

3) Movement of cargo by commodity type

The movement of cargo was sorted as follows for items with high export/import volume.

When comparing the selected items with those studied in the ETNA Master Plan Study of 1992, meat/dairy products were excluded and steel products and fertilizer were added.

Table 14 Items Subject to Study

	ETNA Master Plan Study	This study
Soybean and processed products		
Cotton/cotton products		
Sugar cane		
Wheat		
Corn		
Petroleum/petroleum products		
Iron ore		
Steel products		
Construction material		
Wood		
Beverage		
Meat, dairy products		
Fertilizer		

The physical distribution of each item was estimated based on statistics from BCP and OCIT for 1997.

Soybean-related items:

The movement of freight related to soybean includes, as shown in Figure 15, soybean, soybean oil, and soybean cake.

The export of soybean corresponds to about 77% of the production volume, and the rest is oil extracted from plants, such as soybean oil and soybean cake. Almost 80% of soybean oil and soybean cake is also exported. Regarding the transport mode for soybean, land transport used to be the main mode, but in 1997 water transport exceeded 60%, inverting the share with land transport. The reason is that while export to Brazil by land is maintaining the same level, about 600,000 tons, export to Europe has been increasing drastically in these years, and such exports use water transport to the Atlantic Ocean, which is cheaper than land transport.

Figure 15 Physical Distribution of Soybean-related Items (1997)

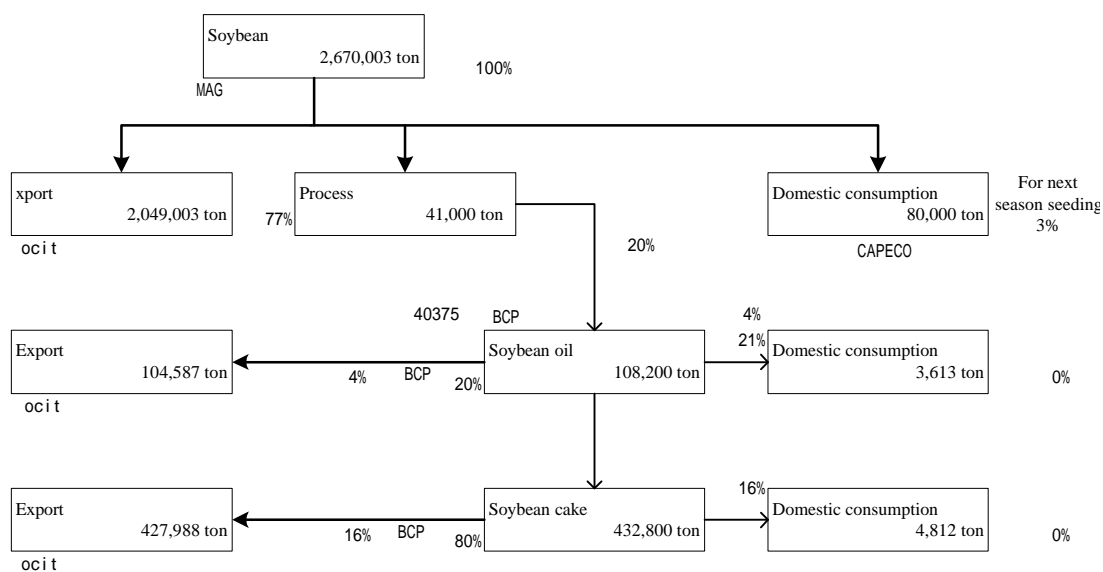
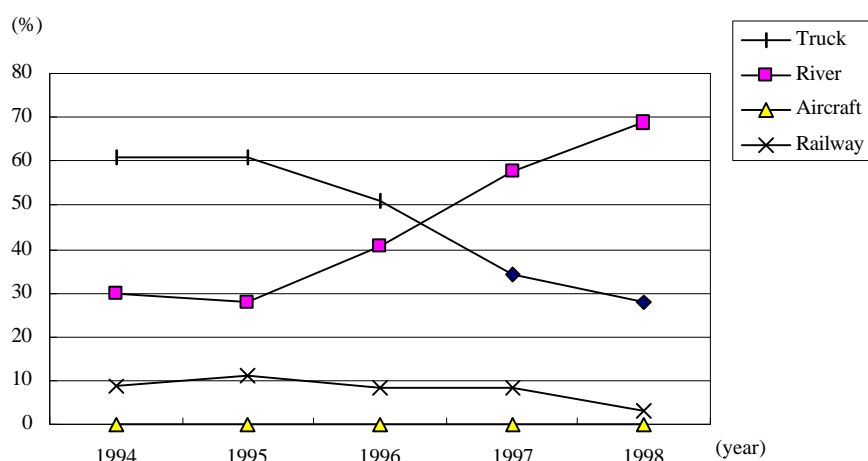


Figure 16 Variations in Percentage of Soybean Export Modes



Source: OCIT

Table 15 Soybean Export - destination and Modes

(unit: ton)

	Brazil	Argentina	Uruguay	Middle & South America	North America	Europe	Asia / Oceania	Total
Truck	587,430	0	11,500	36,100	1,000	82,000	0	718,030
River	44,531	92,100	0	181,091	40,843	820,028	33,000	1,211,593
Aircraft	0	0	0	0	0	0	0	0
Railway	10,000	0	0	20,000	0	145,400	0	175,400
Total	641,961	92,100	11,500	237,191	41,843	1,047,428	33,000	2,105,023

Source: OCIT

Wheat:

Approximately 80% of the wheat produced is exported without any processing. Due to the level of quality, a small volume of high-quality wheat is imported. Consumption of wheat per capita, including imported wheat, is 30kg/year. About 80% of the exports are to Brazil, and almost the entire volume is transported by truck.

Figure 17 Physical Distribution of Wheat (1997)

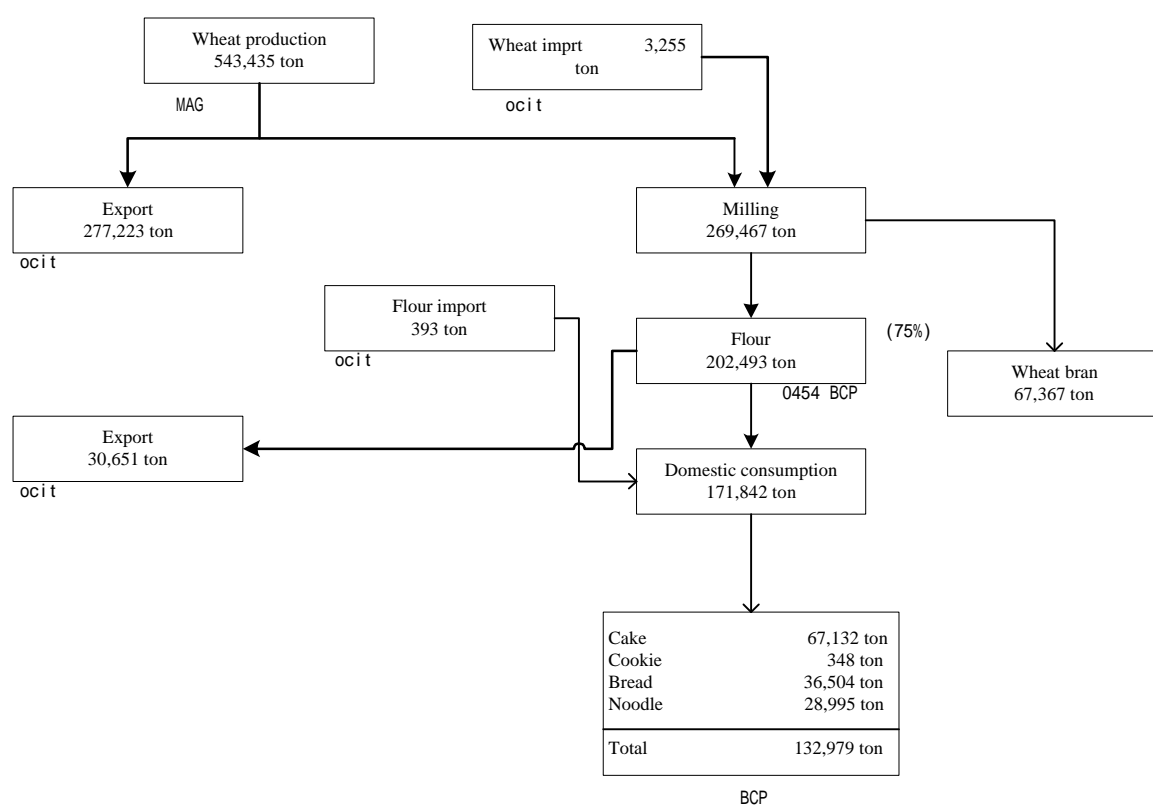


Table 16 Wheat Export – Destination and Modes

(unit: ton)

	Brazil	Bolivia	Middle & South America	Europe	Total
Truck	182,423				
River	43.500	6,000	1,500	43.800	192.423
Aircraft					94,800
Railway					
Total	225.023	6,000	1,500	43.800	277.223

Source: OCIT

Maize:

About 80% of maize produced is consumed in the country. The consumption per capita is 120kg/year. Export is half to Brazil, by truck, and half to Europe and North America, by water transport.

Figure 18 Physical Distribution of Maize (1997)

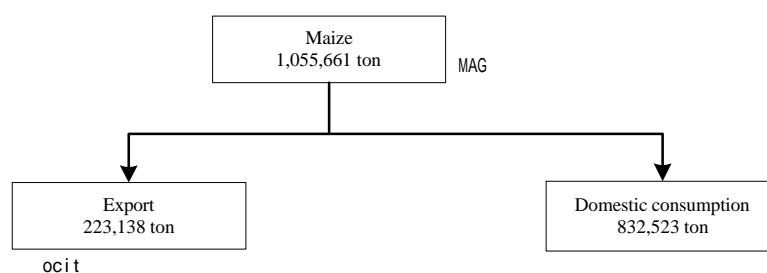


Table 17 Maize Export – Destination and Modes

(unit: ton)

	Brazil	Argentina	North America	Europe	Total
Truck	118,094	30	0	48	118,172
River	20,366	0	20,000	62,600	102,966
Aircraft	0	0	0	0	0
Railway	0	0	0	0	0
Total	140,460	30	20,000	62,648	223,138

Source: OCIT

Cotton:

About 40% of the cotton produced is used for raw cotton thread, and the rest is cottonseed used to extract oil and cake. About 80% of raw cotton is exported without further processing. The remaining raw cotton and imported cotton are used to produce cotton thread and cotton cloth. A small portion of these products is exported. Raw cotton is exported mainly to Brazil, by truck, in general.