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COCOA RESOURCES IN CONSUMING COUNTRIES

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EXECUTIVE SUMMARY

1. At its ninth meeting in March 2007, the Market Committee requested the ICCO Secretariat to provide information on cocoa resources in consuming countries. It was agreed that information on volume and composition of the demand for cocoa beans in consuming countries would provide producing countries with a better basis for the formulation and implementation of policies and programmes regarding cocoa production. This paper presents a preliminary overview of present and prospective demand for cocoa.

2. In the document, the cocoa and chocolate industry is reviewed in two broad categories: the cocoa processing and the chocolate manufacturing industry. The cocoa processing industry is very concentrated and characterized by the presence of large-scale processing capacities. Three major cocoa processing companies (Archer Daniels Midland (ADM), Barry Callebaut and Cargill Incorporated) process over 40% of the cocoa beans produced in the world. The chocolate manufacturing industry is also relatively concentrated, as the top ten chocolate manufacturers account for over 40% of global chocolate sales. The chocolate industry has proved to be very dynamic in recent years and has given the chocolate market a new lease of life. It has partly overcome difficult obstacles that represented a real threat to consumption of chocolate products and has reacted dynamically to changes in consumer behaviour.

3. Global sales of chocolate were estimated at US\$68.1 billion in 2005, having increased by around 20% in five years in real terms. Chocolate products are very diverse, in terms of cocoa content and packaging. A large part of chocolate products consumed are chocolate-covered bars and tablets. A great diversity exists also in the composition of chocolate products produced by country.

4. Chocolate consumption can be measured thanks to two different aggregates: the total chocolate consumption which includes the consumption of ingredients other than cocoa, and the “apparent domestic cocoa consumption” which provides information on the quantity of cocoa consumed in chocolate products. The United States is by far the major cocoa and chocolate consuming country in the world although it has a relatively low consumption *per caput* compared to Western European countries. Belgium and Switzerland have the higher chocolate consumption and cocoa consumption *per caput*.

5. The last part of the document describes the main reasons underlying the changes experienced by the chocolate confectionery market in recent years and provides some detailed information on the strong growth experienced in cocoa and chocolate niche markets: fine or flavour, Fair-trade and organic. It is emphasized that these recent changes in consumption behaviour have had a significant impact on the demand for cocoa beans, in terms of both quantity and quality. Some farmers, particularly those producing fine or flavour cocoa, have been experiencing a surge in their revenues thanks to their special position in the market. Finally, it is emphasized that the significant growth in consumption of new markets in the Far East is providing some significant scope for increased production of bulk cocoa beans.

INTRODUCTION

1. At its ninth meeting in March 2007, the Market Committee requested the ICCO Secretariat to provide information on cocoa resources in consuming countries. It was agreed that information on the volume and composition of the demand for cocoa beans in consuming countries would provide producing countries with a better basis for the formulation and implementation of policies and programmes regarding cocoa production. The objective of this paper is to give a preliminary overview of present and prospective demand for cocoa.

PART I: THE COCOA AND CHOCOLATE INDUSTRY

General features of the industry

2. The international cocoa and chocolate industry consists of two broad categories: the cocoa processing and the chocolate manufacturing industry. The cocoa processing industry is the segment of the industry which is engaged principally in the primary transformation of cocoa beans into intermediate semi-finished cocoa products such as cocoa paste/liquor, cocoa butter, cocoa cake and cocoa powder not containing added sugar or other sweetening matter.

3. The chocolate manufacturing industry is the segment of the sector using intermediate cocoa semi-finished products, in conjunction with other ingredients such as sugar, milk and nuts to produce edible chocolate products. These products may further be sub-divided into two groups: (i) finished consumer-oriented products such as tablets, bars, chocolate bonbons and sweetened cocoa powder; and (ii) “nearly-finished” products such as couverture chocolate available in either solid or liquid form, for use both within the chocolate industry itself as well as outside the traditional chocolate industry, i.e. by artisanal confectioners and in the biscuit, ice-cream and cake making industries.

4. It should be noted that the line of demarcation between the cocoa processing industry and the chocolate manufacturing industry is not rigid, as a number of companies have integrated processing and manufacturing, sometimes within a single factory. However, the major chocolate manufacturers rely increasingly upon outsourcing for their needs in terms of cocoa semi-finished products. This results mainly from their attempts to cut costs and to focus on their core activities, related to the consumer market. **Chart I** summarizes the main steps of the cocoa processing and chocolate manufacturing chain.

The cocoa processing industry

5. The cocoa processing industry is very concentrated and increasingly driven by large scale production. Three major cocoa processing companies (Archer Daniels Midland (ADM), Barry Callebaut and Cargill Incorporated) processed about 42% of global cocoa beans in the 2003/04 cocoa year. A brief description of these companies is presented below. **Table 1** in the Annex provides an estimate of global cocoa bean grindings by cocoa processing companies.

Archer Daniels Midland (ADM)

6. ADM is a US-based agricultural processing company engaged in the procurement, transportation, storage, processing and merchandising of agricultural products. The Company is the world leader in BioEnergy and has a premier position in the processing of agricultural products. ADM

activities are classified in four sections: oilseed processing, corn processing, agricultural services and others. Cocoa processing is part of the “others” segment. The Company operates in about 60 countries and its total revenues generated in 2006 were about US\$ 37,000 million. Of this amount, the “others” segment (which includes cocoa) recorded a total revenue of US\$ 4,430 million during the period.

7. ADM is a global leader in cocoa processing with plants in North and South America, Europe, the Middle East, Asia and Africa. The Company processed around 15% of global cocoa beans in 2003/04 under the *De Zaan* brand of cocoa liquor, cocoa butter and cocoa powder for the food industry. This amounted to about 470,000 tonnes of cocoa bean processing. The increasing demand for cocoa products and chocolate by major consuming countries such as the US and Europe is manifested in the company’s expansion activities. ADM is currently building a chocolate facility in Pennsylvania, USA. Prior to that, the company continued its expansion in Europe by acquiring UK based chocolate manufacturer Classic Coverture in 2006 from Edward Billington and Son Limited.

Barry Callebaut

8. Swiss-based Barry Callebaut is a cocoa processing and chocolate confectionery company, integrating sourcing of cocoa beans and cocoa products. A unique feature of Barry Callebaut is that it is present in numerous countries of origin. The company operates through two segments: industrial business and food retail business which both relate to cocoa beans. As at the beginning of 2007, Barry Callebaut was operating in 24 countries. Sales revenues generated by the company in 2006 were estimated at US\$ 3,400 million. Of this amount, US\$ 1,934 million and US\$ 1,466 million represented sales revenues from the industrial and food retail businesses respectively.

9. Barry Callebaut purchased around 13% of the global cocoa production in 2003/04. Cocoa beans are processed into cocoa liquor, cocoa butter and cocoa powder. Thereafter, two-thirds of these products are used internally whereas the remainder is sold to the food industry. The company aims to increase the percentage of sales generated outside Western Europe and North America from 11% to about 20% by 2010. As a result, the Company’s geographic expansion includes the construction of factories in the Russian Federation, the United States (Chicago) and China (Shanghai). The Company is in a strategic supply and innovation partnership with two chocolate manufacturers, Nestlé and Hershey. Barry Callebaut acquired Nestlé’s production facilities in France and Italy and provides chocolate products to Nestlé’s chocolate factories in the Russian Federation. In addition, Barry Callebaut has to supply a minimum of 80,000 tonnes of chocolate products per annum to Hershey and they manage the latter’s new chocolate plant in Mexico. Being well established in countries of origin, Barry Callebaut is in a favourable position to pursue production and sales of chocolate made with single origin beans from exclusive cocoa-growing areas.

Cargill

10. This American privately owned Company operates under the following business divisions: agricultural services, food ingredients and applications, industrial products, commodity trading and processing, and financial risk management services. Cocoa processing falls under the “food ingredients and applications” activities. Globally, the Company operates in 66 countries and, in 2005, its net income totalled about US\$ 2,100 million.

11. Cargill is one of the world's major processors of cocoa beans, accounting for about 14% of global cocoa beans in 2003/04. The Company manufactures quality cocoa products such as cocoa powder, butter and liquor, as well as industrial chocolate, which are used by food and confectionery companies to produce cakes, biscuits, confectionery and other 'functional' products. Cargill recently strengthened its chocolate portfolio in Europe by acquiring the Nestlé Group's primary cocoa processing facility in York, United Kingdom and the German industrial chocolate facility Schierstedter Schokoladefabrik GmbH & Co. KG in 2004 and 2005 respectively. Cargill is active in Côte d'Ivoire with production of cocoa liquor, butter and powder and the Company also plans to operate a new factory in Ghana.

The chocolate manufacturing industry

12. The chocolate industry has proved to be very dynamic in recent years and has given the chocolate market a new lease of life. It has partly overcome difficult obstacles that represented a real threat to consumption of chocolate products such as weak growth in volume in mature markets (Western Europe and the United States), concerns over obesity and advertising bans for "junk" food. Health has been dominating the industry's agenda since 2006. Recent research conducted on the health and nutritional attributes of cocoa and chocolate indicated that some components of cocoa were beneficial to human health and consequently provided the evidence that chocolate was a positive component of a balanced diet and not a primary cause of obesity. The chocolate industry has reacted dynamically to these findings, introducing new products, responding to consumers' demand for healthier products, as well as to their changing tastes for premium chocolates.

13. **Table 2** in the Annex, presents total chocolate sales figures of major chocolate manufacturers. From this table, it can be observed that the top ten chocolate manufacturers constituted about 43% of global chocolate sales. The chocolate market is more concentrated in the Western regions with major international players dominating, although some companies from Asia are proving to be potential strong competitors. The degree of specialization in confectionery production differs among the companies and all of them are engaged in the production of foods other than confectionery. The market share of major chocolate manufacturers in the global confectionery market in 2005 is presented in **Table 3**. A brief description of the five major chocolate manufacturing companies is presented below.

Nestlé S.A.

14. Nestlé is the world's biggest food and beverage company with headquarters in Vevey, Switzerland. A major factor for its strength in the global market is its ability to manufacture products according to the preferences of the local market in which it operates. The Company manufactures beverages, milk products, nutrition and ice cream, prepared dishes and cooking aids, chocolate, confectionery and biscuits, pet care and pharmaceutical products. Nestlé's market value share in the global confectionery market in 2003/04 was 6.3% and 10.2% within the chocolate category in 2005. The Company has established brands such as Nescafé, Nesquik and Maggi. Total sales for 2006 were about US\$ 74,856 million as compared to US\$ 69,232 million the previous year. Sales for the chocolate, confectionery and biscuits sector of the Company reached US\$ 8,205 million in 2005. In Western Europe, Nestlé's confidence in the challenging and changing chocolate market has resulted in its strategic co-operation with Barry Callebaut. This included the transfer of production facilities in Italy and France to Barry Callebaut as well as the furnishing of chocolate mass to Nestlé chocolate

factories in the Russian Federation. With sales of dark chocolate increasing worldwide, Nestlé also launched around 50 new dark chocolate products worldwide during the first quarter of 2007.

Ferrero SpA

15. The Italian owned confectionery, beverage and bakery Company operates 15 production facilities, with 11 of them located outside Italy. The Company's most well-known brand names include Ferrero Rocher, Nutella and Tic Tac. Its Kinder Surprise brands are patronised by both adults and children. Ferrero SpA has been dominating the Italian chocolate market with a share of 50% in 2003. Its chocolate revenue in 2005 is reported to be US\$ 4,183.6 million, representing about 4.4% of the global confectionery market. The Company also produces other foods and a range of beverages.

Cadbury Schweppes PLC

16. Cadbury Schweppes is based in the United Kingdom and manufactures chocolate, candy, gum and non-alcoholic beverages. The Company holds a large share of the global confectionery market, estimated at 6.4% in 2005. Innovation and emerging markets are reported to play a key role in its growth. To improve its market position in the premium chocolate market, the company purchased Green & Black, which focuses on high cocoa-content dark organic chocolate. In 2006, chocolate accounted for 45% of the Company's revenues, with Europe, the Middle East and Africa contributing about half of this share whereas the Americas and Asia Pacific contributed to the other half. The Company is very active in India, realizing a market share of 72% in the country's chocolate sector. As at December 2006, the company had 63 confectionery plants.

Mars Inc. (Masterfoods)

17. Mars is a private Company with its headquarters in Virginia, USA. Confectionery or snack food is one of its core areas of operation. In the global confectionery market, Mars held a share of 7.5% in 2005. Its major brands include M&Ms, Mars bar, Milky Way, Starburst and Twix. In response to consumers' concerns of healthy eating, Mars has launched CocoaVia, a line of confections containing flavanols from cocoa beans. In 2006, Masterfoods embarked on a US\$ 30 million expansion at its chocolate processing facilities in the United States which is responsible for the production of Milky Way, 3 Musketeers and Dove Chocolate. The Company is reported to have a market share of about 16% of the confectionery market in the United States.

Hershey

18. With its Headquarters in the United States, Hershey is the largest manufacturer of chocolate and non-chocolate confectioneries in North America. The Company accounts for about 30% of the US retail confectionery market and manages six manufacturing facilities and four distribution facilities. Although its main operations are concentrated in the United States, it operates in over 60 countries. Its major activities include snack, refreshment and grocery products. To improve its market position in the premium chocolate market, the Company acquired the assets and operations of Dagoba Organic Chocolate, which focuses on high quality natural and organic chocolate. Hershey is noted for brand names such as Kit Kat, Reese's and Hershey's. It also markets premium chocolate such as Scharffen Berger and handcrafted chocolate gifts such as Joseph Schmidt. In 2005, total chocolate sales

revenues were US\$3,143 million. To expand its global activities, especially in emerging markets, the company is targeting the Asian market, including China where it has a joint venture with Lotte Confectionery. Operations in India started when it formed an alliance with the Gujarat Co-operative Milk Marketing Federation (GCMMF), which markets the Amul brand of milk products and chocolates, and local chocolate maker Campco. Hershey has recently announced a strategic supply and innovation partnership with Barry Callebaut. It is reported that the alliance will enable the companies to work together to accelerate long-term growth in the global chocolate market.

PART II: THE COCOA AND CHOCOLATE MARKET

The product range in the chocolate market

19. Global sales of chocolate were estimated at US\$68.1 billion in 2005 (*Euromonitor International, 2006*), having increased by around 20% in five years in real terms (up by 36% in nominal terms) or by an average annual growth rate of almost four per cent in real terms. During the same period, sales in volume increased by 10%. In 2006, the market was estimated to have reached US\$74 billion, increasing by more than five per cent in real terms. Western Europe represented by far the largest share in value of the chocolate confectionery market (45%) whereas around 20% of the sales were made in the United States.

20. The chocolate confectionery market is made up of various chocolate products which have a very heterogeneous cocoa content. Consequently, statistics on the chocolate market by products can be described using various classifications depending on the purpose of the study. Market research companies usually provide statistics on the chocolate confectionery sector according to the following classification:

- *Boxed chocolate*: assortments of different, individual chocolates packaged in a box or carton and often sold as gifts and treats;
- *Countlines*: chocolate-covered bars designed to be eaten as a snack and on the go. This includes bitesize countlines sold in multipacks. This category has an extremely wide range of brands, with many available in different sizes or multipacks to address each of the areas of consumer needs, from hunger satisfaction to indulgence. Manufacturers are constantly developing new varieties. This market segment is dominated by “*Kit Kat*” and “*Mars*” bars. Products marketed as biscuits or cookies are not included in this category;
- *Tablets*: solid chocolate bars, blocks or tablets shaped by pouring melted chocolate into moulds, with or without added ingredients;
- *Seasonals*: all products with a seasonal theme which are only available for a limited period of time. Easter eggs, and other Easter-themed chocolates, for example chocolate bunnies or chicks in spring baskets, are included, as are chocolate *Santas* for Christmas and Christmas stocking selection packs of countlines and blocks. Limited edition packs of chocolates for Mother’s Day or Valentine’s Day are also defined as seasonal confectionery. The tradition of giving chocolate is particularly important in many countries at Christmas and Easter. Seasonal products can be particularly profitable for manufacturers as consumers may be less concerned about value for money in relation to seasonal items.

- *Bagged selfline*: products packed in bags or boxes. This category includes "M&Ms", "Rolo", "Creme Egg" and "Maltesers".
- *Chocolate with toys*.
- *Other chocolate*: regional specialties.

Chart II shows that *Countlines* and *Tablets* chocolate, the two largest market segments, accounted for 50% of the global chocolate market in 2005. The *Boxed chocolate* segment has in recent years experienced an increase in the number of luxury boxed chocolate brands available.

21. The chocolate market can be segmented into different categories, using a range of other definitions addressing specific consumer or government needs. For customs tariffs purposes, trade data are usually classified through the Harmonized System (HS) / Combined Nomenclature (CN). Under this classification, white chocolate, which does not contain any cocoa liquor, is classified in the sugar confectionery category, not containing cocoa and, therefore, not in the same category as other chocolate products. **Table 4** shows the detailed classification for chocolate products and **Table 5** summarizes the information grouping chocolate products according to a more "consumer-oriented" classification. Information on exported quantities and unit export values (UEV) are presented in **Chart III** for the European Union, Switzerland and the United States. It shows that chocolate products classified under HS 180632 (Unfilled chocolate), which includes plain chocolate tablets and chocolate tablets with fruits, cereals or nuts, and under HS 180690 (Other), which includes assortments of individual chocolates packaged in a box or carton and spreads containing cocoa, have the highest UEV. The chart also emphasizes that the export value of Swiss chocolate products is, on average, higher than those from the European Union and the United States. Indeed, Switzerland is a top range chocolate producer. Its imports of cocoa beans originate mainly from countries producing fine or flavour cocoa and from Ghana.

Cocoa and chocolate consumption

22. Chocolate consumption can be assessed in quantitative terms thanks to two different measures: (i) total chocolate consumption which includes the consumption of ingredients other than cocoa and which is measured through local industry surveys and trade information, and (ii) "apparent domestic cocoa consumption", which provides information on the quantity of cocoa consumed in chocolate products; it is computed by the ICCO Secretariat for each country as grindings plus net imports of cocoa and chocolate and chocolate products, in bean equivalent terms.

23. The latest estimates of apparent domestic cocoa consumption compiled by the ICCO Secretariat are contained in **Tables 6** and **7** and illustrate recent trends in regional and country consumption patterns. In the 2004/05 cocoa year, the European region accounted for 50% of total world consumption of cocoa, followed by the Americas (34%), Asia (13%) and Africa (three per cent).

24. **Chart IV** shows that, between 1996/97 and 2004/05, world cocoa consumption expanded by 571 000 tonnes (up by 21%) with most of the increase coming from higher consumption in the traditional cocoa consuming countries of Europe (up by 21%) while consumption increased by 134 000 tonnes (up by 14%) in the Americas over the same period. The most dynamic regions in terms of cocoa consumption were the Asian region (up by 41%) and the African region (up by 48%).

In 2004/05, the leading consumers of cocoa were the United States, Germany, France, the United Kingdom, the Russian Federation, Japan, Italy, Spain and Brazil.

25. Data published by the Association of the Chocolate, Biscuit & Confectionery Industries of the E.U. (CAOBISCO) and the International Confectionery Association (ICA) in March 2007 show that consumption of all chocolate confectionery products in the 23 countries for which statistics are available (which include most of the traditional leading cocoa consuming countries) increased by six per cent between 2002 and 2005 (**Table 8**). The corresponding *per caput* data contained in **Table 9** show a consistent growth in most countries over the period concerned. Increases in standards of living, development of new products, advertising and promotional campaigns have contributed to the rise in chocolate confectionery consumption in most regions and countries. Information on chocolate consumption for the major consuming countries is presented below. **Table 10** in the Annex summarizes the main characteristics of chocolate consumption in these countries.

United Kingdom

26. In 2003, the United Kingdom was the largest chocolate confectionery consumption market in Europe, with consumption valued at US\$5,781 million. Amounting to US\$2,394 million, the countlines segment accounted for most of the revenue from chocolate sales followed by boxed chocolates. In the United Kingdom, chocolate products consumption is about 10 kg per head. The chocolate market is noted to be highly consolidated with Cadbury Trebor Bassett Ltd, Mars and Nestlé dominating the market. The main brands of Cadbury in the United Kingdom are Dairy Milk, Crunchie and Cadbury's Buttons. The key brands of Mars include Milky Way, M&M's and Maltesers while the best known Nestlé's brands are Kit Kat, Milky Bar and Yorkie.

Germany

27. In 2003, the German chocolate confectionery market, the second largest in Europe, was valued at US\$3,832 million. The boxed chocolate segment was the main source of revenue of the sector with a value of US\$1,358 million. In 2003 boxed chocolates and moulded chocolate sales accounted for 35.4% and 29.3% of total market value respectively. In Germany, chocolate products consumption is about 11 kg per head. The chocolate market in Germany is consolidated with Ferrero, Mars and Kraft as leading producers. Ferrero's brands in Germany include Kinder, Duplo and Ferrero Rocher. In addition to the Mars bar, Mars's key brands are Snickers, Milky Way, Galaxy, M&M's and Maltesers. Kraft's brands include Milka, Côte d'Or and Toblerone.

France

28. In 2003, the French chocolate confectionery market, the third largest in Europe, was valued at US\$ 3,155 million. The boxed chocolate segment was the main source of revenue of the sector with a value of US\$1,321 million. In France, chocolate products consumption is about 7 kg per head. The leading chocolate manufacturers are Nestlé, Kraft, Ferrero and Lindt. Nestlé's brands include Kit Kat, Yorkie, Aero, Milky bar and Toffee Crisp. Ferrero's leading brands are Kinder, Duplo and Ferrero Rocher.

Italy

29. In 2003, the value of the Italian chocolate confectionery market was US\$1,564 million. The boxed chocolate segment was the main source of revenue of the sector with a value of US\$917 million. In Italy, chocolate products consumption is about 4 kg per head. The major manufacturers are Ferrero, Nestlé Italian SpA and Mars. Ferrero accounted for about 50% of the Italian chocolate market while Nestlé and Mars accounted for 18% and seven per cent respectively. The main brands of Ferrero Rocher are Nutella and Tic Tac and those of Nestlé are Nescafé and Taster's Choice. The Mars' brands include Milky Way, M&M's and Maltesers.

Switzerland

30. Swiss chocolate products enjoy a very good reputation. In 2003, total sales reported by the 17 Swiss chocolate manufacturers were about 140,000 tonnes with a value of US\$927 million. Of this quantity, about 51% of products were exported to around 130 export markets with Germany, France, the United Kingdom and the United States as leading export markets. In Switzerland, chocolate products consumption is about 11 kg per head. However, it should be noted that the tourism industry inflates chocolate consumption at the domestic level. The country's preferences are solid tablet chocolate with or without fillings. Lindt & Sprüngli, Nestlé and Kraft are amongst the major chocolate manufacturers in Switzerland.

Belgium

31. The chocolate market is the largest segment of Belgium's confectionery market with a market value of about US\$826 million in 2003. A unique feature of Belgian chocolates is the quality of ingredients and the 'hand-made' manufacturing techniques. Belgium produces about 170,000 tonnes of chocolate *per annum*. With a value of about US\$293 million, moulded bars are the largest segment of the chocolate market. The country's chocolate products consumption is about 11 kg per head. The chocolate market in Belgium is consolidated with Kraft, Mars Inc. and Nestlé as leading producers. Kraft has a very strong position in the chocolate market with a total share of 42% whereas Mars has a share of about 15% and Nestlé about 13%.

United States of America

32. The United States is the largest chocolate market in the world, with a value of about US\$14,000 million in 2003. Countlines and straightlines accounted for about 37% and 24% of the total market value, respectively. The country's chocolate products consumption is about 6 kg per head. The major manufacturers are Hershey Foods, Mars and Nestlé. Hershey's brands in the United States include Hershey's milk chocolate, Hershey's chocolate drink and Hershey's cocoa. Mars' brands include Milky Way, M&M's, Maltesers and the main brands of Nestlé USA Inc are Kit Kat, Milky Bar and Yorkie.

Japan

33. In 2003, Japan was the largest chocolate confectionery consumption market in the Asia-Pacific region, with a market value of about US\$2,500 million. Moulded bars accounted for US\$850 million representing about 34% of the market value in 2003. Countlines represented about 27% of the market with a value of US\$ 675 million. The country's chocolate products consumption is about 2 kg per head. Major manufacturers are mainly domestic companies, which include Meiji Seika Kaisha, Ezaki Glico, Morinaga & Co and Lotte.

The Russian Federation

34. The Russian chocolate confectionery market reached a value of about US\$ 2,000 million in 2003. Boxed chocolates accounted for about 90% of this market, representing about US\$ 1,800 million in value terms. Russian chocolate is characterized as being often dark and bitter-sweet. The country's chocolate products consumption is about 2 kg per head. Major manufacturers include Nestlé while Babaevsky and Krasny Oktyabr (Red October) are the main domestic brands. The main traditional chocolate brands are grouped within the holding company United Confectioneries.

PART III: RECENT TRENDS IN THE COCOA AND CHOCOLATE MARKETS**Changes in consumption behaviour**

35. The general perception over recent years is that the volume of chocolate consumption in Western European countries and the United States has stagnated as these major chocolate consuming markets are coming close to saturation. However, chocolate consumption behaviour across these mature markets has recently experienced some major changes, with the increasing appeal of premium chocolates such as organic, Fair-trade, single-origin, reduced sugar and dark and high cocoa-content chocolates. A survey conducted by *Ipsos* for *Barry Callebaut* in November 2006 in five European countries (Belgium, France, the United Kingdom, Germany and Switzerland) showed that 11% of the respondents consumed some single origin chocolate, while 11% consumed some Fair-trade chocolate, six per cent consumed some organic chocolate and almost four per cent consumed some sugar-free chocolate. The confectionery market has increasingly been characterised by consumer demand for taste, convenience and health, and products addressing ethical and environmental concerns. New product developments and 'functional foods' (foods that provide health benefits beyond basic nutrition) with wholesome ingredients, are playing an important role in the upward trend of the confectionery market.

36. Recently, more and more research has been conducted on the health and nutritional attributes of cocoa and chocolate. The findings indicate that some components of cocoa, the flavanoids, may decrease low-density-lipoprotein (LDL or "bad" cholesterol) oxidation, helping to prevent cardiovascular diseases. Its high content of antioxidants, which surpasses those found in wine and tea, has been proved to reduce the risk of cancer. Subsequently, the demand for dark and high cocoa content chocolate, in particular, has surged in response to these positive findings. Chocolate manufacturers have noticed the changing tastes and even companies traditionally known for milk chocolate products have been introducing new dark and high cocoa-content chocolate products. According to *Datamonitor*, 33% of all chocolate candies launched in 2006 were dark chocolate products. In the United States, sales of dark chocolate increased by nine per cent *per annum* on

average between 2001 and 2005 and sales of high cocoa-content dark chocolate increased by 24% during the same period according to data published by ACNielsen. The global dark chocolate market is now estimated to represent between five per cent and 10% of the total market of chocolate tablets (the others being plain milk, plain white and filled chocolate tablets), with a higher share in continental Europe than in the United States and in the United Kingdom. **Table 11** shows that in most European countries, dark chocolate tablets represented more than 10% of retail sales of tablets in 2006, whereas dark chocolate was estimated to represent still less than five per cent in the United Kingdom and in the United States.

37. This new trend has a direct impact on the composition of the demand for cocoa and, therefore, on farmer revenues from individual cocoa producing countries. The increase in consumption of dark chocolate impacts on the cocoa market in two different ways:

- (i) By increasing the demand for cocoa because dark chocolate has a higher cocoa-content than other chocolate tablets. **Table 12** shows an example of milk chocolate and high cocoa-content dark chocolate recipes and their respective requirements in terms of cocoa beans. According to these recipes, the manufacture of dark chocolate requires more than twice the quantity of cocoa beans than the manufacture of milk chocolate. Assuming that the tablet segment represents one third of the chocolate confectionery market and that the structure of the chocolate tablet market changes from “Market 1” to “Market 2”, this would be shown as follows:

<i>% of market</i>	Market 1	Market 2
<i>Types:</i>		
Plain milk	60	35
Plain dark	10	35
Plain white	5	5
Filled	25	25
Total	100	100

and based on the examples of recipes contained in **Table 12**, the induced increase in total demand for cocoa beans for chocolate confectionery would be 12% in consuming countries affected by this change. Hence the additional demand for cocoa beans from Europe, North America and Japan, from which 80% of world cocoa consumption originates, would be around 330,000 tonnes.

- (ii) By increasing the demand for cocoa beans of higher quality (“liquor quality” as compared to cocoa beans for pressing into butter and powder). Cocoa liquor is the key raw material for chocolate production and plays a predominant role in determining the ultimate flavour of the chocolate. Premium quality cocoa liquor is a critical factor in good quality chocolate. Moreover, it should be noted that chocolate manufacturers’ recipes of high cocoa-content dark chocolate usually require a significant proportion of fine or flavour cocoa.

38. The pace of introduction of new single-origin chocolate products across the mature markets shows that this market has expanded very dynamically in recent years. This market has mainly

benefited fine or flavour origins with a good reputation among consumers. However, it should be noted that not all cocoa beans used in single-origin chocolate are necessarily fine or flavour cocoa beans.

The fine or flavour cocoa market

39. The market share of fine or flavour cocoa in the total world production of cocoa beans has fallen dramatically, from *between 40% and 50% at the beginning of the 20th century*, with Ecuador and Trinidad & Tobago being the major fine or flavour cocoa producers, *to less than five per cent per annum currently*. However, the increasing demand for high quality chocolate gave the fine or flavour cocoa market a new lease of life. Cocoa farmers producing fine or flavour cocoa beans have been benefiting from this situation, with the price premium for their beans increasing significantly. The International Cocoa Council, at its 71st regular session in March 2005, recognized 14 countries as exporters of fine or flavour cocoa: Colombia, Costa Rica, Dominica, Ecuador, Grenada, Indonesia, Jamaica, Madagascar, Papua New Guinea, Peru, São Tome and Principe, Saint Lucia, Trinidad & Tobago, and Venezuela. The European Union is the main importer of fine or flavour cocoa beans. Unit values (which could act as a proxy for the price paid to farmers plus taxes, cost of transportation and insurance) for European imports from selected countries and their respective volumes for the 2003/04, 2004/05, 2005/06 cocoa years and for the October to December 2006 period are contained in **Table 13**. This table shows that countries producing fine or flavour cocoa beans received a higher price than most of the other countries and that all fine or flavour producers received a higher price during the October – December 2006 period than in 2003/04, whereas most other origins received a lower price.

The Fair-trade cocoa market

40. The recent strong growth in premium chocolate is also driven by increased consumer concern over poverty in less developed countries, and about a trading system that is considered as unfavourable to these countries. Consequently, purchases of labelled Fair-trade cocoa increased from 700 tonnes in 1996 to 5,657 tonnes in 2005, as shown in **Table 14**, representing an average annual growth of 23% during the period under review. However, the *Fair-trade cocoa market still represents only less than 0.2% of the total cocoa market*. In 2005, 83% of the total sales of Fair-trade cocoa were realized in only six countries, the United Kingdom (40%), Germany and France (13% each), Austria, Italy and Switzerland (six per cent each). As shown in **Table 15**, the estimated market share of Fair-trade labelled cocoa in each country is still less than two per cent, with the highest shares in Luxembourg (1.55%), Austria (1.12%) and the United Kingdom (1.02%).

The organic cocoa market

41. The demand for organic cocoa products is growing at a very strong pace, as consumers are increasingly concerned about the safety of their food supply along with other environmental issues. According to *Euromonitor International*, global organic chocolate sales were estimated to have increased from a value of US\$ 171 million in 2002 to US\$ 304 million in 2005. However, the organic cocoa market still represents only a very small share of the total cocoa market, estimated at less than 0.5% of total production. As presented in **Table 16**, the ICCO Secretariat estimates production of certified organic cocoa at 15,500 tonnes, sourced from the following countries: Madagascar, Tanzania, Uganda, Belize, Bolivia, Brazil, Costa Rica, Dominican Republic, El Salvador, Mexico, Nicaragua, Panama, Peru, Venezuela, Fiji, India, Sri Lanka and Vanuatu.

Legislation and practice concerning the use of cocoa substitutes

42. Most consuming countries have established legislation to inform and protect the health of local consumers. It is an acknowledged fact that legislation in consuming countries can have a significant impact on cocoa consumption and, therefore, on the cocoa sector in producing countries. The use of cocoa butter substitutes is regulated in the European Union by the European Directive 2000/36, which authorizes the use of the Cocoa Butter Equivalents (CBEs) for up to five per cent of the final product. As suggested by a study carried out at the request of the European Commission on the impact of the Directive, there has been little impact, so far, on the global cocoa market and on global cocoa prices, in particular. Indeed very few EU chocolate manufacturers have incorporated CBEs into their recipes. This can be attributed to the fact that they were not willing to change their recipes for fear of adverse publicity that could lead to a loss of market share. However, there is also the possibility that chocolate manufacturers had little time to adjust their recipes as the Directive was implemented only four years ago (it should be noted that the study covered only a two-year period after implementation).

43. It is also noted that the new international standard for chocolate and chocolate products, which was adopted in 2003 by the *Codex Alimentarius* Commission, does not specify the other vegetable fats that could be used in chocolate, leaving any regulations to the authorities in individual countries. Hence no attention is given to the use of CBEs in many markets. In Japan, for example, the use of CBEs in chocolate has been allowed for a long time. In the United States, the trade association Grocery Manufacturers of America (GMA) submitted a request at the end of 2006 to the US Food and Drug Administration (FDA) to change the definition of what can be labelled chocolate, thus allowing the use of other vegetable fats than cocoa butter. The FDA has initiated a public consultation period, during which comments have been invited. Whereas the Cocoa Merchants' Association of America, as a member of the GMA, is backing the proposal, some chocolate manufacturers as well as some consumers associations are lobbying against it.

CONCLUSIONS

44. The first lesson that can be drawn from this report is that the significant growth in consumption of new markets in the Far East is providing *significant scope for the growth of bulk cocoa beans production*. A wider geographical consumer base for cocoa consumption is expected to contribute to the dynamic and sustainable expansion of the cocoa economy. Efforts are being directed at promoting the food, health and nutritional aspects of products containing cocoa in non-traditional markets. Of particular future benefit to the cocoa community is the encouragement of consumption of cocoa-based products in countries with large populations and a fast-expanding middle-class sector, such as China and India. Statistics indicate that *per capita* chocolate confectionery consumption could, in the meantime, have exceeded 100 grammes per year in China. The country, together with India, is widely regarded as a potentially huge market for chocolate manufacturers.

45. Recent changes in consumption behaviour in mature markets have also had a significant impact on the demand for cocoa beans. The strong increase in world cocoa demand during the past four years was partially explained by the improved image of chocolate as part of a healthy diet. But more significantly, the change in the composition of demand resulted in increased purchases of labelled Fair-trade, organic, high liquor-quality and fine or flavour cocoa beans. Regarding the latter, the price premium received by farmers over bulk cocoa has surged since the second part of 2006.

Hence farmers who had invested in cocoa niche markets and who as yet had not received a high return on their investment are now starting to benefit significantly from it. This new trend is also reinforced by the increasing demand for single-origin chocolate. Thus the cocoa market is experiencing a segmentation according to the origin of the cocoa beans. Consequently, the most dynamic and profitable markets for cocoa beans recently have been the fine or flavour, the Fair-trade, the organic and the high quality cocoa beans (for high quality cocoa liquor) markets. The second lesson that can be drawn from this report is that some producing countries and cocoa farmer associations could seize this *opportunity to stimulate production of high quality beans and “branding” their production accordingly to capture the higher price offered for these cocoa beans.*

46. The final lesson that can be drawn from this report is that the *chocolate manufacturing industry has, over the years, proved to be one of the most vibrant and successful sectors* of the major consuming countries' economies. Although these markets are coming close to saturation, cocoa and chocolate consumption in value have experienced impressive growth. This was the result of the proactive reaction of the industry to the changing tastes of the consumer towards the premium segment of the chocolate confectionery market, with products considered as healthier and/or addressing ethical and environmental concerns. The dark chocolate market, considered as non-strategic by some major international companies in the past, has, in the meantime, become the most dynamic and profitable market.

COCOA RESOURCES IN CONSUMING COUNTRIES

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CHART I
THE COCOA PROCESSING AND CHOCOLATE MANUFACTURING CHAIN

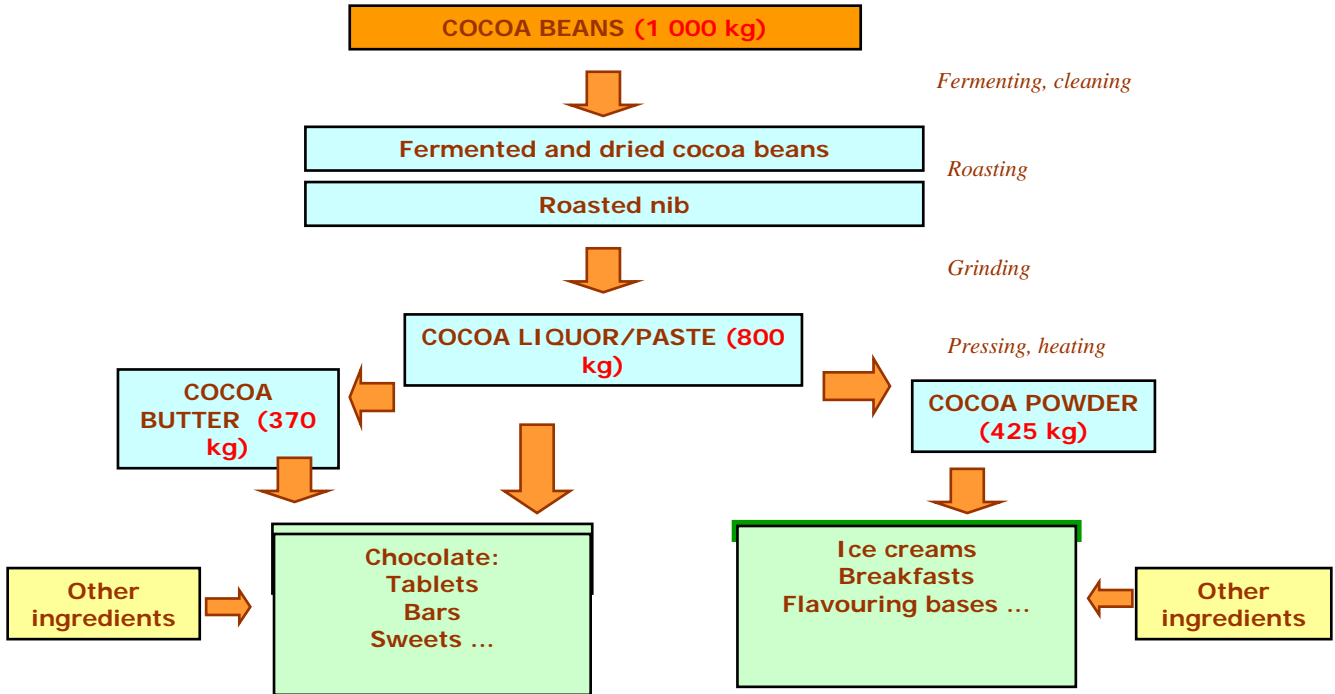
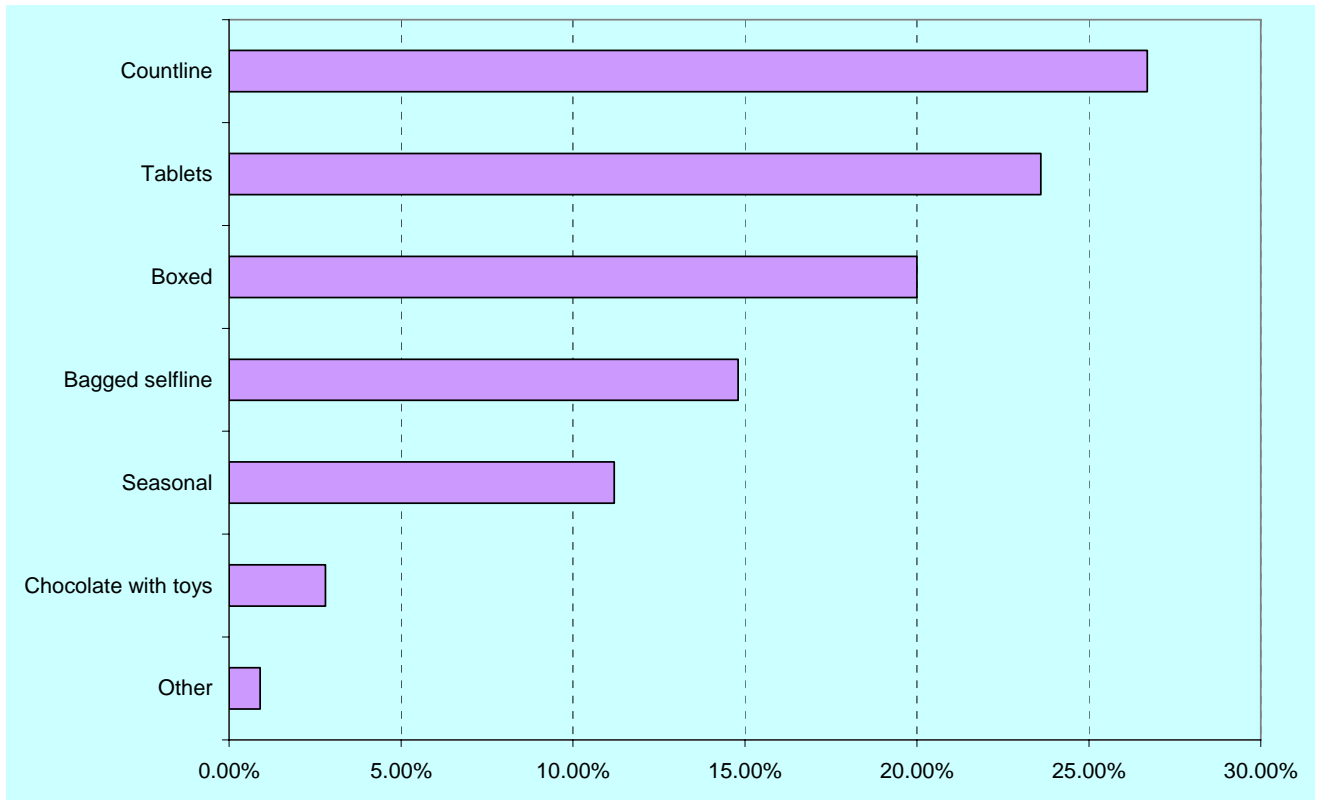
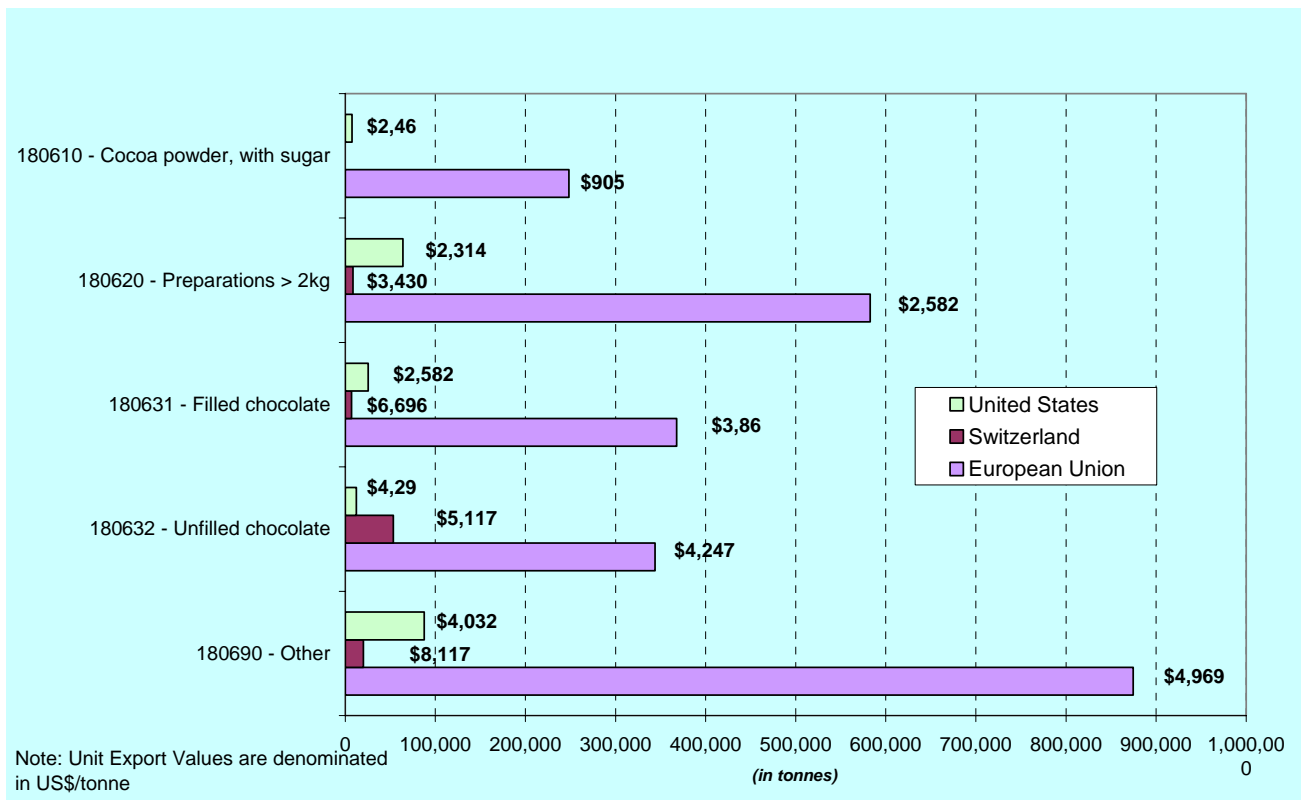


CHART II
SEGMENTATION OF THE GLOBAL CHOCOLATE CONFECTIONERY MARKET
% SHARE, BY VALUE, 2005



Source: Euromonitor International, 2006

CHART III
VOLUMES & UNIT EXPORT VALUES FOR CHOCOLATE PRODUCTS, IN 2005/06



Sources: Eurostat, US Department of Agriculture, Swiss State Secretariat for Economic Affairs, ICCO staff calculations.

CHART IV
CHANGES IN APPARENT CONSUMPTION OF COCOA BEANS
1996/97 AND 2004/05 (BEAN EQUIVALENT)

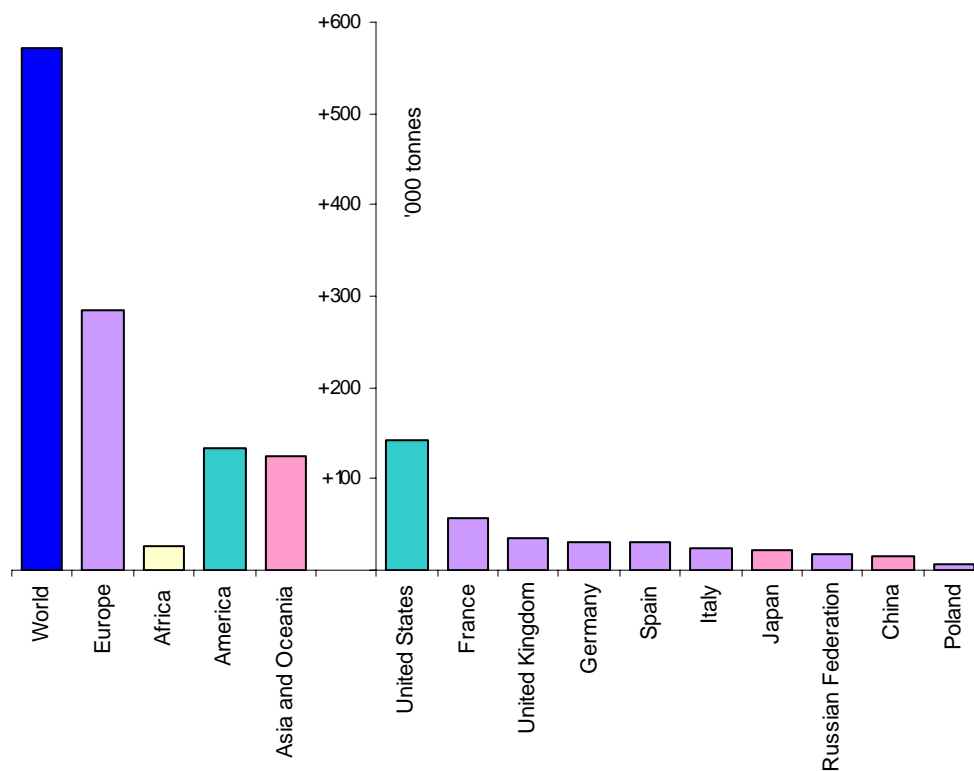


TABLE 1
TOP COCOA PROCESSING COMPANIES, IN 2003/04

Group/Company	Grindings ('000 tonnes)	Share
Archer Daniels Midland (ADM)	470	15%
Cargill	440	14%
Barry Callebaut	400	13%
Blommer	170	5%
Petra Foods	160	5%
Nestle	150	5%
Cadbury	100	3%
Cantalou/Cemol	90	3%
Hershey Co.	70	2%
Ferrero	70	2%
Schwarteuer Werke (KVB)	60	2%
Philip Morris/KJS	60	2%
Schokinag	60	2%
Mars	50	2%
Others	850	27%
Total	3200	100%

Source: ICCO estimates

TABLE 2
TOP CHOCOLATE MANUFACTURING COMPANIES, IN 2005

Class.	Company	Total Chocolate Sales 2005 US\$ millions
1	Nestlé SA	6,935.5
2	Ferrero SpA	5,554.8
3	Cadbury Schweppes PLC	4,183.6
4	Mars Inc / Masterfoods	3,321.6
5	Hershey Foods Corp.	3,143.4
6	Kraft Foods Inc.	2,489.0
7	Lindt & Sprüngli	1,803.6
8	Barry Callebaut AG	1,008.2
9	Meiji Seika Kaisha Ltd.	724.7
10	Russell Stover candies Inc.	426.3
	Top 10, total	29,590.7
	Top 10, % of global	43%
	Global chocolate sales	68,100.0

Source: Euromonitor International, 2006

TABLE 3
MARKET SHARE OF MAJOR MANUFACTURERS, IN 2005

Company	Global Confectionery Market	Chocolate
Nestlé	6.3%	10.2%
Ferrero	4.4%	8.2%
Cadbury Schweppes	6.4%	6.1%
Mars	7.5%	4.9%
Hershey	3.9%	4.6%

Source: Euromonitor International, 2006

TABLE 4
HS/CN CLASSIFICATION FOR COCOA PREPARATION

1704 90 30	-- White chocolate (under Sugar confectionery, not containing cocoa)
1806	Chocolate and other food preparations containing cocoa
1806 10 – 1806 10 15	-- Cocoa powder, containing added sugar or other sweetening matter : -- Containing no sucrose or containing less than 5 % by weight of sucrose (including invert sugar expressed as sucrose) or isoglucose expressed as sucrose --
1806 10 20	-- Containing 5 % or more but less than 65 % by weight of sucrose (including invert sugar expressed as sucrose) or isoglucose expressed as sucrose --
1806 10 30	-- Containing 65 % or more but less than 80 % by weight of sucrose (including invert sugar expressed as sucrose) or isoglucose expressed as sucrose --
1806 10 90	-- Containing 80 % or more by weight of sucrose (including invert sugar expressed as sucrose) or isoglucose expressed as sucrose
1806 20	-- Other preparations in blocks, slabs or bars weighing more than 2 kg or in liquid, paste, powder, granular or other bulk form in containers or immediate packings, of a content exceeding 2 kg :
1806 20 10	-- Containing 31 % or more by weight of cocoa butter or containing a combined weight of 31 % or more of cocoa butter and milkfat --
1806 20 30	-- Containing a combined weight of 25 % or more, but less than 31 % of cocoa butter and milkfat -- Other:
1806 20 50	--- Containing 18 % or more by weight of cocoa butter --
1806 20 70	--- Chocolate milk crumb --
1806 20 80	--- Chocolate flavour coating --
1806 20 95	--- Other --
1806 31 00	-- Other, in blocks, slabs or bars : -- Filled --
1806 32	-- Not filled :
1806 32 10	--- With added cereal, fruit or nuts --
1806 32 90	--- Other --
1806 90	-- Other : -- Chocolate and chocolate products : --- Chocolates (including pralines), whether or not filled :
1806 90 11	---- Containing alcohol --
1806 90 19	---- Other -- --- Other :
1806 90 31	---- Filled --
1806 90 39	---- Not filled --
1806 90 50	-- Sugar confectionery and substitutes therefore made from sugar substitution products, containing cocoa --
1806 90 60	-- Spreads containing cocoa --
1806 90 70	-- Preparations containing cocoa for making beverages --
1806 90 90	-- Other --

TABLE 5
CHOCOLATE PRODUCTS DESCRIPTION

Product description	HS codes	Explanatory notes
a. Unfilled chocolate	1806.3210 1806.3290 1806.9039	With added fruits, cereals, nuts Other (solid) bars/tablets of chocolate, milk or plain Other unfilled chocolate products
b. Filled tablets and bars	1806.3100	Other bars, blocks or slabs of chocolate
c. "Bonbons", pralines and other chocolate confectionery	1806.9011 1806.9019 1806.9031	Containing alcohol Other chocolates whether or not filled Other filled chocolate confectionery
d. Sugar confectionery containing cocoa	1806.9050	Toffees, nougat and sugar-coated goods containing cocoa
White chocolate	1704.9030	Normally unfilled
Spreads containing cocoa	1806.9030	
Chocolate powder (for the consumer) & other preparations for beverages	1806.9070	Preparations containing cocoa for making beverages

Sources: CAOBISCO, International Confectionery Association (ICA).

TABLE 6
APPARENT DOMESTIC CONSUMPTION OF COCOA, SELECTED COUNTRIES A/

Country	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05
	(thousand tonnes)								
World Total	2695	2726	2765	2976	2996	2928	2998	3219	3266
Total Europe	1347.6	1353.0	1376.8	1449.7	1492.8	1498.6	1520.4	1611.3	1633.0
Austria	23.7	22.2	32.5	33.8	30.6	28.1	27.8	33.2	30.0
Belgium/Luxembourg	60.0	55.0	55.1	53.1	58.7	56.4	60.3	61.2	54.2
Czech Republic	20.2	18.5	18.2	14.4	23.2	23.8	23.6	19.8	20.9
France	189.7	177.3	186.0	213.6	204.7	215.1	218.4	229.9	246.4
Germany	248.1	289.2	284.5	274.0	296.1	282.6	280.2	307.1	277.7
Greece	9.1	16.1	22.3	18.1	16.9	20.4	21.3	22.2	24.8
Italy	85.5	91.5	97.2	89.6	101.4	100.3	101.6	100.7	110.6
Netherlands	32.0	34.0	29.0	36.0	39.0	31.0	32.0	33.0	35.0
Poland	55.9	49.3	53.4	57.7	56.0	52.6	60.5	55.6	63.2
Spain	60.6	69.7	67.6	81.0	71.3	69.6	77.6	89.9	90.2
Sweden	18.6	19.4	16.8	15.8	17.4	18.3	17.6	20.0	19.3
United Kingdom	183.9	193.0	217.6	212.3	199.8	206.6	215.2	219.7	220.0
Norway	12.9	12.5	11.7	12.1	13.9	13.2	14.2	16.9	17.3
Switzerland	26.5	23.8	32.3	30.6	26.5	26.0	33.0	36.7	38.0
Russian Federation	165.2	116.8	95.4	140.9	172.8	180.2	166.8	177.4	183.6
Ukraine	22.9	24.5	24.9	23.9	18.0	19.0	20.0	21.0	20.0
Total Africa	55.6	55.0	60.1	63.1	65.4	66.4	71.1	73.7	82.3
Côte d'Ivoire	b/ 6.5	7.0	7.5	8.0	8.0	8.5	9.0	9.0	9.3
Egypt	5.6	6.6	8.9	9.9	8.5	7.3	5.2	6.9	8.7
Ghana	b/ 6.5	7.0	7.5	8.0	9.0	10.0	10.5	10.5	10.5
Nigeria	b/ 12.5	13.0	13.0	13.5	13.5	14.0	14.5	14.5	14.5
South Africa	14.8	8.0	9.9	9.6	11.9	10.2	10.9	12.6	15.7
Total Americas	985.4	1014.8	1019.7	1112.4	1070.2	1003.8	1028.8	1126.9	1119.0
Argentina	32.8	28.9	29.3	26.9	26.9	15.8	15.3	19.3	23.0
Brazil	116.9	120.4	123.7	124.4	114.7	105.2	98.1	94.0	88.4
Canada	63.3	78.1	63.5	72.6	69.2	63.4	61.8	71.6	63.1
Chile	9.7	9.7	8.5	9.7	12.1	15.2	13.9	12.7	13.8
Colombia	32.7	36.6	42.1	38.7	35.4	33.1	37.3	33.8	29.8
Ecuador	b/ 5.0	5.2	5.5	6.0	6.0	4.5	5.0	7.7	5.8
Mexico	52.8	45.3	54.7	56.1	56.6	60.0	61.9	62.0	59.7
United States	639.4	654.1	656.2	736.9	702.3	663.0	689.0	775.0	781.1
Venezuela	5.3	7.3	7.5	7.8	10.8	8.2	7.4	12.1	14.8
Total Asia and Oceania	306.9	302.9	307.9	350.8	367.1	358.9	377.7	407.0	432.0
Australia	40.2	43.0	45.1	41.7	41.0	44.6	44.0	46.2	52.1
China	19.5	16.9	15.2	25.1	24.8	15.9	13.6	24.5	34.1
Indonesia	b/ 12.0	12.0	9.0	8.4	9.0	9.5	11.0	12.0	12.5
Israel	10.3	11.4	10.2	11.0	9.1	11.1	12.5	13.3	17.6
Japan	131.4	124.0	131.9	143.7	146.9	146.0	153.7	162.6	152.6
Korea, Republic of	12.4	6.6	6.5	9.7	9.4	10.7	12.6	15.1	16.0
Malaysia	b/ 13.0	14.0	15.0	15.5	16.0	15.0	14.5	15.0	15.0
Philippines	17.6	17.2	21.8	24.0	29.7	28.8	26.7	26.2	27.9
Saudi Arabia	7.3	5.6	5.7	8.6	8.2	7.3	11.5	12.1	15.1
Turkey	11.2	15.9	12.9	11.3	18.5	15.8	20.0	20.0	21.0

Notes: a/ Calculated as grindings of cocoa beans plus net imports of cocoa products and of chocolate and chocolate products in beans equivalent using the following conversion factors: cocoa butter 1.33; cocoa paste/liquor 1.25; cocoa powder and cake 1.18; chocolate and chocolate products 0.40 or 0.20.

b/ Figures are provisional assumptions relating to domestic consumption. The data are not derived from annual grindings and trade statistics as described above because of data problems and additional complications with changes in stocks and with the appropriateness of conversion factors.

TABLE 7
PER CAPUT APPARENT DOMESTIC CONSUMPTION OF COCOA, SELECTED COUNTRIES a/

Country	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05
World Average	(kilograms per head)								
World Average	0.52	0.52	0.52	0.55	0.55	0.53	0.54	0.57	0.57
World Average (excluding China, India and Indonesia) b/	0.95	0.95	0.95	1.01	1.00	0.97	0.98	1.04	1.04
Average Europe	1.686	1.693	1.722	1.814	1.869	1.875	1.900	2.007	2.027
Austria	2.976	2.777	4.066	4.225	3.809	3.481	3.426	4.067	3.654
Belgium/Luxembourg	5.671	5.169	5.165	4.966	5.475	5.228	5.570	5.639	4.986
Czech Republic	1.965	1.797	1.769	1.401	2.268	2.334	2.310	1.935	2.050
France	3.236	3.036	3.173	3.627	3.459	3.615	3.654	3.818	4.073
Germany	3.023	3.526	3.467	3.334	3.596	3.426	3.395	3.718	3.360
Greece	0.869	1.529	2.119	1.699	1.564	1.859	1.932	1.996	2.211
Italy	1.487	1.589	1.685	1.551	1.754	1.737	1.764	1.731	1.891
Netherlands	2.050	2.164	1.834	2.263	2.430	1.920	1.972	2.027	2.143
Poland	1.447	1.275	1.382	1.507	1.464	1.375	1.583	1.457	1.656
Spain	1.533	1.757	1.697	2.017	1.756	1.689	1.854	2.115	2.098
Sweden	2.103	2.193	1.896	1.787	1.955	2.051	1.962	2.221	2.134
United Kingdom	3.116	3.257	3.657	3.553	3.380	3.483	3.613	3.672	3.648
Norway	2.929	2.826	2.631	2.695	3.082	2.917	3.100	3.686	3.754
Switzerland	3.732	3.353	4.530	4.258	3.658	3.567	4.496	4.963	5.108
Russian Federation	1.117	0.791	0.648	0.961	1.184	1.240	1.154	1.233	1.277
Ukraine	0.450	0.484	0.498	0.489	0.372	0.396	0.420	0.443	0.422
Average Africa	0.125	0.120	0.129	0.132	0.133	0.131	0.137	0.140	0.153
Côte d'Ivoire c/	0.432	0.455	0.472	0.488	0.473	0.487	0.500	0.485	0.491
Egypt	0.093	0.107	0.143	0.154	0.131	0.109	0.076	0.100	0.123
Ghana c/	0.355	0.371	0.385	0.403	0.443	0.482	0.495	0.485	0.473
Nigeria c/	0.119	0.121	0.117	0.117	0.114	0.114	0.115	0.113	0.110
South Africa	0.358	0.190	0.231	0.221	0.269	0.225	0.236	0.271	0.334
Average Americas	1.275	1.299	1.286	1.385	1.292	1.197	1.207	1.306	1.284
Argentina	0.919	0.799	0.802	0.727	0.725	0.420	0.403	0.504	0.597
Brazil	0.732	0.744	0.748	0.741	0.665	0.602	0.548	0.517	0.481
Canada	2.116	2.589	2.083	2.359	2.230	2.020	1.952	2.242	1.959
Chile	0.657	0.647	0.561	0.633	0.778	0.967	0.875	0.787	0.847
Colombia	0.817	0.899	1.013	0.915	0.822	0.755	0.837	0.746	0.651
Ecuador c/	0.425	0.437	0.454	0.488	0.481	0.355	0.389	0.595	0.437
Mexico	0.547	0.463	0.551	0.558	0.556	0.582	0.594	0.589	0.561
United States	2.386	2.420	2.406	2.677	2.466	2.299	2.355	2.624	2.630
Venezuela	0.230	0.310	0.315	0.320	0.438	0.324	0.288	0.460	0.555
Average Asia and Oceania	0.097	0.094	0.095	0.106	0.110	0.106	0.110	0.118	0.123
Australia	2.170	2.299	2.385	2.179	2.113	2.270	2.213	2.300	2.568
China	0.016	0.014	0.012	0.020	0.020	0.012	0.011	0.019	0.026
Indonesia c/	0.059	0.059	0.043	0.040	0.043	0.045	0.051	0.055	0.056
Israel	1.764	1.913	1.656	1.754	1.415	1.694	1.866	1.950	2.558
Japan	1.043	0.981	1.041	1.133	1.156	1.146	1.204	1.274	1.193
Korea, Republic of	0.269	0.142	0.139	0.207	0.200	0.226	0.262	0.315	0.331
Malaysia c/	0.619	0.652	0.686	0.660	0.672	0.612	0.579	0.586	0.577
Philippines c/	0.246	0.235	0.291	0.314	0.381	0.362	0.330	0.313	0.329
Saudi Arabia	0.386	0.286	0.288	0.419	0.393	0.338	0.524	0.533	0.643
Turkey	0.176	0.243	0.195	0.168	0.270	0.227	0.282	0.281	0.292

Notes: a/ *Per caput* values based on population data published in the United Nations Monthly Bulletin of Statistics.

b/ Averages excluding China, India and Indonesia are shown to highlight the disproportionate effect of their large population on world *per caput* consumption.

c/ Figures are provisional assumptions relating to domestic consumption. The data are not derived from annual grindings and trade statistics as described above because of data problems and additional complications with changes in stocks and with the appropriateness of conversion factors.

TABLE 8
EVOLUTION OF TOTAL CHOCOLATE CONFECTIONERY CONSUMPTION IN SELECTED COUNTRIES

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2005/02
	(thousand tonnes)										
United States	1408	1466	1490	1493	1498	1441	1546	1558	1562	1655	7.1%
Germany	829	847	783	806	820	823	851	866	918	917	7.8%
United Kingdom	504	496	516	517	551	539	591	599	614	615	4.1%
France	374	395	403	404	410	406	414	414	439	424	2.4%
Brazil	305	302	332	295	313	298	312	298	376	359	15.1%
Japan	261	245	248	259	277	281	273	283	283	285	4.4%
Italy	187	198	195	202	207	211	226	230	241	248	9.7%
China b/	n.a.	n.a.	n.a.	n.a.	n.a.	125	137	173	150	155	13.1%
Spain b/	153	137	135	127	157	153	148	143	147	138	-6.8%
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	126	152	154	140	11.1%
Canada a/	n.a.	n.a.	n.a.	123	125	126	122	122	122	122	0.0%
Belgium	74	87	99	81	82	74	92	90	99	116	26.1%
Australia	99	108	114	112	112	117	86	88	97	109	26.7%
Switzerland	71	73	72	75	77	81	80	76	80	80	0.0%
Austria	76	62	66	61	60	71	64	61	73	78	21.9%
Sweden	46	45	45	52	68	70	73	67	58	61	-16.4%
Netherlands b/	70	72	74	75	76	75	74	73	73	48	-35.1%
Denmark	43	48	48	43	44	46	50	47	47	42	-16.0%
Norway	38	38	38	38	37	39	38	40	42	40	5.3%
Finland	18	20	21	31	31	34	34	35	36	36	5.9%
Greece	30	30	30	30	31	29	31	33	35	36	16.1%
Hungary	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	39	31	32	32	-17.9%
Portugal	16	16	16	28	28	31	33	29	28	30	-9.1%
Total of above	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	5440	5508	5706	5766	6.0%
Total excluding a/, b/, c/ and d/	4602	4685	4725	4729	4879	4819	5016	5030	5248	5317	6.0%
Yr-on-Yr change	2.3%	1.8%	0.9%	0.1%	3.2%	-1.2%	4.1%	0.3%	4.3%	1.3%	

Source: CAOBISCO, International Confectionery Association (ICA).

Notes: a/ 2003 to 2005 figures are provisional
b/ 2005 figure is provisional

n.a.: not available

Totals may differ from sum of constituents due to rounding

TABLE 9
EVOLUTION OF PER CAPUT CHOCOLATE CONFECTIONERY CONSUMPTION IN SELECTED COUNTRIES

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
	(kilos per caput)									
Germany	10.12	10.32	9.55	9.82	9.97	10.00	10.32	10.50	11.13	11.12
Belgium	7.27	8.54	9.68	7.95	8.05	7.22	8.88	8.69	9.49	11.03
Switzerland	10.04	10.28	10.16	10.48	10.75	11.20	10.92	10.25	10.80	10.74
United Kingdom	8.57	8.53	8.85	8.84	9.41	9.17	10.02	10.12	10.25	10.22
Austria	9.45	7.69	8.16	7.49	7.37	8.80	7.97	7.53	8.96	9.43
Norway	8.57	8.52	8.52	8.44	8.13	8.61	8.27	8.66	9.19	8.53
Denmark	8.17	9.14	8.94	8.00	8.22	8.62	9.25	8.66	8.72	7.74
France	6.46	6.79	6.92	6.91	6.97	6.87	6.96	6.91	7.29	6.78
Finland	3.56	3.95	4.02	6.00	6.02	6.49	6.53	6.69	6.92	6.77
Sweden	5.21	5.05	5.04	5.84	7.61	7.86	8.15	7.50	6.45	6.76
United States	5.29	5.47	5.51	5.38	5.32	5.06	5.36	5.35	5.31	5.58
Australia	5.38	5.80	6.04	5.89	5.79	5.95	4.35	4.38	4.77	5.31
Italy	3.30	3.47	3.42	3.54	3.62	3.67	3.94	4.00	4.17	4.26
Canada a/	n.a.	n.a.	n.a.	4.00	4.10	4.10	3.90	3.90	3.90	3.90
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	3.30	3.98	4.04	3.67
Hungary	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	3.81	3.05	3.15	3.21
Greece	2.78	2.76	2.82	2.81	2.83	2.66	2.90	2.99	3.13	3.15
Spain b/	3.85	3.46	3.41	3.19	3.93	3.77	3.55	3.35	3.33	3.14
Netherlands b/	4.54	4.61	4.73	4.69	4.79	4.68	4.60	4.51	4.51	2.94
Portugal	1.57	1.65	1.65	2.76	2.81	3.11	3.36	2.94	2.81	2.81
Japan	2.07	1.94	1.96	2.05	2.18	2.21	2.14	2.22	2.22	2.23
Brazil	1.94	1.89	2.05	1.80	1.84	1.72	1.77	1.69	2.07	1.94
China b/	n.a.	n.a.	n.a.	n.a.	n.a.	0.10	0.11	0.13	0.12	0.12

Source: CAOBISCO, International Confectionery Association (ICA).

Notes: a/ 2003 to 2005 figures are provisional
b/ 2005 figure is provisional
n.a.: not available

TABLE 10
CHOCOLATE CONSUMPTION PROFILE BY COUNTRY

<i>Country</i>	Preferred chocolate market category	Total Market value of chocolate in 2003 (US\$ million)	Total market value of preferred chocolate category in 2003 (US\$ million)	Major chocolate companies	Chocolate consumption per capita in 2005 (kg per head)	Cocoa consumption per capita in 2004/05 (kg per head)
Belgium	Moulded bars	826	293	Kraft Mars Inc Barry Callebaut	11	5
France	Boxed chocolate	3,155	1,321	Nestlé Kraft Lindt	7	4
Germany	Boxed chocolate	3,832	1,358	Ferrero Barry Callebaut Kraft	11	3
Italy	Boxed chocolate	1,564	917	Ferreo Nestlé Mars Inc	4	2
Japan	Moulded bars	2,500	850	Meiji Seika Kaisha Ezaki Glico Morinaga & Co	2	1
Russian Federation	Boxed chocolate	2,000	1,800	Nestlé Babaevsky Krasny Oktyabr	2	1
Switzerland	Countlines	927	454	Lindt Barry Callebaut Nestlé	11	5
United Kingdom	Countlines	5,915	2,394	Cadbury Mars Nestlé	10	4
United States	Countlines	14,000	5,180	Hershey Mars Nestlé	6	3

Sources: Business Insights 2003, Datamonitor 2005 and Cabisco 2007

TABLE 11
DARK CHOCOLATE TABLETS – SHARE OF MARKET BY COUNTRY

Estimated share of dark chocolate tablets retail values in total tablet retail values, 2006
<i>More than 20%</i>
Austria
Belgium
Finland
France
Italy
Netherlands
Portugal
Spain
Switzerland
<i>Between 10% and 20%</i>
Denmark
Germany
Greece
Norway
Sweden
<i>Less than 10%</i>
Denmark
Ireland
United Kingdom
United States

Source: Euromonitor International

TABLE 12
EXAMPLE OF A MILK CHOCOLATE AND DARK CHOCOLATE RECIPE

Type:	Milk chocolate	Dark chocolate
<i>Recipe (in grams)</i>		
Cocoa liquor	12	58
Added cocoa butter	15	2.1
CBE	3	3
Whole milk powder	20	0
Sugar	49.5	39.4
Leicithin	0.5	0.5
Total	100	100
Cocoa beans*	35	75

Note:

* computed by using the international conversion factors determining the bean equivalent of cocoa products: cocoa butter (1.33) and cocoa liquor (1.25).

TABLE 13
EUROPEAN UNION IMPORTS OF COCOA BEANS, SELECTED PARTNER COUNTRIES

<i>Partner country</i>	Volume (in tonnes)				Unit Import Value (in US\$/tonne)			
	2003/04	2004/05	2005/06	Oct – Dec 2006	2003/04	2004/05	2005/06	Oct - Dec 2006
Sri Lanka	2.2	42.5	0.7	0.0	2,609	1,223	8,078	
Trinidad & Tobago	694.9	590.1	232.1	35.6	3,163	3,420	4,222	4,681
St Lucia			5.3	0.0			3,709	
Guatemala			30.4	0.0			3,143	
Jamaica	120.0	62.5	91.0	36.3	2,541	2,559	2,994	2,579
Venezuela	3,192.9	3,160.7	2,598.4	677.2	2,376	2,341	2,873	3,969
Grenada	255.3	89.3	7.9	0.0	2,938	3,118	2,689	
Cuba	118.4	75.5	187.5	74.7	1,809	2,344	2,429	3,099
Colombia	1,038.1	36.6	759.1	78.9	2,441	1,801	2,423	3,107
Indonesia	3,453.7	14,693.2	2,930.8	1,893	1,785	1,667	2,249	1,809
Madagascar	5,421.7	3,440.6	3,513.7	931.4	1,959	1,985	2,208	2,951
Tanzania	3,103.2	3,326.0	4,492.7	1,457.9	2,040	1,979	2,157	2,526
Dominican Republic	8,731.1	9,604.2	12,093.1	1,677.9	1,873	1,982	2,042	2,544
Brazil	303.6	99.5	115.3	751.4	2,164	2,277	1,983	1,852
Belize	31.6	61.6	62.0	10.2	1,640	2,029	1,951	1,538
Panama	406.4	500.0	711.2	255.2	2,161	2,003	1,917	2,210
Ecuador	28,874.1	29,365.9	30,107.4	11,900.8	2,057	1,981	1,862	2,125
Papua New Guinea	7,910.8	13,899.4	6,961.1	2,519.4	1,803	1,852	1,837	1,938
Peru	992.8	897.4	1,382.0	357.3	1,335	1,720	1,802	1,999
Costa Rica	144.2	94.7	127.3	0.0	1,022	1,274	1,748	
Ghana	295,463.7	350,109.5	352,631.9	91,445.6	1,926	1,714	1,735	1,810
São Tome & Príncipe	2,305.4	3,129.5	3,186.9	1,135.8	1,704	1,795	1,672	1,890
Vanuatu	213.8	192.7	431.0	63.0	1,733	1,656	1,668	1,715
Côte d'Ivoire	519,217.3	507,561.7	488,564.7	127,082.1	1,794	1,737	1,638	1,745
Nigeria	176,488.3	211,945.0	170,509.8	39,670.7	1,800	1,641	1,609	1,663
Nicaragua	527.6	1,210.4	61.5	0.0	1,557	2,118	1,576	
Malaysia	483.5	1,495.6	320.3	56.5	2,198	1,621	1,471	1,738
Cameroon	116,686.2	100,615.0	140,816.7	55,224.6	1,609	1,606	1,470	1,597
Surinam			1.0	2.5			1,438	1,412
Haiti	1,250.8	610.4	842.1	169.7	1,529	1,491	1,432	1,511
Sierra Leone	5,858.9	12,115.9	7,684.9	3,809.6	1,651	1,479	1,420	1,504
Dominica	50.2				1,740			
World	1,412,140.9	1,557,039.7	1,526,792.3	416,036.4	1,811	1,698	1,642	1,745

Notes:

Due caution should be exercised in interpreting unit import values.

Exchange rates Euro/US\$ used: 0.822 (2003/04), 0.786 (2004/05), 0.814 (2005/06) and 0.775 (Oct – Dec 2006).

TABLE 14
EVOLUTION OF FAIR-TRADE COCOA CONSUMPTION

YEAR	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
	(tonnes)									
United Kingdom	22.0	24.3	81.5	190.1	317.2	426.6	550.6	903.0	1,626.0	2,238.0
Germany	311.1	330.8	328.7	290.0	321.1	394.2	339.4	343.0	603.0	746.0
France	0.0	0.0	0.0	0.0	0.0	0.0	32.6	227.0	398.0	723.0
Austria	0.0	38.0	26.5	41.4	38.2	43.7	76.7	94.0	186.0	336.0
Italy	0.0	0.0	45.6	108.3	151.5	194.7	162.8	346.0	296.0	329.0
Switzerland	179.6	124.0	141.4	151.8	180.9	213.2	253.8	275.0	331.0	322.0
United States	0.0	0.0	0.0	0.0	0.0	0.0	2.1	92.2	249.0	251.0
Canada	0.0	0.0	0.0	0.0	0.0	0.7	42.7	54.0	118.0	231.0
Netherlands	187.8	177.4	172.1	95.0	92.5	102.7	105.9	147.0	177.0	176.0
Belgium	0.0	0.0	0.0	0.0	0.0	0.0	2.9	61.0	120.0	147.0
Denmark	0.0	0.0	0.0	14.4	15.7	21.3	13.0	13.0	12.0	38.0
Luxembourg	0.0	13.7	15.6	12.9	17.0	19.9	17.1	21.0	29.0	34.0
Sweden	0.0	0.0	6.7	17.5	15.6	30.8	49.7	52.0	34.0	29.0
Finland	0.0	0.0	0.0	0.0	2.9	4.9	6.5	9.0	11.0	15.0
Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7	9.0	15.0
Norway	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.5	2.0	4.0
Japan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
Total	700.5	708.2	818.1	921.4	1,152.6	1,452.7	1,656.2	2,643.4	4,201.0	5,657.0
<i>(Yr-on-yr change)</i>	<i>120%</i>	<i>1%</i>	<i>16%</i>	<i>13%</i>	<i>25%</i>	<i>26%</i>	<i>14%</i>	<i>60%</i>	<i>59%</i>	<i>35%</i>

Source: Fair-trade Labelling Organization (FLO)

TABLE 15
MARKET SHARE OF FAIR-TRADE IN COCOA CONSUMPTION
(in percentage of apparent cocoa consumption)

YEAR	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Luxembourg	0.00%	0.69%	0.78%	0.65%	0.83%	0.95%	0.81%	0.90%	1.32%	1.55%
Austria	0.00%	0.16%	0.12%	0.13%	0.11%	0.14%	0.27%	0.34%	0.56%	1.12%
United Kingdom	0.01%	0.01%	0.04%	0.09%	0.15%	0.21%	0.27%	0.42%	0.74%	1.02%
Switzerland	0.69%	0.47%	0.59%	0.47%	0.59%	0.81%	0.98%	0.83%	0.90%	0.85%
Netherlands	0.61%	0.55%	0.51%	0.33%	0.26%	0.26%	0.34%	0.46%	0.54%	0.50%
Canada	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.07%	0.09%	0.16%	0.37%
Italy	0.00%	0.00%	0.05%	0.11%	0.17%	0.19%	0.16%	0.34%	0.29%	0.30%
France	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.02%	0.10%	0.17%	0.29%
Belgium	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.11%	0.20%	0.28%
Germany	0.13%	0.13%	0.11%	0.10%	0.12%	0.13%	0.12%	0.12%	0.20%	0.27%
Denmark	0.00%	0.00%	0.00%	0.06%	0.07%	0.12%	0.08%	0.09%	0.07%	0.20%
Sweden	0.00%	0.00%	0.03%	0.10%	0.10%	0.18%	0.27%	0.30%	0.17%	0.15%
Finland	0.00%	0.00%	0.00%	0.00%	0.04%	0.05%	0.06%	0.08%	0.10%	0.13%
Ireland	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.04%	0.06%	0.08%
United States	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.03%	0.03%
Norway	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.02%
Japan	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Average	0.04%	0.04%	0.04%	0.05%	0.06%	0.07%	0.09%	0.14%	0.20%	0.27%
<i>(Yr-on-yr change)</i>	<i>109%</i>	<i>-2%</i>	<i>11%</i>	<i>10%</i>	<i>18%</i>	<i>27%</i>	<i>17%</i>	<i>56%</i>	<i>47%</i>	<i>36%</i>

Sources: Fair-trade Labelling Organization (FLO), ICCO staff calculations

TABLE 16
ESTIMATED PRODUCTION OF ORGANIC COCOA BEANS

Region / Country	Date	Organic production (in tonnes)
<i>Africa (6)</i>		<i>3,000</i>
Ghana	2005	n.a.
Madagascar	2003	1,500
São Tome		n.a.
Tanzania & Uganda	2005	1,500
Togo		n.a.
<i>Americas (14)</i>		<i>11,738</i>
Belize	2004/05	33
Bolivia	2003/04	400
Brazil	2005/06	1,100
Columbia		n.a.
Costa Rica	2004/05	300
Cuba		n.a.
Dominican Republic	2004/05	5,000
Ecuador		n.a.
El Salvador	2005	30
Mexico	2005	2,500
Nicaragua	2004	98
Panama	2005	350
Peru	2005	1,850
Venezuela	2005	77
<i>Asia and Oceania (4)</i>		<i>762</i>
Fiji	2002	50
India	2005	12
Sri Lanka	2005	200
Vanuatu	2002	500
<i>Total identified</i>		<i>15,500</i>

Sources: ICCO surveys (2006 & 2005), IFOAM (2006), SIPPO (2002), FLO-International, EPOPA, competent national authorities in Europe and international news agencies.

Note: In view of the limitations of data availability, such estimates should be regarded as provisional and should be used with due caution