

## 2. Markets and Trading

### (1) International General Scenery for Grains

Although it has had growth of the production in the developing countries, especially in China, the international market of grains stayed stagnated in the period 93-98. The severe fall in the consumption in the developing countries, the nick in the prices of the cereals in 1995-96 and the global financial crisis contributed to the contraction in the growth of the imports. In spite of, such events have been considered of nature of the situation and they should not affect the development of the market significantly, in the medium period.

In contrast with the previous decade, the projections of FAO, for 2005 year and considering the period-base of 93/95, appears for a scenery of more positive growth in the world market of grains, particularly for trading, based in the following ones presupposed:

- intensification of the production systems of meats, with a fort disputes derived of forage grains for animal feeding;
- faster growth of the income, when compared with the previous period, with a strong economic recovery in the countries in transition;
- the continuation of the structural reform and, finally,
- compromising of the countries with the norms of the World Organization of the Trade.

However, to continue pressures of the European agricultural section and, in smaller degree, North American, for the continuity of the protectionism, given the persistent fall in the international prices of the grains, the confirmation of this last presupposition of FAO seems not that it holds, what can frustrate the world expectations of better path of the grains in a close future. The medium and long periods are waited for the reversion of this picture for the agricultural production of the emerging countries, above all of those, like Brazil, that can still enlarge current agricultural border (with the incorporation of areas under vegetation of Savannah - "the last world agricultural border" - distinguished opinion of Norman Borlaug, Prêmio Nobel da Paz).

In 2000, to world production of grains it was esteemed in 1.896 Mt, (being 908 Mt of traditional grains, 560 million wheat and 396 million rice), 1% smaller than in 1999. Though, according to estimates of USDA, she should not be enough to assist to the consumption of 2000/01, what would result in the reduction of the world reservations in this station.

### (2) Rice

#### (2.1) World Balance

Historically, only 4% of the world production are marketed in the international market. In the period 1992/93-99/00, of the total of the world production (6.297.423 thousand t), only 2,71% (169 127 thousand t) they were exported (Agriannual,2000).

The economy of the rice is strongly concentrated, with Asia answering for 90% of the production and global consumption; for 50% of the imports and 72% of the exports between 1993 and 95 (FAO, 2000). In the harvest 1998/99, the five larger countries producing of rice in Asia (China, India, Indonesia, Pakistan and Thailand) they produced 277 Mt of polished rice, (70,3%) of the world total (394 Mt).

The projection of the expansion of the world production of rice is of 1,4% a.a., totaling 424 Mt, in 2005, clearly below the growth rate of the period 1984-93. Most of the expected growth should be due to increments in the productivity, and the cultivated surface should grow marginally, less than 2% in the period 93/95-2005. Some countries, including Japan and Egypt (with 1,8 and 0,5 million of hectares of area picked in the agricultural year 98/99, respectively), they have been instituting politics, longing for gradually to reduce rice cultivation areas, while other, like China, Indonesia and Philippines (with 31,21,

11,85 and 3,63 million of hectares picked in 99/98, respectively) they have been trying to protect the busy areas with the culture of the rice of other uses.

According to USDA, in the last decade, the picked area increased 4,64% (of 145,6 million for 152,7 million hectares); the productivity, 9,19% (of 2,38 for 2,59 kg/ha) and to world production of rice, 12,38% (de 346,5 for 395,5 million tons).

China, India, Indonesia, Vietnam and Bangladesh answered for 69% of the world production of rice, that it was of 553,9 Mt, on average, in the period 1994/96 and for 74% (of 592,9 Mt), in 1999. The Brazilian production, in those two periods, was of 10, 6 million (1,91%) and 11,6 million t/year, (1,95%).

The annual world demand of rice should grow to an expected annual tax of 1,3%, for 422 Mt, basically accompanying the population growth. This means that the consumption per capita medium world championship will stay constant, around 59 kg/year, influenced by the clearing decline in Asia. In that area, changes in the consumption patterns are expected in the medium period. In Latin America and Caribbean, a substitution of traditional grains is expected by rice, strengthened by increments in the income. In the developed countries for the growth of the per capita consumption is waited, for influence of the diversification in the diet, for demographic changes.

For being very small, the international trading of rice checks a high degree of variability in the transactions: small flotations in the production or in the consumption they can induce to great surpluses or need of imports. In normal conditions, the international trade of rice should grow about 2% a.a., or 24 Mt about 2005, about 6% of the world production esteemed. The countries of Asia should stay as main destiny, with about 49% of the total. The African countries should matter plus, especially because, in several other occasions, they reduced the barriers to facilitate the trade. Like this, the dependence to external sources of supply should grow for 30% of the total consumption, about 2005. The imports of the developed countries should grow moderately, in relation to the previous period. The 6 main countries importers of rice were Indonesia, Bangladesh, Philippines, Nigeria, Saudi Arabia and Brazil, with 10,48 Mt in the agricultural year 1998/99 (15,3% of their productions on that year), of the which 850 thousand tons for Brazil (or 10,98% of his/her domestic production).

The embarkments of rice of Thailand and Vietnam should grow. Although Thailand should stay leading the world supply of rice, it should lose participation in the market for Vietnam, that can consolidate the current position of second world exporter. Increments of sales for Pakistan, Myanmar and Cambodia are projected also. To the opposite, India and USA they should export less, although they stay as important players in the international market. It is waited that China recovers liquid exporter's of rice status, but in limited volumes. The exports of the developing countries should arise for more than 2 Mt/ano, up to 2005, mainly for the increments in the exports of Uruguay and Argentina.

The world stocks of rice should grow, in absolute terms, for 65 Mt, equivalent to two months of global consumption and about 8 Mt the more than in the previous period. It is waited that the prices of the rice are 5% higher in 2005. For an increment is waited in the import of average rice and high quality, the contrary of what should happen with rice of low quality. However, the broken rice, destined to the animal feeding, should have warm demand, what will avoid the accentuated decline of the types of inferior quality, in the next five years. In general, given the tension relatively in the projected swinging and the small proportion of marketed rice, the prices in the international market should be very sensitive to the demand and/or you collide of offer.

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## (2.2) National Panorama

The national production of rice was of 11,24 Mt in 1995 and of 11,54 Mt in 1999, in an area cultivated decreasing of 4,3 million for 3,7 million hectares, meaning productivity earnings, that rose of 2.630 kg/ha for 3.110 kg/ha. The country occupies the 4th world place in cultivated area, the 5th in production, the 6th in productivity and the 4th place in imported volumes of rice.

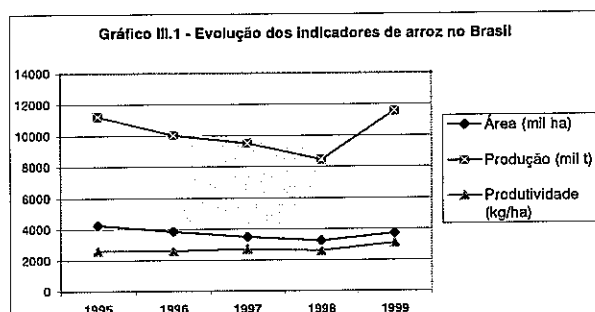
The Brazilian production of rice is in great measure, concentrated in the irrigated cultivation of Rio Grande do Sul, responsible for almost 50% of the total volume produced in 1999. There 977.522 hectares are irrigated, representing 26,4% of the area picked in Brazil, in 1999. Its historical medium production is of 4,5 annual Mt, tends the harvest 98/99 reached 5,6 Mt. The productivity of Rio Grande do Sul has been maintaining her, in the last harvests, among 4.900 to 5.000 kg/ha, and productivities above 6.000 kg/ha are obtained in 9,4% of the cultivated area; between 5.000 and 6.000 kg/ha, in 26,4% of the area; between 4.000 and 5.000 kg/ha, in 51% of the cultivated area and below 4.000 kg/ha, in 13,2% of the area, according to IRGA/EMATER/RS. The production cost, although very variable, according to IRGA was in R\$ 1.422,77/ha, in February of 1999. Considering the price of the rice to that time, they were necessary 76 sacks (60 kg) of the picked product, clean, no benefitted, to cover that cost.

In the vision of authorities and producers gauchos, "the culture won't expand in that State, for the traditional practice of Brazil to import subsidized rice of other producing countries, as well as for the competition of the production of rice of sequeiro of Mato Grosso, Goiás and Tocantins, that compete in quality and price with the Rio Grande do Sul states."

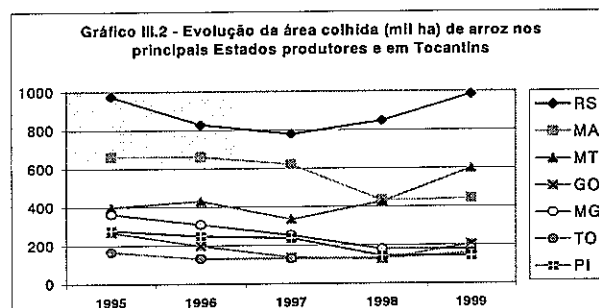
In the period between 1995 and 1999, the Brazilian production behaved from way declinante to 1998, recovering in 1999. The volume produced on this last year, however, it is only 3% superior to the volume produced in the beginning of the period. In another direction, it sees himself the expansion of the area of production of sequeiro rice, mainly in the State of Mato Grosso, second national producer of the product. Such is due to the possibility of doing rotation of this culture with the soy, using the new ones cultivate of sequeiro, type needle, with productivity and competitive grain quality with Rio Grande do Sul and Santa Catarina, to a smaller production cost.

In the period 1990-98, there was fall of 2% in the Brazilian production; of 50% in the prices and, consequently, fall of 50,1% in the gross income of the rizicultor. The fundamental causes, for such a negative acting, were: the commercial opening, with the consequent competitive shock, the one that the whole Brazilian economy submitted, allied to imports badly programmed, reduction in the credit to the commercialization (still depressing more the prices in the harvest), politics of interests, exchange and tax knowingly penalizadoras of the productive activity in the country. The recent ones measured, beside the exchange, of the internal interests and of renegotiation of the farmers' debits and their cooperatives (it WEIGHS and RECOOP), and the perspective of a tax reform, allied to actions seeking to reduce the cost Brazil, as the investments in basic infrastructure, besides changes in the international economy, certainly they appear for a less shady future scenery for the national rizicultura.

As favorable factor to the competitiveness interns of the sequeiro rice production and irrigated of Tocantins, they add the well-known limitations for his/her expansion in the border sulina, be for the limitation of capable lands to the irrigated cultivation, worsened by the readiness also limited of water for



Fonte: Conab

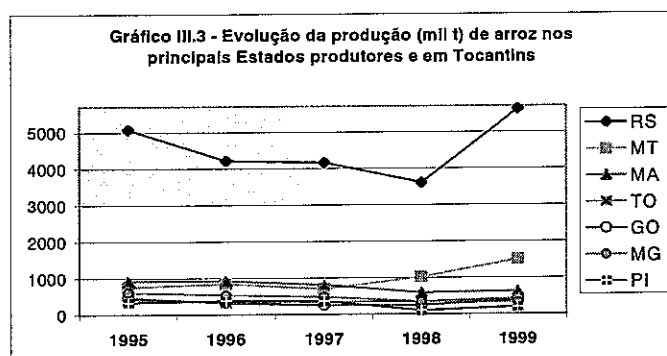


irrigation, and for the high prices of leasing of lands for the culture.

Except Rio Grande do Sul and of Mato Grosso, the main Brazilian producers States presented reduction of the production and of the cultivated area, in the period between 1995 and 1999.

Goiás, Maranhão, Piauí and Minas Gerais had reduction in the production of 18,6%, 32,9%, 42,3% and 46,4%, respectively, in 1999 in relation to 1995. As the area, the reduction in those States was of 23,9%, 32,9%, 48,4% and 50,6%, in the same period.

The production cost of the irrigated rice, in own lands, varied of US\$ 925,05/ha or 8,1/sc of 50 kg, in the harvest 94/95, the US\$ 873,44/ha, or 6,89/sc, harvest 98/99. The sequeiro rice in the Center-west varied of US\$ 240,64/ha, or 7,22/sc of 60 kg, for productivity of 2.000 kg/ha the US\$ 873,44/ha, or 7,55/sc, for productivity of 2.600/kg/ha.



Source: Conab

The costs of powder-crop of the rice reached, in 1999, US\$ 0,455/sc of 50 kg, for a transport of until 80 km of the farming to the grocery store.

In the period of 1990 the jul/99 the internal prices of the rice in peel varied of US\$ 18,21/sc of 60 kg, for US\$11,31, in São Paulo (-21%), and of US\$12,37, for US\$7,73 (-37,5%) in Goiás (prices in deflated dollars). In the period from 04/08/99 to 11/08/2000 the price of the rice special needle in the Bag of Cereals of S. Paulo-physical market, had a variation of -12,12%, being to smallest quotation of R\$29,00/sc 50kg, in 08/05/2000 and the largest, of R\$34,00/sc, in 04/02/2000.

The most recent data of consumption of foods in Brazil were obtained through the Research of Family budgets (POF), accomplished by the Foundation IBGE, in the years of 1987/88 and 1995/96 and just including the eleven Brazilian metropolitan areas. In 1987/88, the per capita consumption of the rice in the metropolitan areas was of 29,913 kg of polished rice and 0,411 kg of integral rice, totaling 30,324 per capita kg. In 1995/96, it was of 26,483 kg/year(-11,5%) of polished rice and of 0,284 kg/year of integral rice (-30,9%), totaling 26,767 kg/ano (-11,7%).

In relation to the consumption of rice in Brazil, of the comparison of their results, it is observed that in the period among the censuses in the metropolitan areas, there was a decrease in the per capita consumption of 11,7% (of 30,324 for 26,767 kg/year), being the largest decrease of integral rice (-30,9%), per if already very small. It is pointed out that that medium consumption, of 26,767 kg/year, in the period 1995/96, is a lot below the world average of 59 kg/year.

Except goes Fortaleza/CE (of 29,2 kg/year goes 28,2), the polished rice had small consumption growth in the metropolises of the Northeast, in Belém (of 17,8 goes 19,2), in Rio de Janeiro (of 30,6 goes 33,8) and in Curitiba (of 26,1 goes 26,7). In Brasília, the consumption passed of 35,6 kg/year, goes 45,1, the largest increment in the period. On the other hand, significant falls were verified in Porto Alegre (of 25,9 goes 18,0) and São Paulo(de 34,6 goes 24,6). It i observed, besides, the great variation width, among the smallest consumption (Recife, with 14,0) and the largest (Brasília, with 45,1), in the last researched period.

### (2.3) Main Markets in Brazil

As most of the main countries producing of rice, Brazil destines the totality of the production for the domestic consumption, being in Rio Grande do Sul the main improvement compound, packing and of logistics of physical distribution of the polished rice, distributed for all of the Brazilian areas. The areas Southeast, South and Northeast are the one of larger absolute consumption, following by the area Center-west and North. The nets of supermarkets, that, with their 52 thousand stores, they answered, in 1998, for 85% of the national provisioning of nutritious goods and hygiene goods and cleaning, they are the main retail distribution channel of the rice in Brazil

### (2.4) Market of Tocantins

The State of Tocantins occupied, in 1999, the 4th place in the ranking of the national production, with 427,5 thousand tons, in a cultivated area of 160 thousand hectares. The local production had irregular behavior between 1995 and 1999, similar to the national context. The production increment on these years was of only 3,5%, after successive falls from 1996 to 1998. The area picked in 1999, to the opposite, it still meets 4,9% smaller than in 1995, meaning increase of the productivity of the cultivations. In 1996, when they were cultivated in the State 122 386 there is of rice, 63,5% were of sequeiro and 36,5% (44 676 there are) of rice under irrigation the culture of irrigated rice concentrates on the Southwest area of the State (92,9% of the area picked in the harvest 96/97). There the productivity reached 4 429 kg/ha, superior to the state average, of 4 216 kg/ha, in that harvest. In the municipal districts of Formoso do Araguaia and Ilha da Confusão, with about 20 000 it has been irrigating of rice, incomes were observed varying from 2,7 to 5,7 t/ha. Already the sequeiro cultivation prevails in six poles (Porto Nacional, Paraíso do Tocantins, Dawn, Pedro Afonso, Gurupi and Marianópolis, being the most important areas those included by the performance of Cooperalva and PRODECER III, in the municipal district of Pedro Afonso. The medium productivity is of 1,8 t/ha (REZENDE, et alli, 1997). As subsistence culture, the rice is disseminated by whole the State.

In the area-program, the culture of the rice is characterized by practices of subsistence cultivations, with few producers using some more modern technology, in general in larger properties, being the surplus of the production benefitted and marketed at the local market, having sporadic sales in the market of Pará. There is still competition of the product gaúcho in the regional market.

The infrastructure of improvement of the rice in Tocantins, in industrial scale, it is found in Gurupi (capacity of 150 000 sc), Beautiful of Araguaia (40 000t) and Paraíso do Tocantins (150t/dia). The production is destined, predominantly, to the domestic market of the State, and areas North and Northeast.

Given that the quality of the main to cultivate of irrigated rice cultivated in Tocantins (Metica 1) qualitativamente is overcome by the rice needle gaúcho, the production is destined predominantly for the own State and areas North and Northeast, with lower prices (around 20% of the rice gaúcho). Like this, his/her destiny has been: 30% for the own State; 40%, for Fortaleza/CE and Terezina/PI; 10%, Belém of Pará; 10% for Imperatriz, Caxias and São Luís / MA. Their by-products (crumb and quirera) they are destined to the animal consumption, inside of the own State or for poultry farmers, suinocultores and producing of ration of Goiás, through the cooperatives arrozeiras of larger load of the State.

As for the sequeiro rice, the production in the cerrado, as explorer for the subsequent cultivation of pastures or other grains, it is sold for beneficiadoras of Gurupi and Tocantinópolis, in Tocantins, and of Imperatriz and Rafts (MA). The development of new cultivate of sequeiro rice, to example of the Spring and of the Marvel, with won of productivity and quality. He does with that the activity begins to be seen and explored with own economic interest.

### (2.5) Competitiveness

For the calculation of the competitiveness of prices of each product, the method of decomposition of the prices of the main markets is used, deducing them the transport costs to area-programs. If the decomposed price goes superior to the price of the area-program, it can be concluded that the product is competitive,

and as larger the difference, larger the competitiveness of prices, as in detail contained in the ENCLOSURE.

The calculations show that the rice produced in Tocantins, since it presents the quality requested by the foreign market, it presents positive competitiveness of prices in the international market, with margin of competitiveness varying between 18% and 23%. The product is also competitive in the domestic market, with margin of competitiveness of 33%, in other words, the price received by the producer in the area-program is 33% inferior to the wholesale price in the market of São Paulo, considered as proxy of the national market.

### (3) Bean

#### (3.1) World Balance

To bean world production it passed of 15,7 Mt, in 93/94, for 17,1 Mt, in 99/00. The cultivated area developed from 24 million to 26,1 million hectares, in that period. The productivity, low, passed of 654 kg/ha for 668 kg/ha, in the period. The five main producers and bean are India (3,5 Mt of average, in the period 95/98), Brazil (2,7 Mt); Mexico (1,6 Mt); United States (1,3 MT) and China (1,2 Mt).

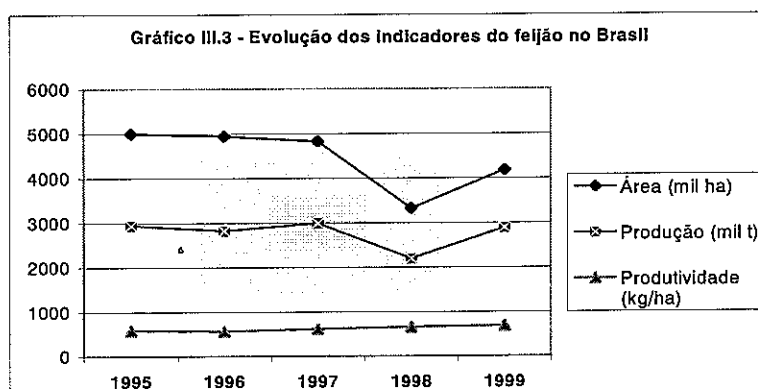
In 1998 the six larger producers (India, Brazil, China, Mexico, USA and Indonesia) they represented 62,7% of the bean world production, according to FAO. Japan (138 Mt), United Kingdom (131 Mt), Mexico (90 Mt), Italy (78 Mt) they were the main bean importers in the agricultural year 97/98, when the imports totaled 1,76 Mt. The main bean exporters in the agricultural year 97/98 were: Myanmar-former-Burma (750 Mt), China (490 Mt), United States (369 Mt) and Argentina (1,9 Mt), of an exported total of 2,5 Mt.

#### (3.2) International Panorama

The cultivation of the bean in Brazil is still characterized by the traditionalism and for the low technological level used in the production, with few areas in the country exploring the culture in a business way. Good part of the national production is still small originating from farmers, in system of family agriculture or of subsistence.

The cultivation is very explored in the whole Brazilian territory, with prominence for the areas South, Southeast and Northeast. In some states of the South and Southeast the culture is explored in up to three annual harvests, and the safrinha and the winter harvest have if shown more productive, due to less problems fitossanitários and at the best technological level of the explorations.

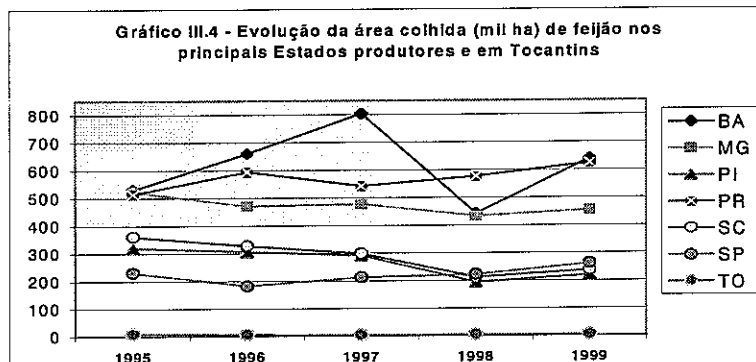
The indicators of the culture in the period 1995-99 continue plenty negative, being observed reduction in the production and in the picked area. The production reached 2,89 Mt in 1999, picked in an area of 4,2 million hectares. That volume is about 2% smaller than reached him/it in 1995 and the area, 16,4% smaller. Paraná and Minas Gerais are leaders in the bean national production, with about 19% and 13,2% of the total produced in 1999, respectively. A positive factor is the productivity earnings. The national average in 1999 was 17,3% larger than 1995, jumping from 590 to 692 kg/ha.



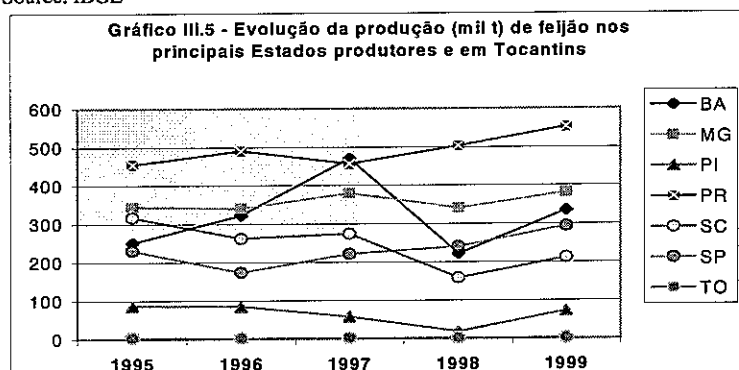
Source: IBGE

The domestic production locates a little below the national consumption, around 3,2 annual Mt. Like this, Brazil spent, in 1998, 139 million dollars with bean import. This is a market that the regional agriculture can assist. The production concentrates on the harvest of the waters (45% of the total), proceeded closely by the harvest of the drought (42%), tends the winter harvest (third harvest) answered by 13% of the total production. This safrinha has important paper in the stabilization of the swinging between offer and internal demand, in a product that suffers of stockpiling problems and practically without international market.

The adoption of the system of planting of irrigated bean has been growing a lot in Brazil, but with great potential to be busy. In the last years, the production has been growing partly due to the irrigation.



Source: IBGE



Source: IBGE

The production cost of the bean varied in the harvest 1999/2000, of US\$ 852,42/ha or US\$ 28,41/sc of 60 kg, for productivity of 30 sc/ha the US\$ 1.197,12/ha or 23,94/sc, for productivity of 50 sc/ha. The powder-crop cost reached the US\$ 6,035/sc of 60 kg, with transport of it ties 50 km of the grocery store

The prices of the Extra Carioca bean, in São Paulo, varied of US\$ 48,04/sc of 60 kg, in 1990, the US\$ 22,81, of January to September of 99. Erratic behavior of the prices of the bean is observed in Brazil, in the years of 1998, 99 and first semester of 2000. With effect, between maio/98 and first week of august/99, the Carioca's Extra bean prices oscillated of more of US\$ 95.00 (R\$ 110,00/sc), in São Paulo and Goiás (it remembers of the decade) the US\$ 14.00 (R\$26,00), in São Paulo, to recover, still in the end of August, going to the landing of US\$ 31,60 (R\$ 60,67/sc).

### (3.3) Main Markets in Brazil

As well as the rice, the bean domestic consumption follows the same fall tendency, once, together, they compose the alimentary base of the Brazilian population.

Table III.25-bean Per capita consumption in Brazil,  
in 1987 and 1996 in kg/year

Total of the areas - POF			
Specification	1986	1987	Var. %
Feijão-fradinho	0,561	0,620	10,5
Feijão-jalo	0,367	0,107	-70,8
Feijão-manteiga	0,193	0,132	-31,6
Feijão-mulatinho	1,465	0,717	-51,1
Feijão-preto	4,245	3,815	-10,1
Feijão-rajado	4,129	4,491	8,8
Feijão-roxo	0,555	0,146	-73,7
Feijão SOMA	11,515	10,028	-12,9

Source: FIBGE-Researches of Family budget, 1987 and 1996

The Tabela III.25 shows a fall in the total domestic consumption of bean in 1996, in relation to 1987, of 12,9%. The data of POF-FIBGE reveal, still, the loss of importance of some bean varieties in the market, in function of its substitution for new cultivate more productive or resistant to curses and diseases, as the purple bean and the jalo, that had consumption fall above 70%.

In the compared periods, the bean had per capita consumption decreased in practically all of the areas, being the increments, where they happened, of small meaning (Salvador, of 13,0 kg for 13,4 kg); Rio de Janeiro (of 13,6 for 13,8 kg/per capita/year); Curitiba (of 8,3 for 8,6) and Brasília (of 10,0 for 11,3 kg/year). In 1995/96, the consumption increases were found in Fortaleza (of 15,6 for 15,1 kg), Rio de Janeiro (of 13,6 for 13,8 kg) and Salvador. ( of 13 for 13,4 kg/year.) The largest falls happened in São Paulo (of 11,3 for 7,4 kg), Porto Alegre (of 9,4 for 6,4 kg) and Belo Horizonte (of 12,4 for 9,7 kg/ano).

According to POF, 73% of the bean consumed in Brazil is represented by the types black and striped (cariquinha), that if equívalem in per capita consumption the production of black bean concentrates on Paraná and he/she has the market of Rio de Janeiro as main addressee. Already Cariquinha, and other bean types "of color" they are produced in the areas South, Southeast, Center-west and Northeast (irrigated cultivations, in the Plateau of Irecê, Bahia) and they are marketed for wholesaler-cerealistas throughout Brazil. To the similarity of the rice, the largest commercialization channel in retail level is the supermarkets, that receive the product wrapped in units of 1 kg, conditioned in bales. In the Northeast, as in Tocantins, there is fort participation in the production and regional consumption, of the bean Vigna (rope bean or Macassar).

### (3.4) Market in Tocantins

The production bean tocantinense, predominantly accomplished by small farmers and of subsistence, who has the small surpluses marketed in the own State, still an importer of the grain, especially of the State of Goiás. The production of the area-program stands out, being responsible for more than 60% of the bean produced in the State. Considering the medium per capita consumption of the country, of 11,6 kg/hab. / year, the domestic consumption of Tocantins can be dear in about 13 thousand t/year. It should be reminded that the population tocantinense has the habit of consuming bean Vigna ("rope bean" or "bean climbs wood"), that it is produced in subsistence character and spread for whole the State.

### (3.5) Competitiveness

As the bean international trade is very small and Brazil is a liquid importer of the product, besides production not to assist to the demand of the foreign market, the international competitiveness of the production tocantinense was not quantified.

Regarding the national competitiveness, good competitiveness of the production of the area-program was verified at the Brazilian market, that it presented margin of competitiveness of 47%.