

**Материалы иностранных студентов**

**ПРОИЗВОДСТВО КАКАО-МАСЛА В ГАНЕ  
PRODUCTION OF COCOA-BUTTER IN GHANA**

**Ханьябуи Дебора Делали, (Гана);**

**Панфилов Андрей Владимирович, доцент Саратовского госагроуниверситета им. Н.И. Вавилова.**

Cocoa-The saying 'Cocoa is Ghana, Ghana is Cocoa' portrays the important role cocoa plays in the economy of Ghana. Cocoa employs approximately 800,000 farm families spread over six of the ten regions of Ghana. The crop generates about \$2 billion in foreign exchange annually and is a major contributor to Government Revenue and GDP (Gross Domestic Product). Cocoa products like chocolate, pebbles, and cocoa powder are used by many Ghanaians. Cocoa is indeed, Ghana and Ghana is Cocoa.

The cocoa bean was first introduced to Ghana by the Dutch missionaries at the beginning of the 19th century. Its widespread cultivation is however attributed to Tetteh Quarshie, a Ghanaian blacksmith from Osu in Accra. He lived and worked at Fernando Po for several years and on his return to Ghana in 1879, brought with him the Amelonado cocoa pods. He established a farm at Akwapim Mampong in the Eastern Region which turned into a nursery for all pioneering cocoa farmers in Ghana. His legacy is the cocoa bean that has become the backbone of the Ghanaian economy.

Cocoa cultivation, after Tetteh Quarshie assumed commercial dimensions and spread to all forest areas of the country, particularly Eastern, Ashanti, Brong Ahafo, Volta, Central and Western Regions. Cocoa pods mature and ripe throughout the year. Cocoa is harvested by cutting the ripe pods from the trees, breaking them open and extracting the beans. The beans are fermented for 6 days with three turnings before drying for another 7 days in the sun. The beans are then bagged, graded and sealed for export.

In recognition of the contribution of cocoa to the development of Ghana, the government, in 1947, established the then Cocoa Marketing Board (CMB), as the main agency responsible for the development of the industry. Unlike large, industrialized crops, 80% to 90% of cocoa comes from small, Family-run farms, with approximately five to six million cocoa farmers worldwide.

From the cocoa seed many products are formed, one of the main product is cocoa butter. The main constituent of cocoa butter is triglyceride (fat) derived from palmitic acid, stearic acid, and oleic acid.

Cocoa butter is obtained from whole cocoa beans, which are fermented, roasted, and then separated from their hulls. About 54–58% of the residue is cocoa butter. Chocolate liquor is pressed to separate the cocoa butter from the cocoa solids. The Broma process is used to extract cocoa butter from ground cacao beans. Cocoa butter is sometimes deodorized to remove strong or undesirable tastes.

Cocoa butter contains a high proportion of saturated fats, derived from stearic and palmitic acids. Cocoa butter, unlike cocoa solids, has no more than trace amounts of caffeine and theobromine.

**7 BENEFITS OF COCOA** Organic Facts

- Helps in maintaining healthy circulatory system
- Aids in improving elasticity of blood vessels
- Helps reduce high-fat diet-induced obesity
- Gives relief from bronchial asthma
- Beneficial for maintaining healthy brain
- Helps to lower LDL cholesterol and glucose levels
- Improves insulin resistance and glucose metabolism

www.organicfacts.net

#### Key facts about Ghana's cocoa industry.

1. **GDP contribution:** Most important export crop, which accounted for 8.2 percent of the country's GDP and 30 percent of total export earnings in 2010.
2. **Total production:** Total production from 450,000 tons in 2000 to 900,000 tons in 2010. Ninety percent of total production grown by smallholder farms.
3. **Cocoa marketing:** All cocoa beans are sold to Licensed Buying Companies (LBCs), which in turn sell to the only authorized exporter in Ghana, the COCOBOD (Govt. Agency) or to domestic industries for local processing. Main export destinations: European Union, Japan and the United States.
4. **Country's foreign exchange:** Important commodity for the country's foreign exchange earnings (around 25 percent in 2010), and subject to regular policy interventions by the Government, including export tax, licensing arrangements and input subsidies.
5. **Third largest producer:** Ghana is the world's third largest producer
6. **Second largest exporter:** Second largest exporter of cocoa beans after Cote d'Ivoire. It has been estimated that in 2010/2011 Ghana's exports of cocoa reached 1,004,000 MT (GAIN, 2012). In terms of world cocoa exports, Ghana has maintained its position as the 2nd largest exporter (by quantity) of cocoa beans for the period of 2005 – 2011.
7. **Cocoa butter export:** The country ranked 8th, 9th and 7th in cocoa butter export in 2005, 2006 and 2009, respectively, while cocoa paste exports have decreased to such a level that Ghana was no longer ranked among the top 9 exporters of cocoa paste worldwide in 2008 and 2009, although between 2005 and 2007, Ghana ranked in the 3rd or 4th position. Moreover, in 2010 exports of cocoa butter and paste to the USA increased dramatically from \$32 million to \$86 million, most likely because of the higher quality of cocoa products produced in Ghana (GAIN, 2012).

8. Highest export crop earner: Cocoa is considered to be the highest export crop earner for Ghana accounting for 8.2 percent of the country's GDP and 30 percent of total export earnings in 2010 (Ghana Statistical Service, 2010; GAIN, 2012).

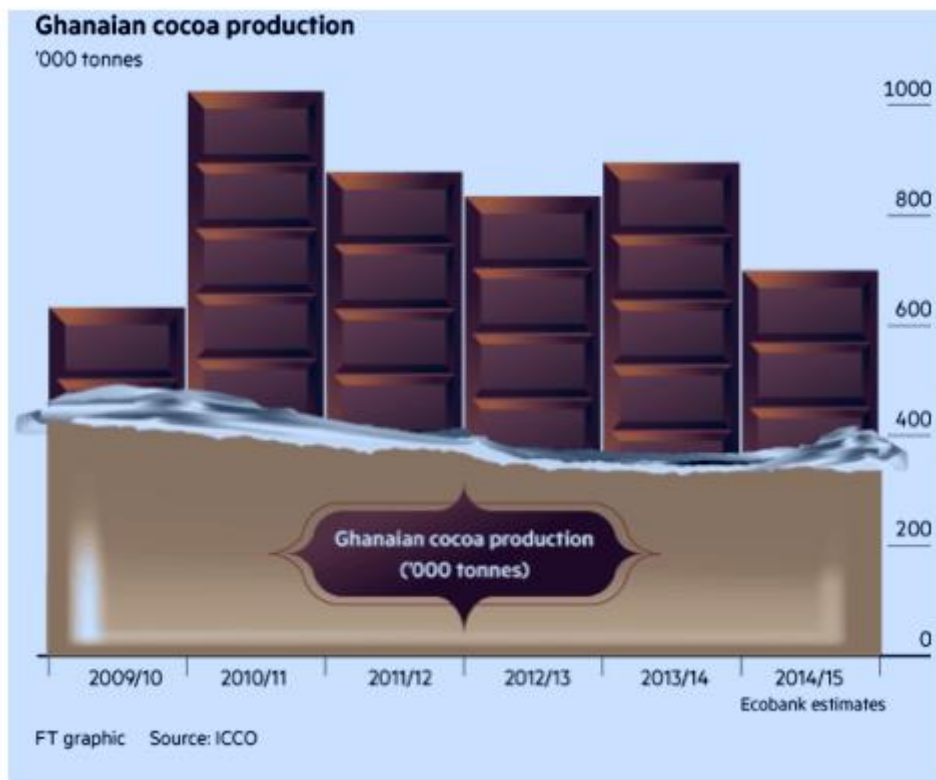
9. Controlled marketing system: Ghana is the only cocoa producing country, which has a controlled marketing system. External marketing is controlled by the state owned Cocoa Marketing Board (Laven, 2007).

10. Employer: In terms of employment, the livelihood of about six million people (25 – 30 percent of the population) depends on the cocoa sector (Anthonio and Aikins, 2009).

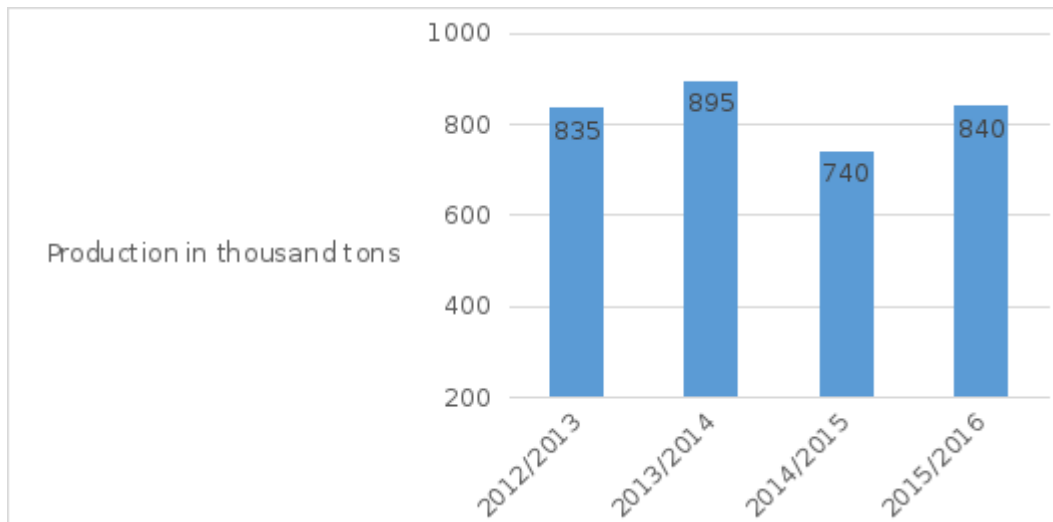
11. Cocoa producing households: In most cocoa – producing households, cocoa accounts for over 67 percent of household income (Kolavalli and Vigneri, 2011).

12. Poverty reduction: Research has also shown that poverty reduction among cocoa farmers is clear, with surveys conducted in 1991, 1999 and 2005 indicating a reduction in poverty levels among cocoa producing households from 60.1 percent in the 90's to 23.9 percent in 2005 against the national poverty rate which has fallen from 51.7 in 1991/92 to 28.5 percent in 2005/2006. The sudden decrease in poverty levels for cocoa producers coincides with a period of favorable cocoa prices, higher yields, and increased production.

13. Formation of COCOBOD: In recognition of the contribution of cocoa to the development of Ghana, the government in 1947 established the Ghana Cocoa Board (COCOBOD) as the main government agency responsible for the development of the industry.



Seasonal Producer Price of Cocoa 2014/2015



Production of cocoa beans in Ghana from 2012/2013 to 2015/16

The Minister of Finance, Hon. Seth Terkper, announced a new price of GH¢345 per bag of 64kg gross for the 2014/2015 cocoa season. And an additional amount of GH¢5.00 as a bonus for each bag at the time of sale. This meant that each bag of 64kg gross weight of cocoa shall be sold at GH¢350. During the 2013/2014 season, each bag of cocoa was sold at a cost of GH¢212; this indicates 62.74 per cent increment for this season. While Ghana pays a fixed price to farmers of 3,392 Cedis (\$1,407) per ton, Ivorian farmers receive a minimum price of 750 CFA francs a kilogram (\$1,540 per ton).

Moreover, In 2014/2015, the cocoa season output was not more than 700,000 tons, down from an initial target of more than 1 million tons that had already been revised down to 850,000 tons, senior government sources told Reuters. There was a crop failure and the latest indication was that our best (output) was around 690,000-700,000 tons, undisclosed sources told Reuters.

One thing is certain, Ghana's CMC (cocoa marketing company) has oversold by 200,000 tons. And it is worth noting that this amount is a lot of cocoa. Analysts forecast that the crop could be the lowest since 2009.

Reasons Given for Production Shortfall (Official and Unofficial)

1. Bad weather: Heavy rainfall between August and October had prevented cocoa trees from flowering.
2. Lack of pesticides: Other farmers complained about the scarcity and expense of fertilizers and pesticides. There was also a lot of reported smuggling of the pesticides to neighboring countries.
3. Aging farming population: Majority of the smallholder farmers are old and need younger farmers to take over the operations of their farms.
4. Disease: Cocoa husks shriveled by fungal black pod and fat red capsid bugs feeding on cocoa trees.

5. Weak currency: The sharp fall in the cedi, Ghana's currency, also meant that it is more lucrative for farmers to smuggle their cocoa rather than sell to Cocobod. Weak cedi inadvertently provided incentives for farmers and extension workers to resell pesticides and cocoa in neighboring countries where they could earn more for their product[3].

6. Smuggling: Increased smuggling by farmers and extension workers of both cocoa and pesticides where prices for their goods are more lucrative due to stronger currencies in those neighboring countries. Cocobod finances Ghanaian buying companies, which act as middlemen, to purchase the cocoa from the farmers.

7. Untimely/poor resource allocation: This year, the funding distribution was delayed, leading to more farmers smuggling their cocoa to neighboring Ivory Coast, says one cocoa trader.

8. Strong Harmattan wind: The seasonal Harmattan winds from the Sahara dry the cocoa trees and soil and can lower production of the "mid" crop or the annual second crop in West Africa. A strong hot and dry pattern can even affect the next main crop production potential. Some local weather forecasters have tried to cite the Harmattan winds of this season as culprits even though international weather forecasters disagree.

9. Inadequate rainfall: It rained but supposedly at the wrong time in the season and very heavily thereby destroying flowering trees.

10. Late application of fertilizers: Delayed supply of fertilizers due to late supply from the Cocobod.

11. Reduction of a government spraying programme: this agriculture extension service from the Cocobod was also curtailed at the beginning of the season due to funding issues.

#### Recommendations (The way forward)

1. Diminishing factors of production due to competition from other growth sectors: Ghana's economy has been growing at a very rapid pace over the past decade. And this means that there will be new growth sectors such as tourism, etc. competing with the Cocoa sector for the same low skilled workers, land for cocoa cultivation, etc. Government should look into implementing short, medium and long-term policies to help mitigate against this risk.

2. Streamline cocoa harvest forecasting to improve credibility: Ghana has been engaged in commercial cocoa production for over two centuries. By now we should have streamlined processes to help us forecast future weather issues that could impact the crop yields, or prudent fiscal management policies that will ensure that we have enough budget reserves to procure essential farming inputs for our farmers on time. This will help bring stability and predictability into the sector and help improve our credibility in the marketplace.

3. Streamline weather management in the sector: Consultative Group on International Agricultural Research (CGIAR) published an analysis that says the world will suffer a massive loss of area suitable for growing cocoa as temperatures continue to rise and rainfall patterns shift. Figure 1, below, shows the drastic potential decrease in the viable cocoa-growing areas of Ghana and the Ivory Coast by 2050 due to climate change.

These two countries produce 60 percent of global cocoa, but by 2050 cocoa production by these two leading global producers will be crippled. The authors note that smart farmers will certainly try hard to adapt and modify where and how they grow cocoa and that there may be opportunities to avoid the worst damages if farmers shift to other crops, like cashews[2].

4. Fair-trade policies: Fair-trade aims to change the way that conventional international trade works, building fairer trading relationships between consumers and companies in the developed world and commodity producers in developing countries.

Cocoa farmers' organizations get a guaranteed minimum price for their cocoa beans, which covers at least their cost of production and gives them the security to plan for the future. Without Fairtrade, farmers' organizations sell into the conventional market, where the price of cocoa fluctuates and can fall below the cost of production.

5. Sustainable farming practices: Fair-trade policies should help improve sustainable farming practices for the near and long term horizons in the sector [1].

6. Improving the rights of farmers: The government should work to improve the rights of the smallholder farmers. Especially the female farmers since they are becoming an increasingly significant and substantive demographic in the sector but usually do not have equal land rights as their male counterparts. This should help improve crop security in the sector since the female farmers will then be able to better plan for future farming activities without uncertainty.

7. Dissemination of disease management best practices: The government should work collaboratively with the farmers to develop and disseminate effective disease management practices for the long-term prosperity of the sector.

8. Fertilizers: Going forward the government should put in place reliable and predictable fertilizer supply programs that farmers can use to plan their farming activities appropriately. This should help mitigate against the incidence of sporadic workflow disruptions as we are seeing in the cocoa farming life cycle this past season.

References:

The Ghana Business News : the sad story of Ghana cocoa industry and the way forward by Anang Tawiah

Ghana Cocoa board: Ghana cocoa board intervention” poised to maintain premium quality cocoa”

The statistics portal of cocoa beans in Ghana 2012/2013 to 2015/2016

Wikipedia : cocoa production in Ghana

### **Список литературы**

1. Панфилов А.В. Продуктивность сельскохозяйственных культур в системе орошаемого земледелия /Панфилов А.В., Попов В.Г./ Экология, экономика, информатика. Сборник статей: Т.1: Системный анализ и моделирование экономических и экологических систем. – Ростов- на Дону. Издательство Южного федерального университета, 2015 С. 196-204

2. Panfilov A.V. DiscoverSoutiAfrica /HamiltonMndebele. Panfilov A.V.,Andreyev P.V.. Муравьёва М.В. / Проблемы и перспективы инновационного развития мирового сельского хозяйства. Материалы 5 Международной научно-практической конференции. Под редакцией Сухановой И.Ф., Муравьёвой М.В. – Саратов ООО \*ЦеСФин\*,2015.-С.136-139.

3. Ткачев С.И., Васильева Е.В., Петрова И.В., Казакова Л.В. Стимулирование развития региональной аграрной экономики на основе импортозамещения// Аграрный научный журнал. 2016. № 7. С. 93-100.