

## ASIAN DEVELOPING COUNTRIES RUBBER AND BAMBOO FOREIGN TRADE WITH THE CZECH REPUBLIC

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### Abstract

*This study is concerned to selected NWFPs (Non-Wood Forest Products) with a significant potential for expanded sustainable output, but for which market intelligence is currently inadequate in the producer countries. Discussed NWFPs are bamboos and rubber.*

*This study is focused on the trade with the two main NWFP in the Czech Republic offering import and export analysis in years 1999 – 2004.*

*Used datas for trade analysis are generated from the Czech Statistical Office and rely to the Standard International Trade Classification – 5 levels – for the bamboo trade, and to the Harmonised System – 2 levels – for the rubber trade.*

*Trade statistics for the region of Asia, as far as they do exist, are to be handled with much circumspection, as a very large volume of NWFPs are being traded unregistered. NWFPs also play an important role in the international marketplace with over USD 1.1 billion in trade.*

**Key words:** bamboo, rubber, import, export, foreign trade, statistics.

### INTRODUCTION

Bamboo and natural rubber belongs to the NWFP but this classification can be impugnable – their production is managed by people in plantations. Main production area of this products has moved to the regions with low labour costs South and South-East Asia.

#### Rubber

The current world consumption of rubber, totalling around 18 million tonnes per year, consists of 48% natural rubber (NR), 20% solid SBR (Styrene - Butadiene Rubber), 14% latex BR (Polybutadiene Rubber), 12% polybutadiene, 5% EPDM (Ethylene Propylene Rubber), 2% polychloroprene, 2% nitrile and 7% other synthetics. Thus, in terms of quantity by type, NR is still the largest.

Natural rubber is also consumed as an industrial raw material. In rubber articles, the two kinds of elastomers are never distinguished by us as users. It could be natural, synthetic or blends of various rubbers in different proportions. The manufacturer of these articles are basically choosing the kinds of rubbers to be used on the grounds of technological merit and economic availability. 70% of NR and 60% of SR have been manufactured into automotive tyres. (FAO, 2003).

The main traded NR product groups are:

- Automobile Rubber Products
- Rubber Sheetings
- Hospital and Industrial Sheetings
- Cycle Tyre and Tubes
- Rubber Eraser
- Play Balls
- Rubber Band

- Industrial and Household Gloves
- Rubberised Coir Foam
- Rubber Rollers  
(Rubberboard, 2006).

The prospects for natural rubber are very good. Demand is expected to increase in view of demands of the automobile industry and the possible diversification of rubber in manufacturing. This would help to stabilise prices at the favourable level on the world market and persuade planters to continue planting rubber. (Boer, Ella, 2000).

#### Bamboo

Bamboo has been harvested from natural stands for constructional purposes and other uses such as flooring, walls, frames, shingles, doors and in other components of the house. In modern living, bamboo is found as curtains, paneling, picture frames and in a host of other products. Bamboo shoots are eaten in many Asian countries. Management of this resource is important in order to sustain the productivity and the industry. Using bamboo products depends on the final consumer. This products can be divided into three main groups:

#### 1. Industrial products:

- Bamboo curtain production (export and domestic market);
- Bamboo concrete form (for 50 times use, 2.44\*1.22m<sup>2</sup>);
- Bamboo medium-density board;
- Bamboo pulp and paper making.

2. Rural development and livelihood:
- Bamboo shoot for food (fresh, canned and dry shoot);
  - Bamboo scaffolding for construction;
  - Bamboo furniture;
  - Bamboo handicrafts;
  - Bamboo housing for rural area.
3. New technology and environment-friendly products:
- Bamboo charcoal production to supply fuel/export/ active charcoal;
  - Bamboo biogas generator (bioenergy, clean and sanitary environment, compost).
- (Mohmod, 2006)

Main NR exporting countries are Thailand, Indonesia, Malaysia and Viet Nam. Main importing countries are the USA, China, Japan and France.

The estimated value of world trade in bambooware is approximately US\$36.2 million.(2000). China and Thailand are the main suppliers; Malaysia, Myanmar, the Republic of Korea, Indonesia, Viet Nam, the Philippines and Bangladesh are minor exporters. Bamboo shoots supply a rapidly expanding and fashionable export market, with China being the major world producer and exporter, followed by Thailand, with minor quantities from Indonesia, Viet Nam and Malaysia. Bamboo shoots are produced on farms. (FAO, 2002).

In the next Tables 1 and 2 is an overview of top 20 world natural rubber exporting and importing countries:

**Tab. 1:** Imports of natural dry rubber in the world (2003)

	Country	Quantity (Mt)	Value ('000 USD)	Unit value (USD)
1	China	1 073 460	1 050 335	978
2	United States of America	1 005 904	1 045 222	1 039
3	Japan	793 889	783 213	987
4	France	314 400	319 099	1 015
5	Republic of Korea	315 808	305 364	967
6	Germany	262 320	275 627	1 051
7	Spain	183 802	190 960	1 039
8	Brazil	150 077	142 926	952
9	Canada	140 146	139 689	997
10	Italy	126 255	136 453	1 081
11	Turkey	100 244	104 143	1 039
12	Malaysia	142 258	89 440	629
13	United Kingdom	81 763	83 621	1 023
14	Poland	72 044	73 777	1 024
15	Mexico	59 069	62 875	1 064
16	South Africa	61 467	59 142	962
17	Czech Republic	51 455	50 602	983
18	India	40 297	43 493	1 079
19	Belgium	37 127	39 827	1 073
20	Luxembourg	44 308	39 705	896

Source datas from FAO Statistics, <http://www.fao.org/es/ESS/toptrade/trade.asp>

**Tab. 2:** Exports of natural dry rubber in the world (2003)

	Country	Quantity (Mt)	Value ('000 USD)	Unit value (USD)
1	Thailand	2 307 742	2 248 538	974
2	Indonesia	1 648 394	1 482 523	899
3	Malaysia	868 626	844 730	972
4	Viet Nam	345 000	265 000	768
5	Côte d'Ivoire	129 080	120 552	934
6	United States of America	41 555	48 717	1 172
7	India	42 045	43 738	1 040

8	Philippines	55 466	32 732	590
9	Sri Lanka	29 970	30 092	1 004
10	Liberia	33 400	28 989	868
11	Cameroon	26 984	23 899	886
12	Guatemala	24 258	23 887	985
13	France	17 957	23 253	1 295
14	Netherlands	20 883	21 223	1 016
15	Germany	16 049	18 214	1 135
16	Nigeria	17 203	15 141	880
17	Italy	6 706	12 270	1 830
18	Cambodia	13 795	12 138	880
19	Ghana	11 379	11 768	1 034
20	Guinea	9 922	8 791	886

Source datas from FAO Statistics, <http://www.fao.org/es/ESS/toptrade/trade.asp>

Indices are calculated by these formulas:

$$I_g = Q_n / Q_0 * 100 \text{ (\%)}$$

$I_g$  .....Imported quantity changes index  
 $Q_0$  .....Imported quantity in basic year  
 $Q_n$  .....Imported quantity in current year

$$I_i = (Q_{(n+1)} / Q_n * 100) - 100 \text{ (\%)}$$

$I_i$  .....Interyear imported quantity changes index  
 $Q_n$  .....Imported quantity in the year n  
 $Q_{(n+1)}$  .....Imported quantity in the year (n + 1)

**TRADE IN THE CZECH REPUBLIC**

Into Czech Republic are imported bamboo products such as furniture, household equipment and bamboo shoot for food. Reexport of bamboo products does not exist. In Table 3 are stated imported quantities and monetary values in CZK and USD in the period 1999-2004.

Table 4 shows physical quantity growth in discussed two product groups measured in percentage. Rubber imports steadily increased, decline in bamboo imports was only in the year 2004. But the trend in bamboo imports is increasing.

**Tab. 3:** Import statistics of bamboo and rubber products in the Czech Republic 1999 - 2004 (Imports from Asian developing countries)

Product group	1999			2000			2001		
	kg	CZK ('000)	USD ('000)	kg	CZK ('000)	USD ('000)	kg	CZK ('000)	USD ('000)
Bamboo	159	11	0	3 355	224	6	4 230	129	3
Rubber	41 606 417	1 303 730	37 613	53 709 590	1 859 979	48 370	58 688 073	1 909 481	50 307

Product group	2002			2003			2004		
	kg	CZK ('000)	USD ('000)	kg	CZK ('000)	USD ('000)	kg	CZK ('000)	USD ('000)
Bamboo	5 984	302	9	15 809	460	16	9 915	319	13
Rubber	58 900 130	2 086 227	64 674	62 857 321	2 427 191	86 752	64 801 913	2 804 971	109 940

Source datas from Czech statistical office, 2006, modified

**Tab. 4:** Physical quantity changes in imported product group in comparison with the year 1999

	Imported bamboo (kg)	Imported rubber (kg)	Physical quantity change in %, basic year = 1999 (bamboo) $I_g$	Physical quantity change in %, basic year = 1999 (rubber) $I_g$	Interyear imported quantity change in % (bamboo) $I_i$	Interyear imported quantity change in % (rubber) $I_i$
<b>1999</b>	159	41 606 417	100	100	-	-
<b>2000</b>	3 355	53 709 590	2 110	129	2 010	29
<b>2001</b>	4 230	58 688 073	2 660	141	26	9
<b>2002</b>	5 984	58 900 130	3 764	142	41	0
<b>2003</b>	15 809	62 857 321	9 943	151	164	7
<b>2004</b>	9 915	64 801 913	6 236	156	-37	3

Source datas from Czech statistical office, 2006, modified, own calculation

In Table 5 are measured import value changes in bamboo and rubber in percentage. The basic year is stated 1999. Index is calculated by the basic formula:

$$I = P_{in} / P_{i0} * 100$$

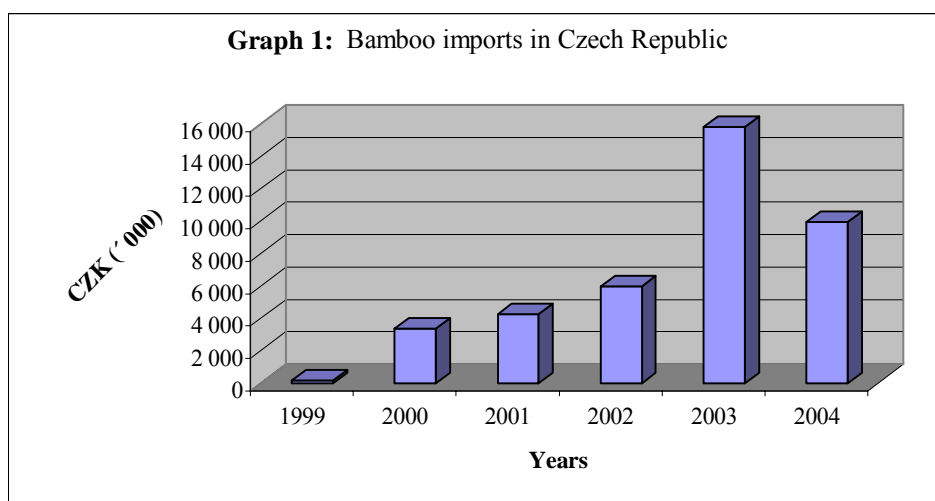
$I$ .....value change index  
 $P_{i0}$ .....import value in the basic year (1999)  
 $P_{in}$ .....import value in current year

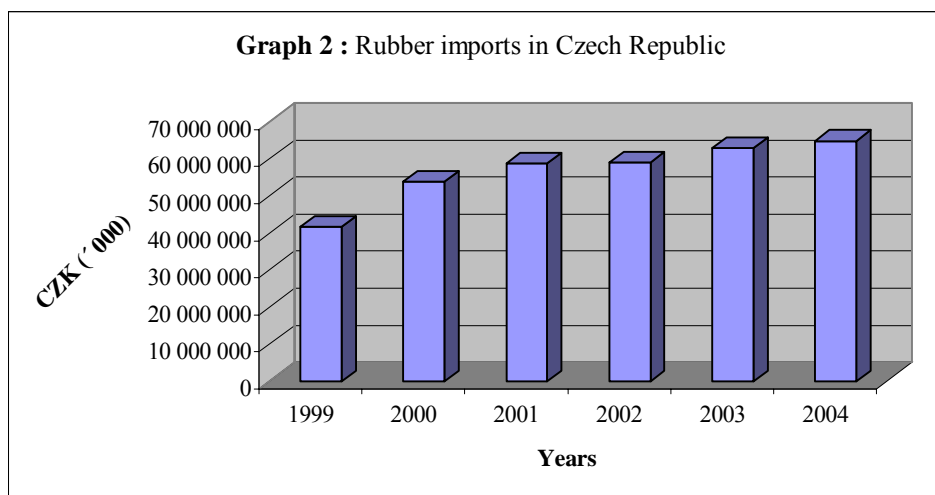
(Development in Bamboo and Rubber imports is demonstrated in Graph 1 and Graph 2).

**Tab. 5 :** Import value changes in bamboo and rubber in comparison with the year 1999 (%)

	Bamboo imports in 1 000 CZK	Rubber imports in 1 000 CZK	Value change in %, basic year = 1999 (bamboo)	Value change in %, basic year = 1999 (rubber)
<b>1999</b>	11	1 303 730	100	100
<b>2000</b>	224	1 859 979	2 036	143
<b>2001</b>	129	1 909 481	1 173	146
<b>2002</b>	302	2 086 227	2 745	160
<b>2003</b>	460	2 427 191	4 182	186
<b>2004</b>	319	2 804 971	2 900	215

Source datas from Czech statistical office, 2006, modified





Source datas from Czech statistical office, 2006, modified

**TERRITORIAL STRUCTURE OF CZECH IMPORTS**

Most of rubber imports have origin in Asian developing countries. Main producing and exporting region of rubber is South East Asia. Almost 60 % of Czech rubber imports had origin in Malaysia, 20 % in Indonesia and 6 % in Thailand in 2004.

In Tables 9 and 10 and Graphs 3 and 4 (in apendix) are mentioned Czech rubber products import and export

territorial structures. Datas in graphs are synthetized into few groups with the reason for transparency.

Bamboo products are at most imported from Indonesia, India, Korea and Thailand. In the year 2004 all Czech bamboo imports from Asia had origin in two countries – Indonesia and India. (Table 6)

**Tab. 6 :** Czech imports from Asian developing countries in 2004 (Bamboo SITC (5), item 29231)

Commodity	Partner country	Netto (kg)	Stat. value CZK (ths.)	Stat. value USD (ths.)
Bamboo	Indonesia	7 851	283	11
Bamboo	India	2 064	36	1
<b>Total</b>		<b>9 915</b>	<b>319</b>	<b>13</b>

Source datas from Czech statistical office, 2006, modified

Czech foreign trade values are listed in Table 7 (1999 – 2004). Bamboo and Rubber import rate in total imports of the Czech Republic are for clearness calculated in Table 8.

**Tab. 7 :** Total Czech Foreign Trade in million CZK (current prices)

	Export	Import	Total balance
1999	908 754	973 169	-64 415
2000	1 121 098	1 241 924	-120 826
2001	1 268 148	1 385 565	-117 417
2002	1 254 861	1 325 670	-70 809
2003	1 370 929	1 440 722	-69 793
2004	1 722 655	1 749 095	-26 440

Source datas from Czech statistical office, 2006, modified

**Tab. 8 :** Product import rate in total imports of the Czech Republic (current prices)

	<b>Bamboo imports in 1 000 CZK</b>	<b>Rubber imports in 1 000 CZK</b>	<b>Total Czech imports in 1 000 CZK</b>	<b>Bamboo import rate in total imports (‰)</b>	<b>Rubber import rate in total imports (‰)</b>
<b>1999</b>	11	1 303 730	973 169 000	0,000011	1,3397
<b>2000</b>	224	1 859 979	1 241 924 000	0,000180	1,4977
<b>2001</b>	129	1 909 481	1 385 565 000	0,000093	1,3781
<b>2002</b>	302	2 086 227	1 325 670 000	0,000228	1,5737
<b>2003</b>	460	2 427 191	1 440 722 000	0,000319	1,6847
<b>2004</b>	319	2 804 971	1 749 095 000	0,000182	1,6037

Source datas from Czech statistical office, 2006, modified

### CONCLUSIONS

Although bamboo imports into the Czech Republic have growing tendency bamboo trade is for the Czech Republic insignificant. These imports are at most affected by popular furniture style.

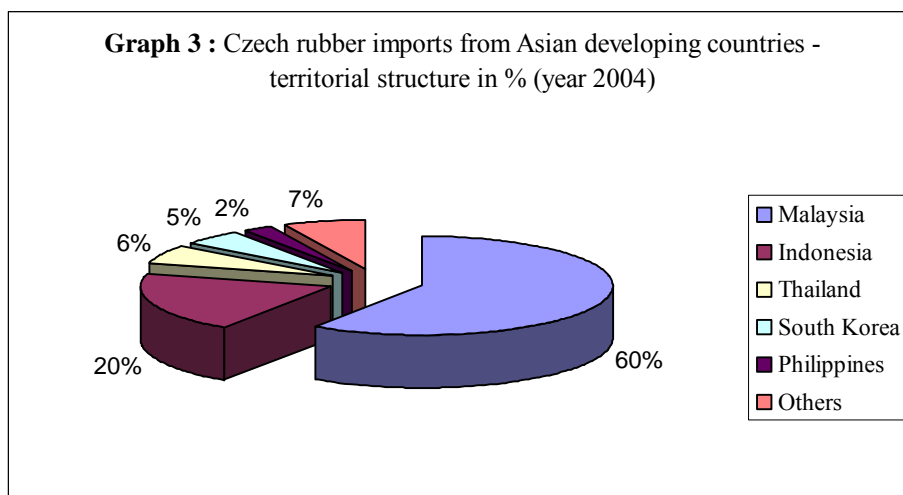
Natural rubber trade is important for processing industry. Its value steadily grows. With higher oil prices its importance increase. It will be better to use oil as an energy source than the raw material for synthetic rubber production.

### APPENDICES

**Tab. 9 :** Czech imports from Asian developing countries in 2004 (Rubber HS (2), item 40)

<b>Commodity</b>	<b>Partner country</b>	<b>Netto (kg)</b>	<b>Stat. value CZK (ths.)</b>	<b>Stat. value USD (ths.)</b>
<b>Rubber and articles thereof</b>	<b>Malaysia</b>	38 577 163	1 514 689	59 187
<b>Rubber and articles thereof</b>	<b>Indonesia</b>	12 745 717	441 330	17 376
<b>Rubber and articles thereof</b>	<b>Thailand</b>	3 972 074	239 409	9 526
<b>Rubber and articles thereof</b>	<b>South Korea</b>	3 381 963	208 050	8 219
<b>Rubber and articles thereof</b>	<b>Philippines</b>	1 569 149	58 116	2 224
<b>Rubber and articles thereof</b>	<b>Singapore</b>	1 407 659	58 290	2 230
<b>Rubber and articles thereof</b>	<b>Sri Lanka</b>	1 281 733	93 664	3 700
<b>Rubber and articles thereof</b>	<b>Taiwan</b>	1 163 235	127 156	4 955
<b>Rubber and articles thereof</b>	<b>India</b>	524 078	48 433	1 904
<b>Rubber and articles thereof</b>	<b>Iran</b>	163 161	6 544	254
<b>Rubber and articles thereof</b>	<b>Others</b>	15 981	9 291	365
<b>Total</b>		<b>64 801 913</b>	<b>2 804 972</b>	<b>109 940</b>

Source datas from Czech statistical office, 2006, modified

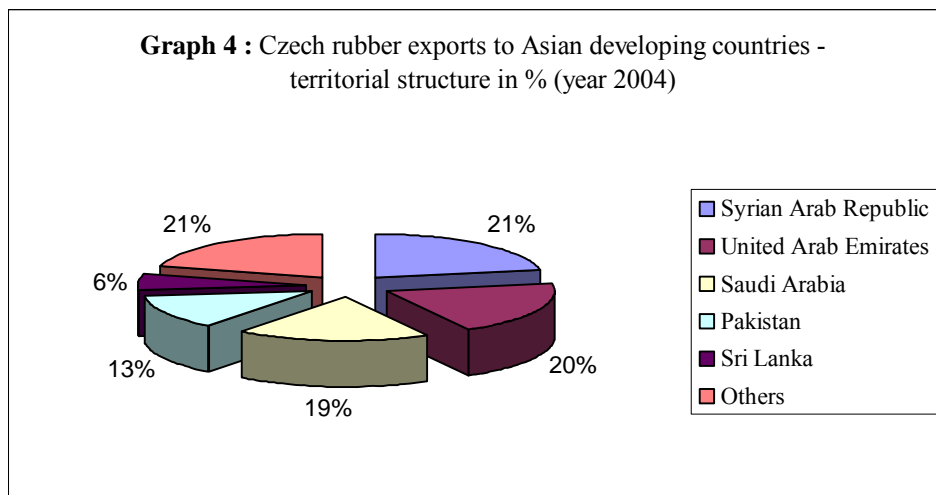


Source datas from Czech statistical office, 2006, modified

**Tab. 10 :** Czech exports to Asian developing countries in 2004 (Rubber HS (2), item 40)

Commodity	Partner country	Netto (kg)	Stat. value CZK (ths.)	Stat. value USD (ths.)
Rubber and articles thereof	Syrian Arab Republic	1 343 474	63 683	2475
Rubber and articles thereof	United Arab Emirates	1 208 851	87 845	3454
Rubber and articles thereof	Saudi Arabia	1 132 787	72 646	2813
Rubber and articles thereof	Pakistan	771 501	22 157	852
Rubber and articles thereof	Sri Lanka	367 554	12 662	488
Rubber and articles thereof	Iran	321 934	20 820	860
Rubber and articles thereof	India	244 800	50 673	2040
Rubber and articles thereof	Jordan	225 442	33 232	1282
Rubber and articles thereof	Lebanon	95 002	5 019	198
Rubber and articles thereof	Kuwait	48 014	3 174	122
Rubber and articles thereof	Singapore	46 482	9 100	356
Rubber and articles thereof	Taiwan	45 846	5 534	212
Rubber and articles thereof	Qatar	42 446	2 798	107
Rubber and articles thereof	Thailand	39 833	5 442	214
Rubber and articles thereof	Bahrain	32 550	3 254	123
Rubber and articles thereof	Malaysia	26 979	5 152	197
Rubber and articles thereof	Iraq	25 240	21 313	821
Rubber and articles thereof	Afghanistan	15 390	154	6
Rubber and articles thereof	Oman	13 334	1 062	40
Rubber and articles thereof	Hong Kong	12 122	1 691	64
Rubber and articles thereof	Yemen	9 405	1 348	52
Rubber and articles thereof	Philippines	9 253	4 032	158
Rubber and articles thereof	Bangladesh	4 235	358	14
Rubber and articles thereof	South Korea	2 632	1 262	50
Rubber and articles thereof	Indonesia	2 581	1 333	51
Rubber and articles thereof	Maldives	596	75	3
Rubber and articles thereof	Myanmar	294	66	3
<b>Total</b>		<b>6 088 577</b>	<b>435 885</b>	<b>17 055</b>

Source datas from Czech statistical office, 2006, modified



Source datas from Czech statistical office, 2006, modified

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