

Present State of the Production of *Musaceae* in Africa, Asia Pacific and the Caribbean

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Summary

The world-wide production of bananas and plantains (104 MT in 2006) has generally continued to increase with consumer demand proportional to population increase. However, imbalances exist in some countries with high banana consumption mainly in urban zones where high prices have turned this basic food product into a luxury dish (Cameroun, Gabon, Côte d'Ivoire, Haiti).

Four main types of *Musaceae* can be differentiated: plantain (AAB), others cooking bananas (AAB, ABB, AAAea, etc.), Cavendish (AAA), other dessert bananas (AAA, AA, AAB).

The Cavendish group is the most produced type with more than 46 TM (44.7%) especially in the Asian continent, followed by cooking bananas (26.5 TM, 25.4%) also concentrated in Asia, plantains (18.8 TM, 18%) concentrated in Africa and Latin America, and other dessert bananas (12.3 TM, 11.8%) in Asia and Latin America. Except for intensive export production, 95% Cavendish, yields are generally low, between 5 and 12 t/hectares, well below their potential. The main obstacles to yield improvement are the use of traditional production techniques, an increase in pest and disease pressure, the underuse of modern production techniques for irrigation, pest and disease control and fertilization and traditional marketing chains which minimize price increases to growers.

Exports continue to grow slightly faster (16.5 TM, 16%, mainly Cavendish, 16 TM), especially with the commercial dynamism of Europe.

In Asia and the Pacific, production always follows the national and regional consumption. The Philippines, with its experience and infrastructure of intensive and quality production of Cavendish, remains the leading exporter to markets in Japan, the Middle East, Korea and China. India, world's leading producer (11.7 MT), is intent to export to Middle East. The threat of health risk to the tropical race 4 of the FOC from the south-east Asia remains strong, without major advances in its management. In Africa, few significant changes in production have occurred of importance for consumers. However, Ghana continues to increase exports of Cavendish and new export production from Mozambique and Angola with the support of the multinational "Chiquita" is planned for 2010. In East Africa the spread of Bacterial Xanthomonas Wilt (BXW) continues to threaten production for national and regional markets. In Europe, the Canary Islands are still the main supplier of Spain, and Turkey has noticeably increased production for its national markets.

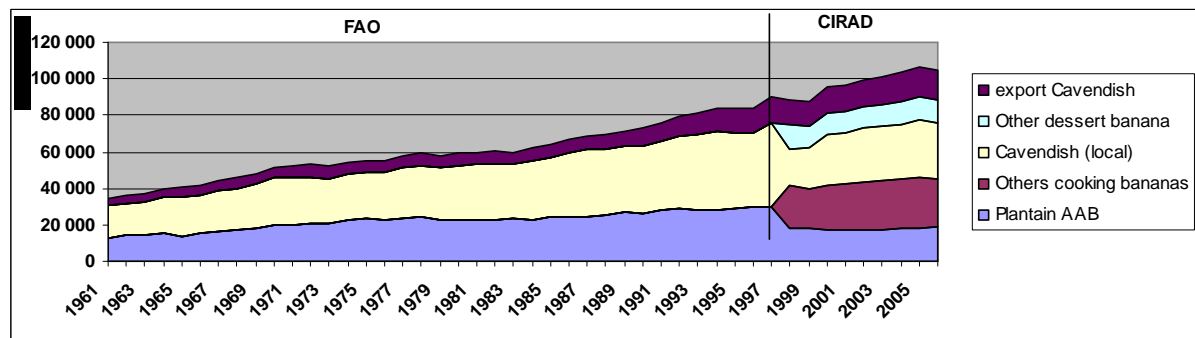
In the Caribbean, the production and export in the Windward Islands has declined with the end of exports from Grenada and have become oriented to fair-trade labelling and trade to Europe. However, volumes have increased in two ACP countries, the Dominican Republic which is the leading exporter of organic bananas and Surinam which targets the European market.

In Europe, despite the increase in the number of countries joining the European Union and operating under its import rules, Latin America has continued to expand as the main supplier (3.8 MT in 2007, 73%), while production from ACP countries (0.8 MT, 16%) and within the EU (0.5 MT, 11%) has continued to decrease. On the balance, internationally, there are few initiatives to strengthen research and development of bananas and plantains compared with other major crops.

INTRODUCTION

Worldwide production of bananas and plantains continues to grow (Figure 1), from 34 MT (FAO) in 1961 to 104 MT (CIRAD) in 2006.

Figure 1: Evolution of the worldwide production of banana trees and bananas.

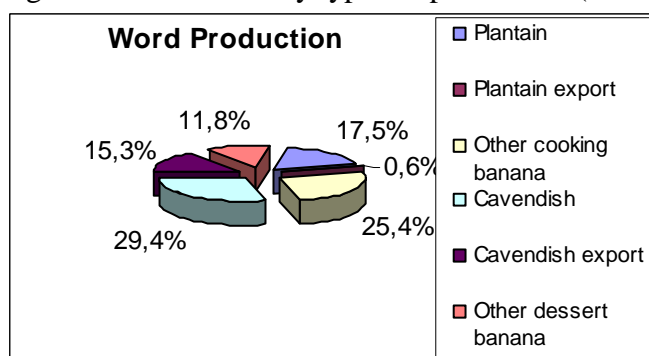


Source: FAO and CIRAD

This increase in production follows the demand driven by global population growth. Some national imbalances are found for AAB mainly in urban zones. Since the 1990s production has not kept up with demand, resulting in an increase in prices (wholesaler and retailer). In countries such as Cameroun, Gabon, Côte d'Ivoire, Haiti plantain has become a luxury food.

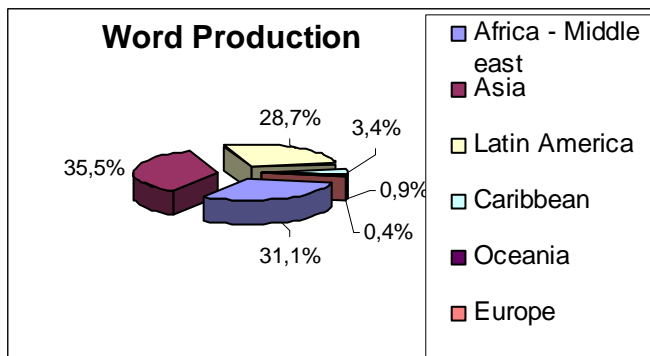
Production can be differentiated into four primary types of production: plantain (AAB), other cooking bananas or other like drinks (AAB, ABB, AAAea, etc.), Cavendish (AAA), other dessert bananas (Gros Michel, Apple, Sucrier/Datil/Oritos, etc.; AAA, AA, AAB) (Figure 2).

Figure 2: distribution by types of production (CIRAD 2008)



Asia, centre of origin of the *Musaceae*, is the world's leading producer continent, followed by Africa and Latin America (Annex 1 and Figure 3).

Figure 3: Total production by continents (CIRAD 2008)



Cavendish is the most produced type with more than 46 TM (44.7%) especially in the Asian continent (Figure 4), followed by cooking bananas (26.5 TM, 25.4%) concentrated in Asia and East-Africa (Figure 5), the plantains (18.8 TM, 18%) concentrated in Central and West Africa, and Latin America (Figure 6), and other dessert bananas (12.3 TM, 11.8%) in Asia and Latin America (Figure 7).

Figure 4: Distribution of the Cavendish production (CIRAD 2008)

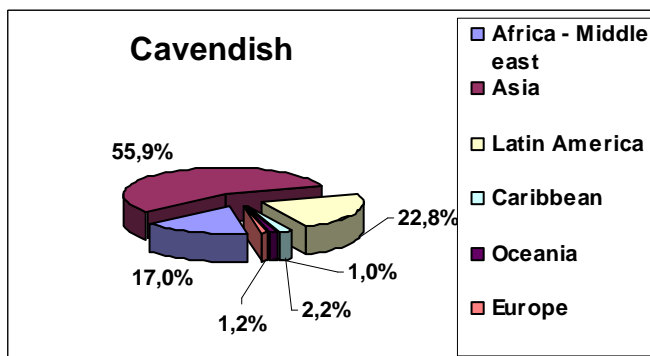


Figure 5: Distribution of the cooking banana production (CIRAD 2008)

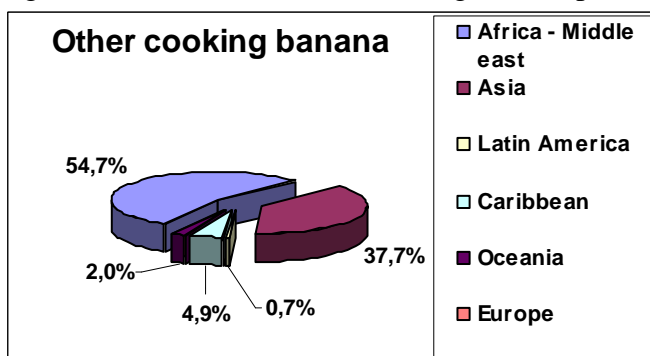


Figure 6: Distribution of the plantain production (CIRAD 2008)

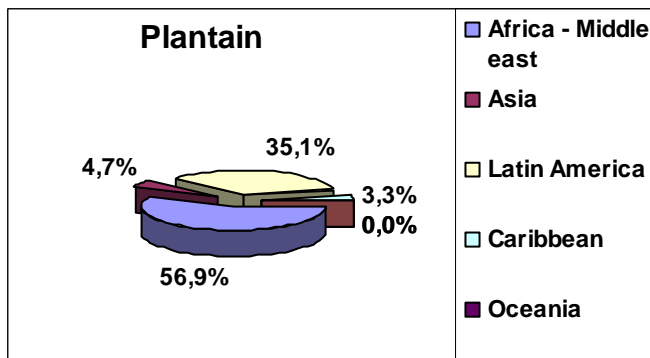
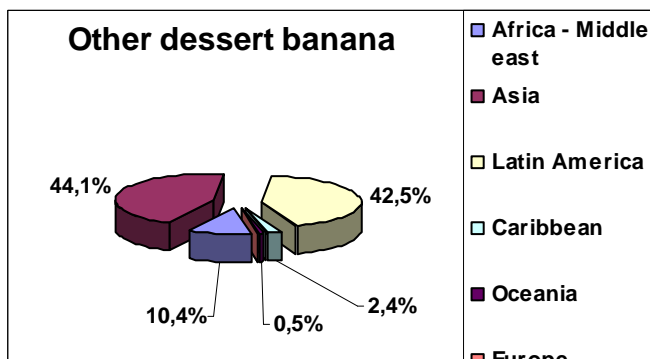


Figure 7: Distribution of the other dessert banana production (CIRAD 2008)



Except for intensive export production, 95% Cavendish, yields are generally low, between 5 and 12 t/hectares, well below their potential. For small holders who predominate production for national markets, the main obstacles to improved yield are, the use of traditional techniques, the increasing pressure of pests (especially weevil and nematode) and diseases (especially black Sigatoka, virus diseases, fusarium and some pockets of bacteriosis), the lack of means of modernization of production techniques (especially in irrigation and pest and disease control) and the marketing chains.

International trade continues to increase (16.5 MT, 16%; Figure 1), mainly for the important sub-group "Cavendish" (16 MT), especially thanks to the dynamism of the European market (Figures 8 and 9).

Figure 8: world-wide exports Cavendish 2006

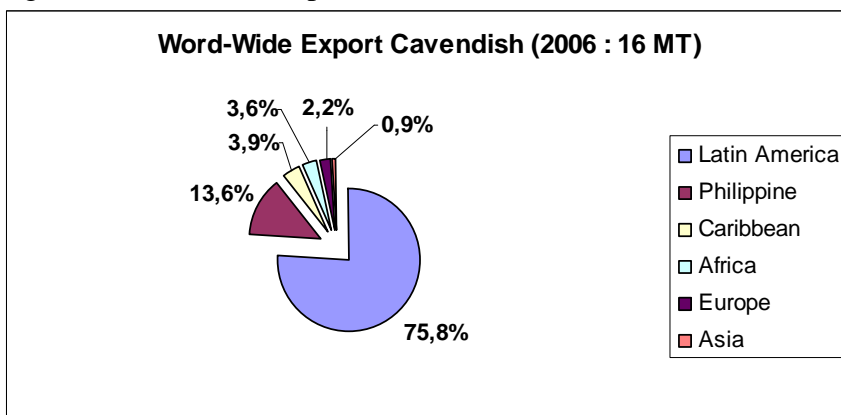
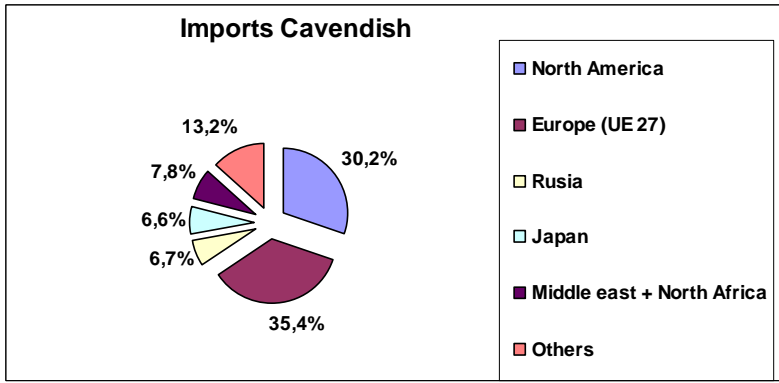


Figure 9: world-wide imports Cavendish 2007



Plantains follows as the second product of export/import but with much more low volumes (0,6 MT in 2006) (Figures 10 and 11).

Figure 10: World-wide exports plantains (2006)

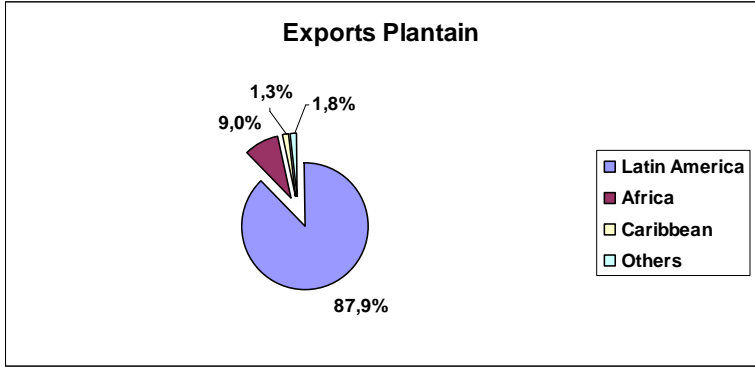
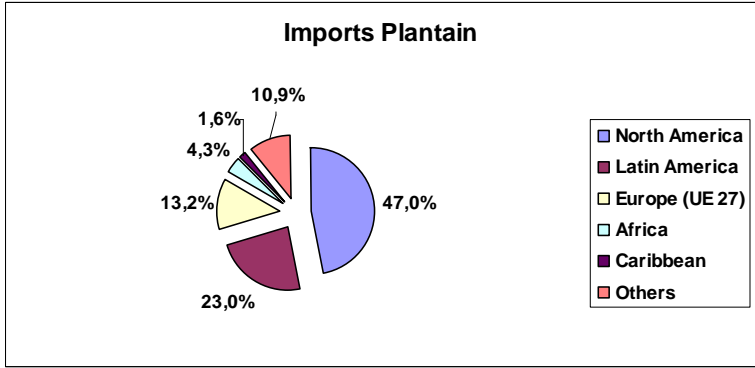


Figure 11: World-wide imports plantain (2006)



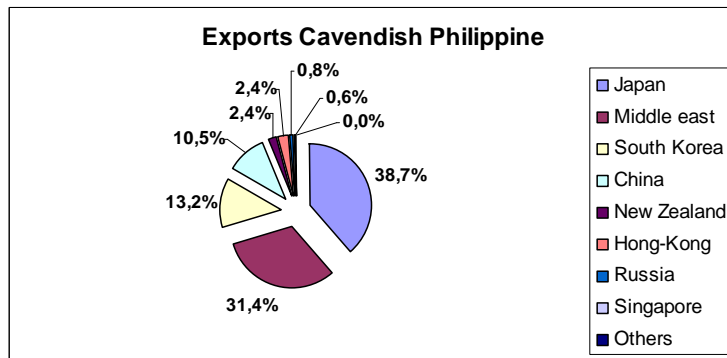
There is also a small volume of international trade in other types of Musa as "apple" (AAB), "sucrier/datil" (AA) or "red banana" (AAA) primarily from Latin America to USA and EU.

ASIA AND PACIFIC

As the center of origin for *Musaceae*, production in Asia and the Pacific is highly diversified (over 100 important varieties), primarily for domestic and regional consumption. The Philippines, with its experience and infrastructure of intensive production and quality of Cavendish, remains the leading exporter of the area to supply markets in Japan, the Middle-

East, Korea and China (Figure 12). An important threat to production is the loss of land due to the spread of urban areas.

Figure 12: Philippine Cavendish exports (2007: 2 TM)



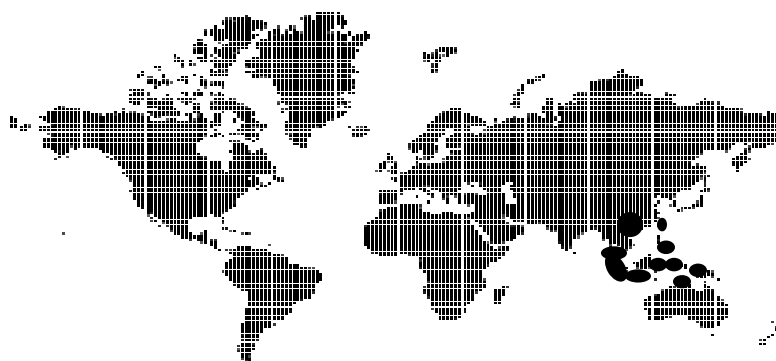
India is the first world-wide producer (11.7 TM in 2006), with numerous varieties, but with generally a low productivity level. For the first time, India is initiating export of Cavendish to the Middle-East, primarily Saudi Arabia.

Vietnam, China, Indonesia, Malaysia or Thailand export to neighbouring countries.

Australia is a major producing country with a competitive agro-industry and high yields for the national market. The technical services are very active and were able to monitor and eradicate in 10 years the black Sigatoka. Eradication of serious viral disease of the bunchy-top is in progress.

In the south-east Asia, tropical race 4 (TR4) of *Fusarium* (FOC) is a serious plant health risk. It appeared first in 1990 in Taiwan and somewhat later in Sumatra (1992), Malaysia (1994), and Australia, China, the Philippines, Irian Jaya (end 1990s). No major advances have been made in its control (Figure 13).

Figure 13: Current distribution of tropical race 4 of the FOC in the south-east Asian



AFRICA

No significant changes in production have occurred in Africa where consumers prefer banana AAA of East Africa (AAea), both for cooking and for "beer" and plantains in Central and West Africa, with more than one hundred cultivars. Production tendencies have been maintained for other minor cultivars such as "Gros Michel", "apple", "bluggoe". Cameroon and Cote d'Ivoire remain as the main producer and supplier of Cavendish to Europe as an "ACP" countries (Figure 14 and 15).

Figure 14: Exports Cavendish Cameroun (2007: 221.918 T)

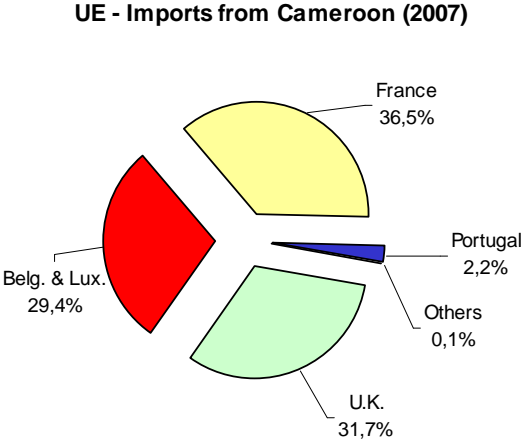
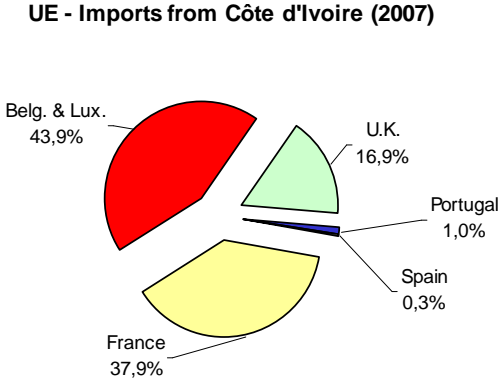
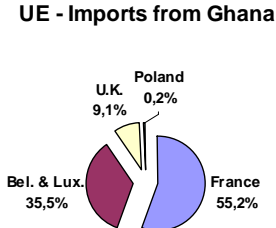


Figure 15: Exports Cavendish Cote d'Ivoire (2007: 189.840 T)



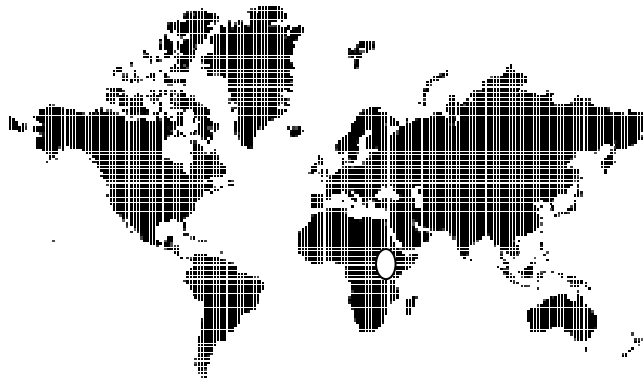
Recently Ghana has moved into third place for Cavendish exports to Europe from Africa (Figure 16) and production for exportation from Mozambique and Angola with the support of the multinational "Chiquita" are planned in 2010 ; also Sudan is initiating export of Cavendish to the Middle-East, primarily Saudi Arabia.

Figure 16: Exports Cavendish Ghana (2007 : 33,404 T)



In addition to the viral disease of the bunchy-top from throughout Central Africa, a new plant sanitary threat has emerged. Bacterial disease of *Xanthomonas* Wilt (BXW) has spread throughout the major production areas of the East Africa Highlands from the close relative of bananas, "Ensete", in Ethiopia; BXW now affects Rwanda, Burundi, Uganda, Kenya, Tanzania and eastern Democratic Republic of Congo (Kivu) (Figure 17).

Figure 17: location of the *Xanthomonas* Wilt (BXW)

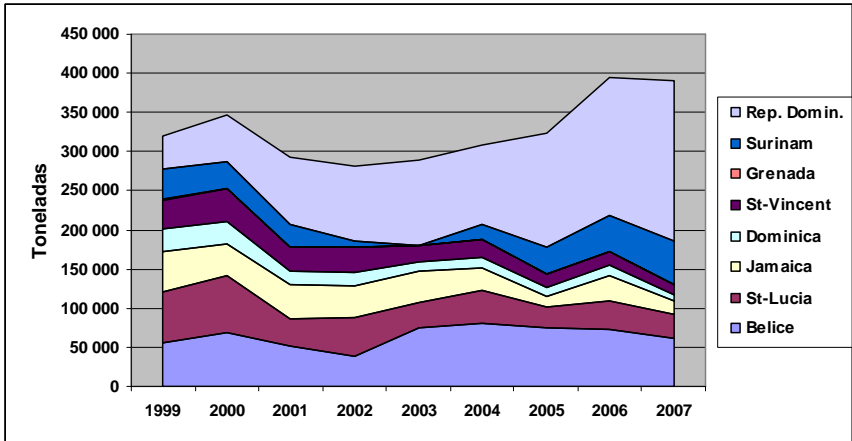


CARIBBEAN COUNTRIES “ACP” AND EUROPE

The Caribbean “ACP”

In the Caribbean, the production and export in the Windward Islands has declined with the end of exports from Grenada and have become oriented to fair-trade labelling and trade to Europe. However, volumes have increased in two ACP countries, the Dominican Republic which is the leading exporter of organic bananas and Surinam which targets the European market (Figure 18).

Figure 18: Evolution of the Cavendish exports of the Caribbean ACP



Europe (production and import)

Cavendish production within Europe are found in the Canaries for the Spanish market, in Martinique and Guadeloupe for markets in France, in Madeira for the Portuguese market and in Cyprus and Greece, although in recent years production has declined. The Canaries are still the main supplier in Europe (358,000 T in 2007) (Figures 19 and 20).

Figure 19: Evolution of the Cavendish supplying of EU from its zones of production

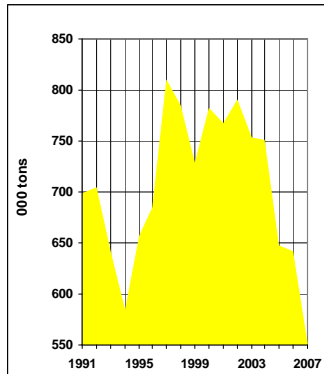
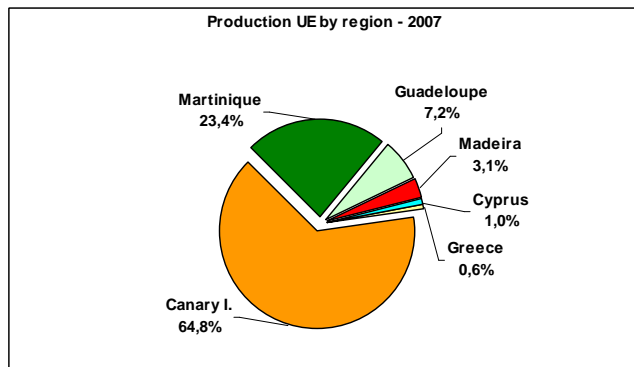
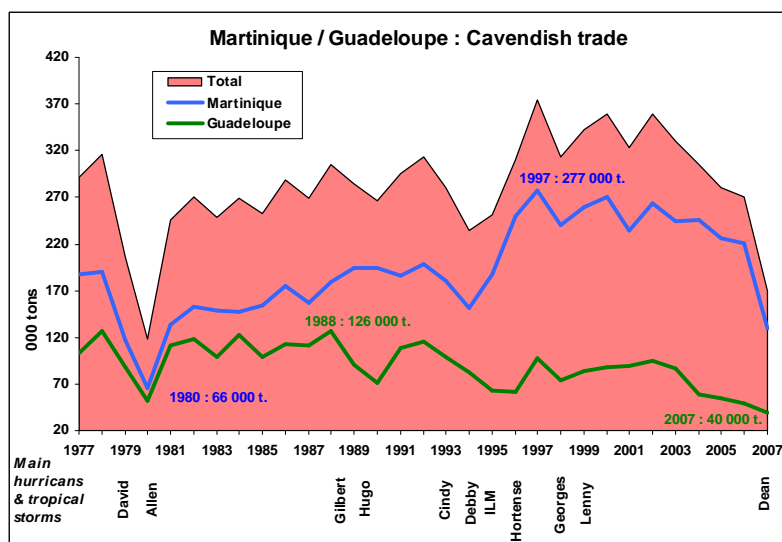


Figure 20: Distribution of the Europe Cavendish production by region (552.000 T in 2007)



Cavendish production from French Martinique and Guadeloupe, as for numerous islands in the Caribbean, suffers from frequent hurricanes which destabilize markets in France (Figure 21).

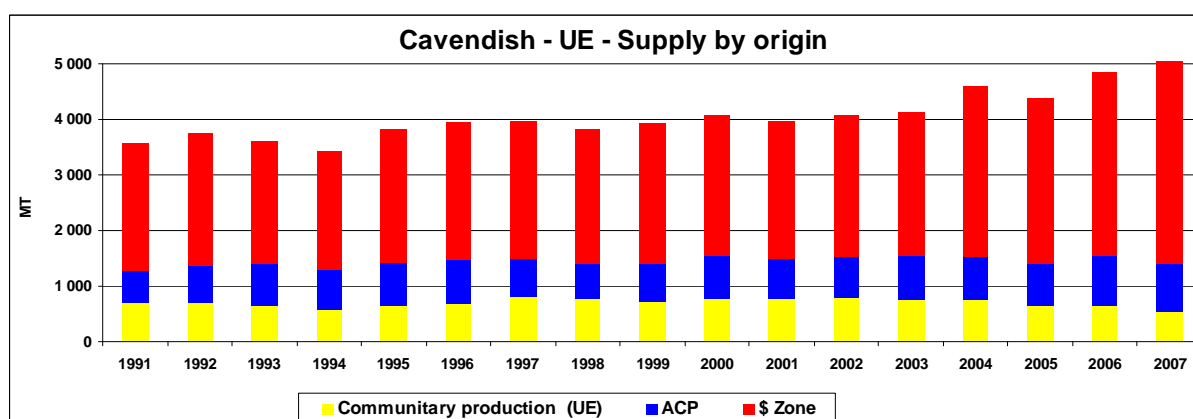
Figure 21: Evolution of the commercialization of the production of Martinique and Guadeloupe.



Also within the European continent, Turkey has had noticeable increases in production, 178.000 T in 2006, which supplies more than half of the national market.

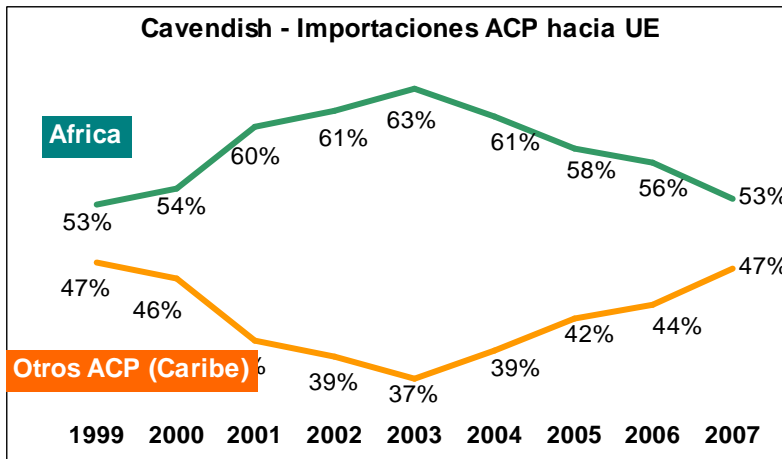
Despite the significant increases in the number of countries belonging to the EU (now 27) and operating under the EU importation regulations, Latin America continues to expand as the main EU supplier (3.8 MT in 2007, 73%), while production from ACP countries (0.8 MT, 16%) and within Europe (0.5 MT, 11%) continue to decrease (Figure 21).

Figure 21: Evolution of the Cavendish supplying of EU per origin.



Notably since 2003, African ACP countries (Cote d'Ivoire, Cameroon and Ghana) have lost market share compared to an increase in volumes of two Caribbean suppliers, Dominican Republic and Suriname (Figure 22)

Figure 22: Evolution of EU imports from both ACP groups.



The importation of plantains into the EU has followed a linear progression since 1995, mainly for African and Latin American immigrant communities. The main suppliers (97% in 2007) are Ecuador, Colombia and Costa Rica (Figures 23 and 24).

Figure 23: Evolution plantain imports the EU (2007: 68.448 T)

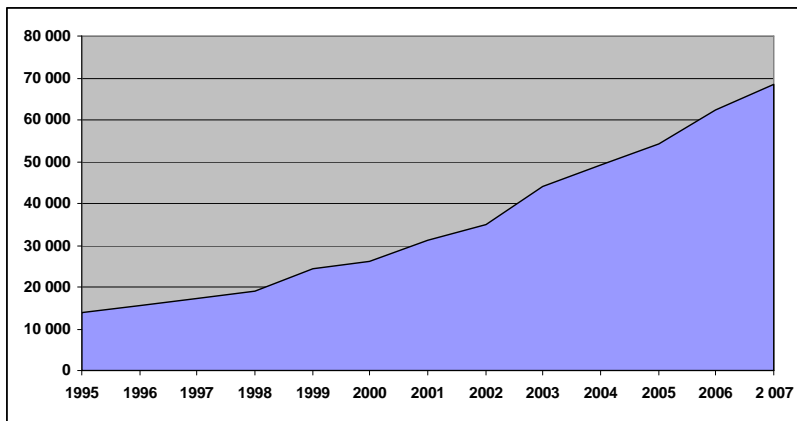
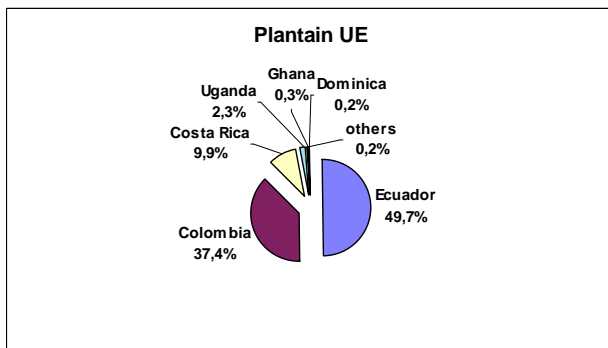


Figure 24: Distribution of the plantain suppliers in EU (2007)



CONCLUSION

The overall growth of production and exports of banana / plantain follows a normal progression in direct relation to increases in human population. However, there are some distortions in some areas / countries due to pest and disease problems, limited response to the evolution of market chains and to increasing catastrophic climatic events. These distortions have contributed to the actual food crisis in certain countries.

Productivity remains generally quite low in relation to the genetic potential of most of the varieties used. Small growers who ensure production for national markets face numerous difficulties in adapting to technical changes - access to objective technical information, access to credits for new technologies and response to market changes in quality and quantity, and to the societal and rule pressures of agricultural impact on the environment (agro-chemical product use). On the other hand, internationally and nationally, there are few initiatives to strengthen research and development of bananas and plantains compared with other major crops in the new era of ecological intensification of agriculture.

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