not have machinery and that must go to it through the rental of machinery, which affects production costs and income.

Interculturals that do not own machinery must rent it, since one day of machinery means 25 hectares harvested (previously they hired between 8 to 10 workers to harvest one hectare).

Usually they rent machinery from interculturals that have machinery. As they do not have capital or access to formal credit of the financial system, they establish contractual agreements with intercultural (and agro-industrial) companies that have machinery, to those who pay for the service with the harvest itself or in cash. They also go to the lender to obtain credits but in conditions even more disadvantageous, with extremely high and speculative interests.

In both cases, the intercultural is indebted and depending on the price of soybeans quoted by the oil producers, you can obtain profits or losses.

On the other hand, the intercultural ones that own machinery work their lands with their own machinery (tractor, combine, fumigator) so their production costs decrease and their profits are higher, in addition to having the extra income for the rental of their machinery to the other

⁵⁹ The possession of this machinery shows that the areas where intercultural areas are located with soybeans are very privileged compared to the rest of the rural areas of the country where the productive units of family farming are located. For example, in the region of the “valleys of the North of La Paz”, which includes 11 municipalities in an area of more than one million hectares and more than 100,000 inhabitants whose main activity is agriculture, the CNA (2013) registered as only 11 tractors, 2 harvesters with engine and 1 thresher with engine (cited in Prudencio J. 2018).

intercultural and even some large agribusinesses who do not have machinery because they find it very expensive to use the operators for sessional jobs.

According to studies, “this is the ideal type of producer to which all small farmers aspire and it is the one that attracts more entrepreneurs to the soyero complex. However, those who retain this type of profit represent between five and 20 percent of the total soy producers” (Ben M. Mac Kay (2018).

Another factor of differentiation between the members of the intercultural sector is occupation and working conditions.

Among interculturals with resources, such as several of them were and are government officials (MRDyT) and former leaders of social organizations (Bartolinas Sisa, CSUTCB), large tracts of land were granted⁶⁰ and produce transgenic soybeans with agrochemicals. They have accumulated land and have reached a capital that has allowed them to acquire machinery for harvesting and planting⁶¹. Their relatives and relatives manage these lands while they continue to perform functions in the cities (as Assembly Members of the Governments; advisors to INRA and / or MDRyT among others) and also to perform political functions in support of the governing party.

They do not consider agriculture as the first activity, although in the ANC they declare as such.

On the other hand, among interculturals without resources, such as labor has been displaced by the soy system (by machinery, supplies, etc.), the majority of that workforce now engages in self-employed activities in the municipalities / nearest towns such as San Julián and Cuatro Cañadas, such as merchants, taxi drivers, minibus drivers, mechanics, construction workers, road workers, among others. It is a rural workforce that has been displaced from the countryside, now dedicating it self to temporary and precarious jobs, although agribusinesses (ANAPO, IBCE) declare that soy generates more than 100,000 jobs.

Several investigations have shown (Suarez et al. 2010; Ben M. Mac Kay 2018; Pérez M. 2007) that the jobs generated by the soybean complex are located in transportation (in harvest period only), in processing⁶² and in cleaning / maintenance of silos, jobs which tend to precarious, seasonal, sporadic, obey specific contracts and flexible agreements that generate uncertainty.

⁶⁰ At the beginning of the possession of the lands and the production of transgenic soybeans, before the mechanization of the lands, the new owners (at that time, leaders of women's organizations) hired and brought women from the rural regions of Chuquisaca and Potosí for the harvest of soybeans (not hiring local people), paying them low wages and arguing that this generated employment and greater participation of women. They also accessed financial resources (from the Indigenous Fund for example) to support projects for the participation of women (chicken raising for example). A greater detail on the process of formation and initial participation of these leaders (before their change and misrepresentation) (cited by Jeppesen Anne Marie, 2015).

⁶¹ Machinery that they rent for hours to the rest of the intercultural ones, at market prices, thus obtained great profits.

⁶² “Many of the storage and processing centers employ between 2 to 6 full-time employees, 7 to 14 part-time technicians, and another 7 to 14 part-time workers. In addition, the drivers of internal transport trucks are hired during the harvest period that covers only a few months of the year and without any safety or labor benefits ” (Ben M. Mac Kay 2018).

vi. They have access to financing.

Access to financing is another variable that shows the privilege enjoyed by interculturals.

Because of their relationship and gear in the sojero system (that is, with medium and large producers and large capital), interculturals have access to the financial system through their joint organizations (credits with collective support), line of credits for export products only (such as soy, sorghum, sunflower) which is denied to the rest of the peasant and indigenous agricultural producers in the country, who produce products from the basic food basket.

Another source of access to intercultural financing is the 150 million dollar Investment Fund created by the government in January / 2017 with resources from the AFPs (Administrator of the Pension Fund) to cover the debts of farmers with commercial houses and the suppliers of agricultural inputs (seeds, agrochemicals, machinery) thus benefiting the agribusiness company⁶³, the large producers and the intercultural ones.

In reality, the financial system is part of the sojero gear because it not only grants credits to intercultural soy producers (under the label of joint organizations) but which also just opened a specific line of credit for soy⁶⁴.

In view of the extension of the agricultural frontier for soy production and the opening of biofuel production, the financial system also wishes to participate in the economic gains of the transgenic soy system, so it established the opening of credits "for the expansion of crops, the use of biotechnologies, the manufacture of biofuels, silos, machinery and equipment, as well as seeds, fertilizers, agrochemicals and fuels, among others with the best conditions in terms and interest rates"("Banco Fassil promotes agriculture with BioFassil, the first product to develop biofuels in Bolivia" (03/21/2019) (<https://www.fassil.com.bo/novedades/sociales/banco-fassil-impulsa-el-agro-con-biofassil-the-first-product-to-develop>)).

This also means opening the business of soy and biofuels to anyone who invests in the Fassil bank; It will generate profits from a distance.

On the other hand, the World Bank (WB) also encourages and supports this system since the International Finance Corporation (IFC) that is part of the WB, under the pretext of climate change and sustainable development, agreed to advise to BancoFassil "and support that pioneering initiative that reflects creating markets."⁶⁵

In this way, the government and its agrarian policy fully complies with what the World Bank proposes: "That the poor become capitalist farmers within the system agroindustrial; that they become wage-earning rural workers in or out of agriculture and that they migrate to the cities "(World Bank 2007, cited by Ben Mac Kay 2018).

⁶³ That it became a guarantor of the credits of the producers provided that they have an anticipated contract of sale of their production (thus forcing them to sell them their production).

⁶⁴ Banco FASSIL that since March 2019 is willing to grant all kinds of credits for the expansion of soybean crops and the use of biotechnology for biofuels.

⁶⁵ "IFC Management for the Andean region. Fassil newsletter "Page Seven 05/4/2019

vii. They have left the peasant cultural practices.

One of the aspects that most attracts attention in the intercultural social sector, as I noted in other articles⁶⁶ - is that they are losing their cultural references, they are losing their traditions, their ways of "doing," of producing, and their productive logic - and they are replacing it with a technological "package" (as the CAO calls it), that is to say by mechanized technology, more transgenic seeds and more agrochemicals. Even their own family labor (creating family unemployment) is replaced by machinery.

They are separating the reproduction of the seed from the peasant farmer - a fundamental characteristic for the country's food sovereignty - using / buying the transgenic seed. This means that they no longer reserve part of their harvest for the seeds of the next planting (since they have to buy the transgenic seed), they can no longer complement their crops with others as they did in their places of origin or their ancestors, they can no longer do integrated pest management as they have to fumigate with increasingly powerful agrochemicals.

They are thus losing their productive rationality (which consists of diversity and complementarity, among others), their ancestral knowledge developed and transmitted by generations, and their socio-cosmic nature (conformed by their human and non-human environment, or the nature-culture interrelation.) They are also losing the capacity they have as individuals and communities to resist, absorb, (re) adapt and recover from the different disturbances in their environment. That their resilience is important in the face of climate change.

In summary, this logic to which this social sector has entered implies not only the transnationalization of agriculture⁶⁷ but, above all, the denaturation of native indigenous peasant agriculture; and absolute dependence on agribusiness.

This action of the "intercultural" contrasts sharply with the approaches and practices of the rest of the organizations of indigenous peasant producers originating in Bolivia who request to stop once the extractive agroindustrial system based on monocultures, agrochemicals and transgenics. Rather, they propose the agroforestry system that implements the indigenous indigenous family family economy through soil / land recovery, harvesting and proper water management, the rescue and conservation of seeds, integrated pest management and phytosanitary protection, crops with coverage, productive diversity and crop rotation, technical training, the creation of food reserves and conservation techniques among others, as they pose through various instances and moments⁶⁸.

Thus, they no longer play the old roles assigned by the economy classical (producing cheap food, producing raw material for the manufacturing industry, creating jobs, freeing labor for industry and cities) or the new roles that native farmers and indigenous peoples are already performing in various regions of the Andes ([www .abaayacucho.org](http://www.abaayacucho.org); www.idmaperu.org;

⁶⁶ Pagina Siete 07/16/2017

⁶⁷ Industrial agriculture based on specialization and maximizing profits in the short term.

⁶⁸ In this regard, see the "Declaration of CIOEC and Peasant Organizations and Indigenous Peoples for the World Peoples' Conference on Climate Change in Cochabamba and COP 21 in Paris". (Integration Coordinator of Indigenous and Original Peasant Economic Organizations of Bolivia) 15 / X / 2015.

www.cesa.org.ec) as is to nurture the population (with the necessary amount of healthy and quality food, ensuring food security with food sovereignty), allow Earth regenerate without polluting the environment (in balance with ecosystems and biodiversity among others) and ensure the well-being of its own actors (in terms of decent jobs and sufficient economic income).

viii. They use the land without replacement.

One of the main arguments used by this social sector to request the extension of the agricultural frontier as well as the release of transgenic seeds to soybeans and other products is that productive yields⁶⁹ are low and their production costs are not covered.

And, ¿what are the intercultural production costs? According to themselves, the current production costs of one hectare of soybeans attain US \$ 400⁷⁰.

The structure of intercultural soy production costs (at the present time), in relative terms, is as follows:

Table No. 4

Soy production costs according to inputs and operations			
Agricultural supplies	(%)	Operations	(%)
Seeds	14.6	Soil preparation	1.70
Seed treatment	3.17	sowing	7.34
Herbicides	13.90	Agrochemical application	8.53
Insecticides	12.19	(7 x 5 applications)	
Fungicides	14.63	Harvest	13.41
Pre-harvest desiccant	3.17	Transport	7.32
Total item Inputs	61.70	Total item operations	38.30
Total Production cost		100 %	

Source: Built based on Mc Kay 2018 e I. Barrientos of CAPPO.

- . Most of the costs represent inputs (61.70%) while operating costs represent 38.29%.
- . Almost all input costs correspond to imported products.
- . Of the total production costs, 55.32% correspond to foreign products (seeds, agrochemicals), which must be imported.
- . Other high items of total costs correspond to planting, harvesting (rental of machinery) and transportation, which as discussed above, most intercultural farmers do not own this machinery.

⁶⁹ This issue of the productive yields of soybeans is also repeatedly demanded by agribusinesses, but in none of their addresses they raise or explain the context of social relations; that is to say, they do not analyze or describe social relations within the soy complex.

⁷⁰ Isidoro Barrientos Head of the Agricultural Chamber of Small Producers of the East (El Dut 11/05/2019). Other studies on peasant producers determine at US \$ 410 / Ha. (McKay 2018).

If the evolution of soybean production costs is analyzed and compared over the last decade, the largest increase in cost corresponds to external inputs (seeds, agrochemicals). It is estimated that from 2002 to 2015, these items caused an increase in production costs by 72% (Ben M.Mckey 2018).

But what attracts the most attention when analyzing costs, is that they do not include land replacement costs at all. Therefore, this production system of transgenic soybeans is called extractivist, because it is an intensive land plunder⁷¹. The objective of the producers is for the land to provide as much as it can, whether in the winter or summer campaigns.

Therefore, the production costs of transgenic soybeans - whether produced by intercultural, agribusiness and Mennonites - do not consider the indirect costs induced by this production system at all. They do not consider the costs of water and air production; the costs of flooding and river overflows because soils are not able to retain water; nor the costs generated by droughts; energy costs (subsidized for diesel used by threshers / harvesters); the costs of diseases that agrochemicals generate or the costs of climate warming generated by GM soy.

Neither they consider in their cost structure, the costs on biodiversity, on birds, on bees (important for the pollination of fruits and vegetables). ¿Why do GM soy producers do not pay these invisible costs to mother earth?

ix. They divide the national and international peasant movement

The Interculturals, when exercising/implementing an extractivist, monoproducer economic model, incompatible with peasant and indigenous family farming, enter into contradictory class positions with the farmers of the peasant family economy themselves, using the rest of the peasant agricultural sector to raise their claims, to pressure the government and the rest of society seeking to improve their socio-economic position regardless of the environment, the land resource, pollution, deforestation.

They thus become articulators (ingre) of the government before the great capital and agroindustrial soybeans.

This means that they are breaking the national peasant unit by playing the role of spokespersons / applicants for Transnational Corporations and agro-industrial companies before the government⁷². They prefer to play that role before unity before the rest of the Bolivian peasant sector. They forgot about diversified family farming; food sovereignty, mother earth care and the Human Right to healthy, safe, nutritious and sustainable food.

They are also breaking the unity and solidarity at international level with the other peasant movements such as Vía Campesina and with the recent COPROFAM (Confederation of

⁷¹ For the deforestation caused; due to the excessive use of water; by soil compaction by heavy machinery; by erosion caused in the soil; for the floods caused; by the appearance of new diseases and pests caused by pesticides, among others.

⁷² By requesting the government to allow more GMO crops (corn, sugarcane... ..); more diesel subsidy; further expansion of the eastern agricultural frontier.

Mercosur Family Producer Organizations)⁷³ to which the Bolivian peasant movement itself belongs, because they defend food sovereignty and sustainable agriculture; strongly oppose agribusiness and multinationals (<https://www.grain.org/es/article/entries/5983-cloc-la-via-campesina-nuestro-camino-a-la-soberania-alimentaria>).

x. The peasantry no longer constitutes the historical force of the country

The complex of transgenic soybeans has added to its capitalist, extractivist, overwhelming, mono-producer logic, a part of a social movement (the peasantry) that in the past was characterized as “the historical force of the country” (Calderón F .; Dandler J.) that advocated changes, who made advance the country, that constituted one of the sectors that fought for ethnic affirmation and identity, promoted participation processes, raised a series of just socio-economic and cultural claims before the State, defended from attempts at control and co-optation⁷⁴ by establishing various forms of struggle in relation to the different forms of historical and contemporary domination.

He was a historical actor in politics, a national actor, vital, but not subordinated to capital but rather offering alternatives for development, organization, self-conscience and forms of resistance based on his historical memory.

Today, this peasant movement is integrated into the logic of transgenic soybean plantations, so it is no longer necessary for them to be physically displaced. They are inserted in an innovative process of co-participation and co-governance, where problems (political and non-political) can be distributed among the actors in the complex, which requires mutual collaboration between them.

We are therefore faced with the formation of a new type of agricultural system, which emphasizes its orientation towards globalized markets, with intensive use of modern technology, capital mobility and with a “new global convergence of actors” between intercultural, agro-industrial peasants, the great capital and the State, with new forms of productive regulation, governed by the changing international prices of tradable agricultural raw materials in the stock market (merchandise / commodities).

⁷³ COPROFAM argue that peasant family farming must guarantee food security and sovereignty; the production of diversified, sustainable and healthy food (COPROFAM VI Global Conference, coprofam.org/201).

⁷⁴ Although we must also remember that at certain times of the past, they have also collaborated with authoritarian military regimes in exchange for privileges and concessions.

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