

Evolutionary aspects of industries in the State of Mato Grosso – review of historical and economic context

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Abstract

The state of Mato Grosso, after the 1970's, has undergone changes in its territorial space and dynamic development. As a precursor of the great changes is agribusiness, a structure that in recent decades has changed the face of Brazilian agriculture, which has been an activity increasingly integrated into industries and services. This study intends to bring into discussion the evolution of the industry in the State of Mato Grosso, in relation to innovation and performance, focusing on the agribusiness, relating it to the theories and studies available in literature, bringing to light some aspects, variables and factors that influence this process, with the aim of strengthening local activities or search for alternatives to internationalize business. The article approach parts from a socio-economic context, which is based on the state and social changes, emphasizing its rapid economic growth as well as territorial occupation. Among them data and parameters of main economic activities in the Midwest and the performance of the State of Mato Grosso, with marked changes in its context. The State of Mato Grosso, even being the biggest national grain producer, it is still growing in the processing industry, selling the biggest part of its production as commodities. Besides that, has had many difficulties in logistic management, in relation to the big geographic extension and few investments in infrastructure, which would make easier not only the flow of the production but also the instalation of agribusinesses which could add value to the production. The

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text provides reflections and records of information gathering aspects that demonstrate the growth of the State of Mato Grosso, which emerges as a standout in its productive capacity, focusing on agribusiness, one of the fastest growing activities in the global economy of production chains, mainly because of their heartfelt innovation technology. The State of Mato Grosso potential to agribusiness is one of the conclusions of the study, due to its high levels of production in agriculture and pecuary, regulated by the development of biotechnology, placing the state ahead in an economy which is in expansion in different segments and cultures. The socio-economic scenario presented is of innovation in the industries of the State of Mato Grosso, and expansion of activities, requiring labor qualification but mainly the adequation of cultures, technology, infrastructure, education and science, to turn possible a more hegemonic and less excludent development for the State.

Keywords: Industry. Innovation. Development. Agribusiness.

1 INTRODUCTION

The late 1960's and early 1970's is characterized by profound changes in the Brazilian domestic economic scenario. The country was experiencing a severe economic reinvigorator of profound changes in the manufacturing sector, turning to mass production, and an internal movement, characterized by migration to more advanced economic centers and by government policies aiming territorial expansion and occupation of land for agricultural production, mainly in the Mato Grosso Amazon.

This movement and transformations in Brazilian economy after the Second World War were characterized by José Serra (1984, p. 56) as "something of a paradigm of late industrialization of the country where economic growth and differentiation of productive forces have shown extraordinary vitality." The author stresses that the performances Brazil presented begun in the 30s, however, only after the end of World War II the manufacturing industry consolidated itself as a dynamic economy.

The subsequent period, from the 1970's to early 1980's, the expansion policy of the country predicted that the old oligarchic systems of land exploitation would give way to modern farming techniques, and from the archaic systems of land use begins a period of professionalization of the primary means of production and use of techniques disseminated by the Green Revolution. The dynamics of organization and production of the primary sectors and internal organization also needed to have their concepts reviewed. Octavio Ianni (1984, p. 103) highlights that "The traditional forms of organization, administration, manipulation of factors of production, etc.. proved to be unsatisfactory."

In the context of reorganization of territorial spaces and production dynamics, the state of Mato Grosso began its period of prominence in the Brazilian economy. First, becoming a "safety valve" for social problems of the south, southeast and northeast regions (BARROZO, 2008). Then, by providing opportunities to expand the agricultural frontiers in the Amazon, encouraging agribusiness, which had an ample opportunity for success in Mato Grosso due to the new model disseminated by the Green Revolution.

From the Military Government which start ruling Brazil in 1964, the state of Mato Grosso started its period of development and expansion, emphasizing on agricultural production where, primarily, was focused on the extraction of commodities. From the 1990's on, natural resources, especially extraction plant and wood, show signs of depletion and with the imbalance of this activity, there were sought alternatives for sustainable production.

The aim of this study is to bring into discussion the evolution of the industry in the state of Mato Grosso, in terms of innovation and performance, focusing on agribusiness, relating it to theories and studies in the literature, demonstrating some aspects, variables and factors that influence this process, to strengthen local activities or to seek alternatives to internationalize business.

This article is a theoretical approach, distinguishing itself as a descriptive study, considering that the research aims to characterize the evolutionary aspects of industries in Mato Grosso.

The research is a qualitative approach, using the literature review as a research technique, which sought to inferences about the historical aspects of the development of industry in the state of Mato Grosso, based on empirical research of national and state research institutes.

By means of literature, it was raised the main interest of the research data, performing the analysis of data collected, making it possible to demonstrate the evolutionary aspects of manufacturing industries in the State and profile of this economic sector, as well as understand the trends that arise from the historical evolution context.

2 CONTEXTUALIZING THE HISTORICAL AND ECONOMIC DEVELOPMENT OF MATO GROSSO

The state of Mato Grosso started its process of colonization in 1751, when expeditions called *Bandeiras* entered the area in search for native slave labor, mining and exploration of gold and gems. However, the northern region of Mato Grosso was effectively settled after the 1960s, when there was a great race for the exploration of new lands, mainly in search for a probable fast enrichment likely due to the country government policy for the occupation of the Amazon matogrossense lands (PICOLI, 2006, p. 92).

In 1977 there was the geographical division of the state of Mato Grosso. The area of 1,231,549 km² was divided in two area, the “noble” south, Mato Grosso do Sul, economically more structured, with road access to other more developed regions of the country, industries and higher revenue. To the north the most inhospitable region with jungle, forest, uninhabited spaces, little infrastructure, few roads and indigenous communities, the state of Mato Grosso, with 940,000 inhabitants, distributed in 38 towns, with a territorial extension of 903,357 km². Data from the 2010 IBGE (Instituto Brasileiro de Geografia e Estatística) census showed that the state has tripled its

population, with 3,033,991 inhabitants and readjusted its geographical division for 141 municipalities (IBGE, 1983, 2009, 2010).

A state of large dimensions and diversified natural resources. Of the 903,000 km², 550.000 km² are part of the Legal Amazon. The Amazon Legal, more for political than territorial dimensions, was created in 1953 by then SPVEA (Superintendence of Economic Recovery Plan for the Amazon), which had as main objective the development of plans to enhance the region economically. Despite some attempts of economic exploration of the area, this really got significance with the National Integration Plan, PIN, created in 1970 in the Military Government of President Emilio Garrastazu Medici, with the main objective the construction of road networks interconnecting the Amazon to other centers nationwide, building the road BR-163, south to north, linking the capital of Mato Grosso, Cuiabá to Santarem harbor, in Para, and the Transamazonic road - BR-230, east to west, from the state of Paraíba to the state of Amazon (BARROZO, 2008).

The programs of Federal Government began a process of migration to the north of Mato Grosso, encouraged by government policies and the various benefits offered to those who occupied Amazonic areas for agricultural activities.

Brazil was restructuring its economic base and the goals of the federal government were industrialization, modernization of the country, including agriculture industrialization. The old agricultural management techniques were improved by the principles of the Green Revolution, created by Norman Ernest Borlaug in the 70's. The Green Revolution technology developed models for use in the field, intensified the use of chemical inputs, farm machinery and genetically modified seeds (ALTIERI, 2002; HENRIQUES, 2009). It means that the agricultural activity was professionalized and industrialized, transforming it into large rural enterprises. Under the principles of green revolution the agricultural frontiers of Mato Grosso expanded, using huge areas of land, totally dependent of modern inputs (machinery, implements and pesticides), which have highlighted the state in the national and global production of grains, mostly soya.

The regional economy of the north of Mato Grosso has its history in two distinct stages: the first phase, from the late 1970's, through the action of military governments, based on occupancy and opening of the Amazon jungle. The main goal was expansion, occupation and creation of new towns, directing the economy to the extraction of natural resources, mainly wood. Secondly, after the devastation of trees, which occurred in a disordered and not sustainable way, there was cattle breeding and agricultural activities, with large tracts of soybean, rice, beans, corn and cotton, among other crops (PICOLI, 2006).

The period from 1960 to 1980 was characterized by a period of territorial occupation, being a period of survival. The period from 1980 to 2000, the occupation was economic and the quantitative aspects were still value, like to increase the production, make the state grow in numbers. From the year 2000 on the strategic direction of the state turns to qualitative aspects and economic infrastructure, when the state begins to consolidate production of agribusiness and becomes industrialized, initiates a process

of exportation of manufactured products, mainly food and energy (FIEMT – Federação das Indústrias no Estado de Mato Grosso, 2010).

The state has, however, several management difficulties in its production management. Factors such as logistics, mainly due to large distances between the municipalities and the developed areas, difficult access between production centers and alternative outlets for the wealth produced, are among the main factors that has created difficulties in the enterprise management industry. Mato Grosso has state and federal roads cutting its territory, in precarious conditions and hampering the transportation of goods and the deployment of manufacturing industries, particularly in the north.

Precisely in the northern are the towns with higher expression in terms of growth in the state, with impressive rates of economic growth and development of the country. We highlight in particular Lucas do Rio Verde, 250 km north of Cuiabá, which according to IBGE data (2008), had the highest growth rate in Brazil. The region has its economic base in the activities related to agribusiness and food production.

The development of the state of Mato Grosso becomes notorious from government programs and encouraging the migration of Brazilians from other regions. The state beacons its position in the ranking among the leading producers of grains in the world and the largest livestock producer in Brazil. Combining technology, large tracts of land and a promising market, states its presence known and grows at a rate higher than the growth of the country.

Agribusiness assured to Mato Grosso the first place in the ranking of Brazilian economic growth in the last 10 years. With an average of annual growth rate of 10%, accumulated in 12 years (IBGE analysis period from 1995 to 2007) an increase of 111.5% of GDP (Gross Domestic Product). The significant increase in GDP endorsed the state's economy as one of the most powerful in the country, also raising the per capita income of the population, which reached the 7th position in Brazil, with annual value of R\$ 14,954.00. The increase in the per capita income had a direct impact on the dynamics of social status, poverty alleviation, access to consumer goods, quality of life improvement and contributing significantly to better living conditions of the population with construction of roads and basic infrastructure, showing that Mato Grosso has an enormous potential and expandability.

Table 1 – Gross Domestic Product (GDP) – 1994 – 2004 – Brazil, Midwest and Mato Grosso

	1994	1998	2002	2004	Average Annual Growth
Brazil	1.022.582	1.052.954	1.226.733	1.311.678	2,52%
Midwest	62.364	71.985	107.621	119.454	6,72%
Mato Grosso	11.306	11.404	17.383	24.971	8,25%

Source: Adapted from Ramminger, Grasel, Zavala (2008). Original data from IPEA - *Instituto de Pesquisa Econômica Aplicada* (2008).

Table 1 shows the dynamic growth of Mato Grosso above the average of the Midwest and Mato Grosso. According to Censo Agropecuário IBGE (2006), agriculture accounts for Brazil, in economic terms, a GDP estimated at R\$ 102.4 billion / year. Mato Grosso participates with 7.8% of GDP, and for every R\$ 1.00 generated in rural property, has a multiplier effect of R\$ 2.5 of income in other sectors of economy, industry inputs, processing agricultural products and other household services. According to IBGE, in 2005, the state GDP total was R\$ 37,466,137.00, of which R\$ 16,973,332.00 equals the sum of agricultural and industrial productions.

This scenario adds to 114,148 agricultural establishments, 18,860 permanent crops, 35,429 temporary ones, with 19,582,504 heads of cattle, and also 10,814 heads of buffalo, 29,353 goats, 348,724 sheep, 1,241,410 pigs, 65,345,946 poultry and still 496,422,000 liters of milk, this according to Agricultural Census of 2006. Connected to the industry in the state it is recorded the temporary crops, among them, especially grain production. Soybean is planted in 5,822,567 hectares, resulting in 15,594,221 tons produced and generating R\$ 4,442,820.00. Followed by 4,228,443 tons of grains of maize and other crops such as pineapple, cotton, peanuts, paddy rice, sugar cane, beans, sunflower, cassava, melon, sorghum, tomato and wheat as the most important ones (IBGE, Censo Agropecuário, 2006).

Considering this information, it is emphasized that the state of Mato Grosso has the economic base directed to the agricultural industry and its processes, complemented by the extraction and derivatives, with direct implication in the formation of their economies.

3 ECONOMIC OUTLOOK AND INDUSTRY INDICATORS – INNOVATION AND AGRICULTURAL INDUSTRIES IN THE STATE OF MATO GROSSO

According to IBGE (2008), the data highlighted in Table 2, indicators of industry by regions of Brazil and its states, in descending order, considering the number of units installed and in operation, persons employed in the sector and industrial sales revenues annually (year base 2008):

Table 2 – Indicators of Industry Federation States by Region (continua)

States by region	Local units of industrial enterprises	%	People employed in local industry		Revenue from annual industrial sales – thousand RS	%
				%		
SOUTHEAST Region						
São Paulo	59.525	61.0	2.655.542	67.1	631.538.738	66.1
Minas Gerais	22.484	26.3	770.798	19.4	179.113.218	18.7
Rio de Janeiro	9.822	9.5	404.833	10.2	111.452.271	11.7
Espírito Santo	4.031	3.2	121.316	3.28	32.023.312	3.36
TOTAL	95.862	100	3.952.489	100	954.127.539	100

States by region	Local units of industrial enterprises	People employed in local industry		Revenue from annual industrial sales – thousand RS		
		%	%	%	%	
SOUTHERN Region						
Rio Grande do Sul	18.133	36.2	652.372	50.6	137.945.726	40.6
Santa Catarina	16.483	32.9	60.712	4.7	72.748.795	21.4
Paraná	15.408	30.8	575.930	44.7	129.121.175	37.9
TOTAL	50.024	100	1.289.014	100	339.815.696	100
NORTHEAST Region						
Bahia	5.102	24.8	200.111	21.7	76.800.071	60.7
Pernambuco	4.556	22.3	190.446	20.6	361.979	2.7
Ceará	4339	21.1	198.320	21.4	17.250.123	13.5
Rio Grande do Norte	1.636	7.8	75.830	8.2	5.717.654	4.5
Paraíba	1.447	7.1	64.615	6.9	5.371.846	4.3
Piauí	1.003	4.8	22.813	2.5	2.286.592	1.7
Sergipe	861	4.2	36.460	3.9	4.704.570	3.3
Maranhão	829	4.0	32.841	3.6	8.013.316	6.2
Alagoas	726	3.5	102.740	11.1	5.437.913	4.1
TOTAL	20.499	100	924.176	100	125.944.064	100
NORTH Region						
Pará	2.378	42.7	103.332	39.0	27.599.830	30.9
Rondônia	1.165	20.9	29.458	11.1	3.250.853	3.6
Amazonas	1.081	19.4	110.987	41.9	56.322.470	63.0
Tocantins	494	8.8	10.667	4.05	1.276.638	1.4
Acre	213	3.8	4.589	1.8	342.899	0.38
Amapá	136	2.4	3.937	1.5	423.915	0.48
Roraima	97	1.7	1.603	0.6	136.438	0.15
TOTAL	5.564	100	264.573	100	89.353.043	100
MIDWEST Region						
Goiás	5.411	51.8	182.129	51.4	38.567.606	51.1
Mato Grosso	2.559	24.5	85.235	24.0	22.007.315	29.1
Mato Grosso do Sul	1.362	13.1	61.367	17.3	11.484.554	15.3
Distrito Federal	1.114	10.6	26.036	7.33	3.414.170	4.54
TOTAL	10.446	100	354.767	100	75.473.645	100

Source: IBGE (2008).

The data presented in Table 2 shows that the most industrialized states of Brazil, in terms of number of industries, employment generation and net sales revenue, are in the southeast and south of the country, respectively. Regarding the Midwest, where the economic base is mainly focused on agribusiness, food processing and agribusiness inputs, one can infer that the state of Mato Grosso has its deserved attention. Mato Grosso, in spite of its recent economic prominence, has 25% of industrial production of the region. Its vocation to agro based economy is linked mainly to its geographical and cultural features.

Mato Grosso industry has as its leader the processing industry, especially the industrialization of: vegetable oil refining, slaughter of cattle, alcohol production, fertilizers, wood products, animal feed, rice processing, manufacturing of malt, beer, soda and the like, and also cement, and has shown annual growth rates. In 2006, showed a growth rate exceeding 7% by 2005 (SEPLAN - Secretary of State for Planning and General Coordination, 2010, a study from 2000 to 2005). The sector generates R\$ 6,229 million for the state, with emphasis on four sub-sectors: extractive industry, manufacturing industry, construction and industrial services of public utility, with special attention to agro-industries.

The food and beverage industry had growth rates of 14%, taking as a base the period from 2003 to 2005. The ethanol industry is significant in the state, with index raising from R\$ 183.1 million in 2002 to over R\$ 885.5 million in 2005, particularly for fuel alcohol (ethanol) as a function of changes of gasoline prices. This brings the state together with the neighboring Mato Grosso do Sul, for the ranking of the largest producers in the country (SEPLAN, 2010, a study from 2000 to 2005).

The wood industry, strong in the northern part of the state, had a decrease for the period analyzed by SEPLAN between 2000 and 2005. In 2003, the segment grew 13%, however, in subsequent periods, from 2004 on, a process of decline started. In 2004 declined by 6%, and in 2005 had a negative index of 0.95%, caused by the extensive operations conducted by the Federal Police, aimed at ending illegal Amazon deforestation (SEPLAN, 2010). The operations started in 2005 with Operation Curupira, sought to inhibit the illegal and irresponsible wood extraction in the region. Such actions, taken with environmental control agencies, made several timber companies shut down upstate, thereby creating delays for clearance of projects of sustainable management, permits and clearances of lumber, and other processes which would leverage the industry specifically in that region (MOURA, 2006).

These actions by the federal and state governments have forced a change in the profile of the economy and industrial enterprises in the northern region of Mato Grosso, which has been perceived since 2005 until the year 2010, toward economic activities mainly in trade, education and agribusiness food industries.

Table 3, adapted from the data of SEPLAN and IBGE (Brazilian Institute of Geography and Statistics) from Mato Grosso, shows the participation, in percentage, of value added by economic activities for the period between 2002 and 2005 in the state.

Table 3 – Participation in % of added value by economic activity of Mato Grosso

ECONOMIC ACTIVITIES	2002	2003	2004	2005
Agriculture, Forestry and Logging	21,63	24,88	29,67	26,16
Livestock and Fishery	8,11	6,89	5,68	6,01
Mining Industry	0,21	0,23	0,28	0,17
Processing Industry	9,66	9,01	11,06	10,28
Construction Industry	4,97	3,92	5,46	4,85
Water and Energy	2,34	2,93	3,07	3,35
Trade and Maintenance and Repair Services	10,96	15,42	13,73	14,03
Feeding and housing	1,14	0,98	1,08	1,25
Transport, storage and mail	3,22	2,77	2,54	2,45
Information Services	2,15	2,32	2,07	2,28
Real state and rental activities	10,41	8,57	7,37	7,92
Financial Intermediation, Insurance and Pension	4,79	3,87	3,02	3,6
Administration, Health and Public Education	14,38	12,59	10,51	12,19
Health and Education	1,33	1,17	1,16	1,84
Business Services	2,16	2,11	1,23	1,48
Other Services	2,56	2,35	2,06	2,12
Added Value	100	100	100	100

Source: IBGE, Contas Regionais do Brasil, 2002-2005 / SEPLAN – MT (2006).

It can be seen from Table 3 that in 2005 the manufacturing industry accounted for 10.2% of economic activities in the state, adding with construction industry, with 4.85% and the mining industry 0.17% , amounted 15.22%. In the ranking of activities, in percentage terms, only were lower than those economic activities linked to agriculture, forestry and logging. These, are directly linked to agribusiness (except forestry). Thus, there is an overview of the main economic activities in industry developed in the state.

Other important indicators in terms of economic are related to regions and municipalities of Mato Grosso: Cuiabá, Rondonópolis, Várzea Grande and Sinop. The capital Cuiaba has the largest industrial park of the state, with 809 units installed, equivalent to 25% of the total. The main segments are in Cuiaba food and beverage, printing and reproduction (graphic park) and the garment industry. Rondonópolis is in the second position of most industrialized towns and has 331 units installed, with emphasis on food and beverage, industrial industry(machinery and equipment), chemicals, nonmetallic mineral products. With the third largest industrial state, is the city of Varzea

Grande (city of the metropolitan area of Cuiabá - geographically fused to capital), with 7.67% of state industries, stands out for segments of food products and beverages, wood products (furniture factories), and nonmetallic mineral products. Sinop, 500 km from Cuiaba, known as a main city upstate, or “Capital do Nortão” stands out by welcoming 494 industrial units. In 2009 was opened its DIC (District Industrial and Commercial). The main industries are wood products, food and beverages, nonmetallic mineral products among others. It still has a pole of regional public services in the area of justice, labor court, Internal Revenue Service, Federal Police, IBAMA and others. Figure 1 shows the regions and municipalities of greater significance in the industrial sector of the state of Mato Grosso.

Picture 1 – Regions and municipalities of MT, with higher Added Value of the Industry



Source: IBGE, Gross Domestic Product of Municipalities: 2002 - 2005 / CONAC and SEPLAN/MT (SEPLAN, 2006).

4 THE INDUSTRIES AND INNOVATION IN THE STATE OF MATO GROSSO

The term “innovation”, despite the discussions about the meaning of bringing something new to familiar things or really bringing new things, neither known nor similar, has been discussed in literature, either in the classic works of Marx or the discussions carried out by Schumpeter’s economy.

Possas (2002) says that Schumpeter’s vision, or Schumpeterian vision, innovation relates to economic development that occurs over time, being subject to the dynamics of actions and transformations based on the diffusion of innovation under unin-

errupted process as susceptible to economic changes, where companies and products operate, encompassing processes, sources of raw materials, markets and even in terms of geographical influences.

Given Schumpeter's vision for innovation, we can infer that the state of Mato Grosso has shown in its industrial history, characteristics of economic evolution in terms of the evolution of dynamic actions, given its indicators in the industry. The main industries of Mato Grosso are manufacturing and mineral extraction industries, as classified by the Statistical Yearbook of Mato Grosso (SEPLAN, 2006):

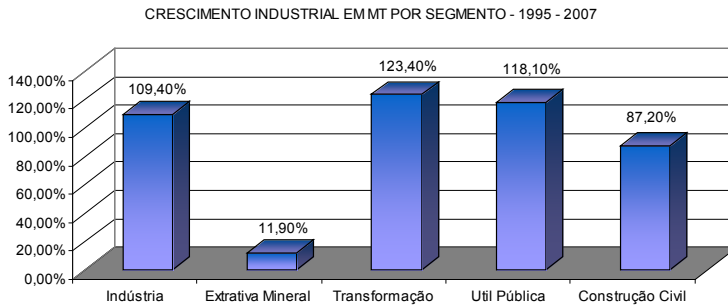
Table 4 – Number of industries in the state of MT by economical activity

Mineral Extraction Industry	Processing Industry	Total of Industries in the State of MT
307	8.148	8.455

Source: Adapted from SEPLAN, Statistical Yearbook Mato Grosso 2005 (2006).

In the group of mineral extraction industries are: coal extraction - 18 companies, oil drilling and related services - 1 company, mineral extraction - 58 companies; extraction of non-metallic minerals - 230 companies. The manufacturing industry group is composed by manufacturing food products and beverages - 1693 enterprises, manufacturing of tobacco products - 2 companies, manufacturing of textile products - 170 companies, apparel and accessories (clothing) - 455 companies, manufacturing of wood products - 2731 companies, manufacturing of pulp, paper and paper products - 30 companies; editing, printing and reproduction / recording - 472 enterprises, manufacturing of coke, refined petroleum, nuclear fuel development and alcohol production- 14 companies, chemical industries - 277 companies, manufacturing of rubber and plastic - 184 companies, manufacturing of non-metallic mineral products - 600 companies, manufacturing of metal products excluding machinery and equipment - 632 companies, manufacturing of office machinery and IT equipment - 4 companies, manufacturing of machinery and equipment - 180 companies, manufacturing of machinery, equipment and electric material - 65 companies, manufacturing of electronic and communication equipment - 8 companies, manufacturing of hospital and medical equipment, precision optical instruments, and industrial automation - 9 companies, manufacturing and assembling of motor vehicles, trailers and bodies - 77 companies, manufacturing of other transportation equipment - 16 companies, manufacturing of furniture and miscellaneous - 487 companies; and Recycling - 42 companies (SEPLAN, 2006, p . 483-491).

Picture 2 – Industrial Growth of MT by segment – 1995-2007



Source: Fiemt (2010, p. 10).

The average industrial growth in Mato Grosso, in the analyzed period from 1995 to 2007, was of 90% in the industrial segment. We highlight the manufacturing industry related to agriculture and livestock. It is important to notice that the data shows an increase in Fiemt employability in industry, for the same period by 385%. The sector generated 28,359 jobs in 1995, evolving to 137,820 jobs in 2007. The sector represents 21.4% in the generation of formal jobs in the state (Fiemt, 2010).

It is noteworthy that in this context, observing the Schumpeterian view, the number of industries in the state of Mato Grosso presents dynamic and fast-paced development, considering that the state in terms of production and integration in national and international economy has only been prominent in the last 40 years. The production processes are changing and innovation, sources of raw materials and production processes consider geographic and cultural vocations through the process of adaptation of local peculiarities.

For Schumpeter (1961), social trends, changes in economic scenarios and models of society, development of productive forces (based on Marxist society) are influenced by the processes of innovation in terms of markets, companies and products. Whereas in terms of the outlook for industry in Mato Grosso, there are such factors, observing the formation originated from historical and economic process of constant and recent innovation in society and market, reported in the introductory and initial stages of this study.

In this sense, innovation is constantly seeking extraordinary profit as obtaining competitive advantage among actors (companies) to differentiate from each other, both in terms of technology, market factors (processes, products, materials, organization, customers, competitors, after-sales) and others (POSSAS, 2002, p. 418).

As for innovation, Possas (2006) lists the effects of innovation with competition, where the latter is a dispute, or in a Schumpeterian vocabulary, a selective process, the author makes a point of discussing about the monopolistic characteristics of competition¹. Furthermore, considerations of Possas (2006) on competition and its concept and /or interpretation, believe that companies are agents in decision-making process for issues “of what and how to produce”. With this triggering the creation of competitive advantage.

Innovation, when introduced, change roles of market players, changing environments and forms of selection, competition in the markets. To this Possas (2006) resuming studies of Josef Steindl (1945-1952), reports that the role of economies of scale, the profits generated by innovation, larger firms have differences in costs and profits, allowing greater accumulation of capital than smaller firms.

For Costa (2006, p. 4), Schumpeter spoke of changing innovations, which can not be predicted in advance. These innovations relate to the systemic form, introduced by business activities and lead to disruption of the balance provided by the circular flow². Thus, the economic evolution occurs by discontinuities in this situation and due to the introduction of novelties, innovation, to facilitate the functioning of the system.

In relation to innovation, Richardson (1972), states that multinational companies, factors such as form of cooperation, organization, planning and pricing policies among others, lead to competitive advantages (challenges in the internationalization of business), can have on innovation a justification for profit and capital accumulation over competitors. For the industries in the state of Mato Grosso, these factors are privileges for transnational corporations that dominate in particular the agribusiness sector.

It should be noted what Nelson says (1999) about innovation, new technologies and the involvement of public entities, either governmental institutions or universities that assist firms in the economic process of transformation of new technologies and the resulting industrial innovation.

In this particular, based on what claims Nelson (1999), about innovation, the analysis developed in this study allow us to observe that there is a tentative engagement between public authorities, universities and funding agencies for research and data generation, about which more significant economic processes are of low number of records and information, as well are of three years outdated. The most current official data, from the state government of Mato Grosso via Statistical Yearbook are based on surveys in the period from 2000 to 2005.

Nelson and Rosenberg (1999) article in *Science, Technological Advance and Economic Growth*, the approach and understanding they have of the relation between science and technology, defining an activity as a “puzzle”, what can be accepted or rejected, depending on its own criteria. Warn of new knowledge that is generated from past practice of science, citing the example of the modern chemical industry that comes from ancient alchemy, the modern biology that derives from studies on humans, animals, plants and diseases, as practiced by ancient civilizations, such as in Asia.

Many technological developments have evolved in the twentieth century. The disciplines themselves are interrelated (chemistry, physics, biology, mathematics, modeling studies, etc.) generating new knowledge. In fact, great insights come from established knowledge, generating innovation based on science advance, reducing technological uncertainties, leading inventors to create more knowledge (NELSON and ROSENBERG, 1999, p. 57).

Probably in the Mato Grosso scenario, these aspects are considered in a direct way, as companies operating in the state, most of them newcomers, coming from regional entrepreneurs who have chosen this geographical region for their investments, and fewer in number, but in the process expansion, record corporations transferred from other locations, such as Sadia & Perdigao (U.S. Food) in Lucas do Rio Verde, Bunge in the town of Sorriso, Amaggi at Sinop among others, all with direct activities to Agribusiness

Studies by IMEA (Instituto Mato Grossense de Economia Agrícola) project that over the next 10 (ten) years - the period 2010 to 2020 - the state will grow only about 49% in soybean production, which surpassed in 2010, 18 mil/ton. The projection of the growth of maize production is 95% for the same period. The numbers of slaughter of animals - cattle and pig - are also significant. Increase of 80% for cattle and 180% for pig. Grain production in general is expected to grow over the next 10 (ten) years 60%, from the current 27mil/ton to 43mil/ton. For the production of meat, the increase reaches 116%. This growth, according to projections from the IMEA, should happen by the use of degraded lands to production areas, because previous studies show that there are about 9 million hectares suitable for this conversion. For livestock production, the growth will come by the intensification of beef cattle and especially the transformation of plant protein into animal protein, in the state (IMEA, 2010).

This propulsion of agribusiness in the soil caused the Mato Grosso a chain effect “called” for growth other economic sectors. Agribusiness grew 257%, considering the processing industries, between the years of 1995 and 2007. The industrial sector grew expressive 109% and services, 71%. The significant growth changes the scenario of the state: more roads, more infra-structure, more technology, air connection with all states and major cities in Brazil and mainly standing out for its modernization and progress (IMEA, 2010).

Agribusiness caused severe economic and social spatial transformation in the state of Mato Grosso. In just over 40 years, what was considered a huge demographic void, the northern portion of the state turned into a major economic cellar. The production of grains and animals projected the state internationally and the image witnessed by the third millennium is a huge construction site, in most areas of Mato Grosso.

For the Federation of Industries of the State of Mato Grosso - FIEMT (2009), the future holds excellent growth perspective for the state, and among the growth strategies of the organization support innovation and to stimulate private investment are factors which greatly contribute greatly to the attainment of the growth objectives. Increasing investment in infrastructure, development of foreign trade, expand market access, strengthen industrial strategy and improve infrastructure focusing logistics, among others, are factors in the state’s economic onslaught.

5 FINAL CONSIDERATIONS

This study had as main objective to generate reflections on the industrial growth in the state of Mato Grosso, in particular its indicators, outcomes and actions in relation to evolutionary aspects. It should be noted that the economic outlook of the Midwest of Brazil, there is the potential for activities related to agribusiness, caused by socio-cultural and economic colonization, and geographical aspects and still an recent and under construction social history, especially when compared to regions with a historical background and most developed economy.

The FIEMT (2009) had a positive outlook in many industrial sectors within the state. You are in demand and energy production, in which Mato Grosso is a the potential supplier in its hydraulic potential, biofuels, expansion of construction, tourism potentialities of the state and the abundance of its natural resources, based on forestry and mining, and especially in the manufacturing industry adding value to agribusiness, tourism and services economy expanding in different regions of the state.

The potential of agribusiness, particularly for agro-industries becomes evident, turning to developed and emerging world economies (overall exports increase), productivity levels unimagined at the beginning of the economic exploration of the state, which currently pose the state leadership, only alternating with Parana and Rio Grande do Sul, traditional producers of soybean and corn. It initially presented geological conditions of poor soil nutrients and low and short productivity, exhausting in a few years the natural production potential. However, biotechnology put the state at the forefront and studies presented, referring to reflections and records of a booming economy in different segments and cultures.

As a limitation of this study in relation to a major update of indicators on the industry of the State of Mato Grosso, a factor that could inspire further investigation of this nature to scholars and researchers, due to the diversity of economic activities that can be developed in this region of Brazil.

Growth rates in the state of the economy are inciting, the data refer to a thriving future and featured in national and international economy. Closing with the idea that the information recorded here is optimistic for an economic environment with potential for expansion and innovation in industries of Mato Grosso, but the lack of qualified people, integration of public forces, educational institutions and institutes of science and technology are still incipient, and a precarious logistics network, factors that truncate the process of state development.

Notes

¹ Possas (2006, p. 17), monopolistic features and competition are close to oligopoly, since in terms of market classification it is necessary to disclose existing and /or potential competitors.

² Costa (2006, p. 3), mentioning Schumpeter – economic life passes monotonously being that each produced good finds its market period after period.

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