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Political Economy of Fertilizer Policy in Côte d'Ivoire

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Introduction

In the decades following independence in 1960, Côte d'Ivoire stood out as a shining example of economic growth in Sub-Saharan Africa (SSA). GDP increased at an annual average of 8.1 percent from 1960 to 1979, led largely by cocoa and coffee exports.[i] Low export earnings from a fall in world cocoa prices and a heavy public debt burden halted this growth in the 1980s, followed by civil conflict beginning in 1999. Three decades of focus on export crops rather than food crops also left Côte d'Ivoire with a growing food deficit.

Today, the country is poised to reemerge from a decade of economic stagnation and civil war. The Ouagadougou Political Accord established a transition government in 2007 and returned peace to Côte d'Ivoire.[ii] At the same time, a sharp increase in food prices in 2007/08 led to food riots in the economic capital of Abidjan. The food crisis increased political unrest in the country. The rise in the price of staple food crops in recent years has called into question the government of Côte d'Ivoire's (GoCI) export oriented agricultural policy.

Agriculture in Côte d'Ivoire

Côte d'Ivoire's economy is heavily dependent upon agriculture. Sixty-six percent of the workforce is employed in the agricultural sector,[iii] which accounts for 38 percent of the country's GDP.[iv] The agricultural economy is based on exporting cash crops, grown primarily on smallholder farms.[v] Agriculture contributes approximately 60 percent of export earnings.[vi]

Table 1. Côte d'Ivoire at a Glance

Population (2008)	21 million
Percentage of population in rural areas [vii]	1960 – 82 1979 – 64 2005 – 55
Percentage of Population below $2 per day (2002)	48.8
Agricultural land (percent of total area) (2005)	75
Hectares per capita (2001)	0.9
Average smallholder land holding[viii]	4 ha
Important export crops	Cocoa, coffee, cotton, and oilpalm
Percentage of total fertilizer consumption by crop (1994)[ix]	Rice -35 Cotton – 24 Maize - 22

Data Source: World Development Indicators, 2008

Côte d'Ivoire has remained a primarily rural society. As of 2005, 55 percent of the population resided in rural areas (see Table 1). The average Ivoirian farm measures 4 hectares.[x] Oilpalm is grown on nearly 200,000 hectares, of which two thirds belong to smallholders.[xi] Approximately 500,000 smallholder farms grow cocoa as well.[xii] There is very little mechanization of labor for most of the crops in Côte d'Ivoire.[xiii]

Export crops, such as cocoa, coffee, and cotton, have historically received high levels of government and donor support through price supports and extension services. Government and donor policies have largely ignored food crops like maize, rice, and cassava.[xiv]

Côte d'Ivoire has several distinct agro-ecological zones, ranging from tropical in the south to wooded savanna in the north.[xv] Northern and southern Côte d'Ivoire grow different types of crops, which has historically affected the prosperity of each region. Cocoa and coffee, the two major cash crops, are grown in the south. Northern Côte d'Ivoire grows rice, cotton, and maize.

Côte d'Ivoire, the largest cocoa exporter in the world, accounts for 40 percent of world production.[xvi] Cocoa makes up 70 percent of Côte d'Ivoire's total exports. The country's other major export crops are coffee, cotton, and oilpalm. Domestic food crops vary by region. Rice and maize are produced and consumed primarily in the north, while plantains and cassava are the major staples of the south. Rice is the staple food for most Ivoirians, but as of 2003 approximately half the rice consumed was imported.[xvii] Today, developing the rice and maize sectors is a potential area of focus for government agricultural policies seeking to increase domestic self-sufficiency.

Of the major crops, cotton, coffee, and rice are widely fertilized. Fertilizer application to cocoa is significantly lower because it is less responsive to fertilizer inputs than other crops.[xviii] The majority of cocoa is grown in the rainforest region of Côte d'Ivoire. Traditional cocoa farming techniques have been able to coexist with the rain forest, but the use of fertilizer on cocoa fields is harmful to rainforest ecology.[xix] It is unclear what affect environmental concerns may be having on Ivoirian farmers' fertilizer adoption rates. Most of the increase in cocoa yields in recent years has come through expanded cropland and increased labor productivity, which has also contributed to rainforest deforestation.

Like other countries in Sub-Saharan Africa (SSA), Côte d'Ivoire does not have a domestic supply of fertilizer. Fertilizer must be imported. The private sector imports and distributes the majority of fertilizer. There are two main fertilizer importers in Côte d'Ivoire: the *Société Norvégienne d'Engrais* (YARA-CI) and the *Société Tropicale d'Engrais et de Produits Chimiques* (STEPC). Combined they have a capacity of approximately 600,000 tons of fertilizer per year.[xx] These companies import raw nutrients and blend them domestically. Fertilizer is then distributed locally as well as to neighboring countries such as Niger, Mali, and Burkina Faso. Farmer cooperatives play an important role in fertilizer distribution since input dealer density at the village level is low.[xxi] The biggest challenge to increasing fertilizer use in Côte d'Ivoire is lowering the end consumer price.[xxii]

History of Government Intervention in the Agricultural Sector

Côte d'Ivoire's agricultural history can be broken into several distinct periods: the colonial period which lasted until 1960; initial post-independence economic success from 1961 to 1979; recession and structural adjustment from 1980 to 1993; post-currency devaluation reforms and resurgence from 1994 to 1998; and civil conflict and economic decline from 1999 to 2005.[xxiii]

Colonial Period: Before 1960

During the colonial period, France required its colonies to be self-financing. The French colonial agricultural strategy in Côte d'Ivoire focused on producing high value, non-food crops for export: coffee and cocoa from the south, and cotton from the north. The colonial government imported rice from France's colonies in Southeast Asia to cover the country's food deficit. For the most part, resources were devoted to cash crop exports at the expense of domestic food crops.[xxiv] This policy worked well so long as world cocoa prices remained high and imported cereal prices stayed low.

Post-Independence: 1960-1979

As in Senegal and other West African countries, the period directly following independence saw an extension of French colonial policies in Côte d'Ivoire's agricultural sector. The government of Côte d'Ivoire (CoGI) continued producing crops for export while importing food crops. Unlike Senegal, Côte d'Ivoire adopted a hands-off approach to market regulation. The GoCI encouraged foreign direct investment and supported relatively *laissez faire* market policies.[xxv] However, the government did form parastatal organizations to help coordinate and support different crop sectors.

Some of the parastatal organizations administered fertilizer subsidies. Cotton farmers received free fertilizer, seeds, and pesticides through the *Compagnie Ivoirienne pour le Développement Textile* (CIDT), the parastatal supporting cotton production.[xxvi] The *Société pour le Développement du Riz* (SODERIZ), the parastatal rice marketing board, provided free fertilizer to irrigated rice growers that participated in government extension services.[xxvii] SODERIZ also attempted to increase domestic rice production by providing improved seed varieties, transporting crops to processing centers, and setting prices. Despite these efforts, Côte d'Ivoire's rice deficit continued to grow as population growth outstripped rice productivity gains and other crops proved more profitable.

Government attempts to support the rice sector ultimately proved unsustainable. In 1977, SODERIZ collapsed. Becker (2009) suggests that the collapse of SODERIZ ended the implementation of programs promoting rice self-sufficiency. The food riots in 2007/08, however, have encouraged the GoCI and international organizations to reconsider policies promoting food self-sufficiency again.

Coffee and cocoa parastatals like the *Société d'État d'assistance technique pour la modernisation de l'agriculture en Côte d'Ivoire* (SATMACI) were also involved with procuring key inputs and offering extension services to farmers. The GoCI subsidized inputs, but did not directly encourage tree crop farmers to use them.[xxviii] Estimates suggest that only 10-15 percent of farmers participated in SATIMACI's extension programs.[xxix]

The *Caisse de stabilization* (CAISTAB), one of the most important parastatals, regulated cocoa trade until 2000. Rather than providing inputs, CAISTAB maintained floor prices to protect smallholder farmers from drops in world cocoa prices. When world cocoa prices rose, CAISTAB maintained a price ceiling for cocoa farmers, and captured the surplus for the government. Despite this tax on smallholders, cocoa production continued to rise.[xxx] Even with a lack of inputs, cocoa production levels continued to increase. This appears to be the result of expansion in cultivated land rather than gains in yield; the availability of virgin land allowed farmers to increase production by increasing cropland rather than increasing productivity.[xxxi]

While cash export crops were supported by parastatals, there was little government support for food crops. This was especially true for non-tradable crops like cassava, yams, and millet. With the collapse of SODERIZ, rice farmers lost government support as well. Periodically, rice self-sufficiency had been a policy goal in Côte d'Ivoire, but never found much success. Many farmers preferred to focus on export crops.[xxxii]

Recession and Structural Adjustment: 1980-1993

The 1980s saw a worldwide decline in prices for Ivoirian exports, which led to an economy-wide decline. Faced with a deepening recession, the GoCI entered into the World Bank's structural adjustment program (SAP) in 1981. The SAP marked the end of most government sponsored fertilizer subsidies and price controls. By 1992, free fertilizer distribution to rice farmers had ceased completely, and there were no controls on fertilizer prices or marketing for rice.[xxxiii,xxxiv]

Currency Devaluation & Economic Resurgence, 1994-1998

The CFA Franc, Côte d'Ivoire's currency, is pegged in a fixed exchange rate to the euro. In 1994, France devalued the CFA Franc. This effectively doubled the price of fertilizer imports for many West African countries using the currency, but made export crops more profitable.[xxxv] The devaluation boosted the export sector, but made food and input importation more costly.

In 1995, the government began liberalizing the cocoa and coffee sector with the World Bank's assistance. The price stabilization fund, CAISTAB, was partially privatized. The GoCI reduced or eliminated customs duties on imports. Complete liberalization was achieved for the coffee market in 1998 and for cocoa in 1999. CAISTAB became a completely private entity in April 2000.[xxxvi]

Côte d'Ivoire had previously produced a small amount of fertilizer in unprofitable, state-owned factories. These were shut down as part of the structural adjustment process. The main raw materials for fertilizer – natural gas, phosphate rock, potassium salts, and sulphur – do not exist in quantities large enough to make fertilizer production economically efficient in Côte d'Ivoire.

Civil Conflict and Economic Decline: 1999-Present

The origins of the severe civil conflict that began in 1999 can be traced back several decades. President Houphouët-Boigny was president of Côte d'Ivoire from independence in 1960 until his death in 1993. Henri Konan Bédié succeeded Houphouët-Boigny as president in 1993.

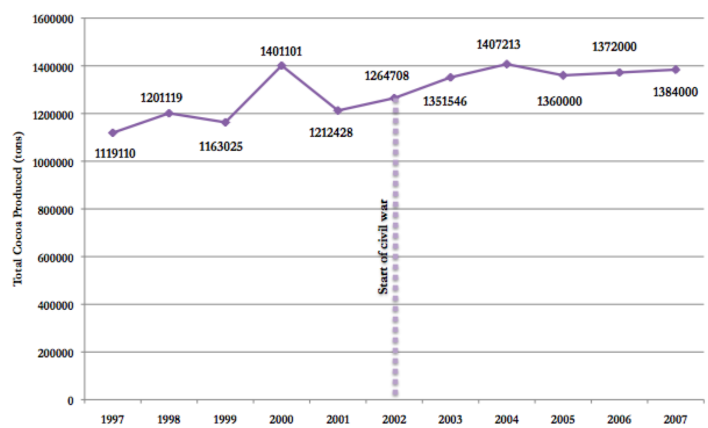
The period from 1960 to 1993 had been a period of liberal immigration policies. Immigrants came from many neighboring West African countries. This liberal immigration policy helped Côte d'Ivoire become a leader in cocoa and coffee production by a constant supply of cheap labor. With the collapse of cocoa prices in the 1980s, anti-immigrant sentiment grew. The economic crisis made visible immigrants' relative success compared to the indigenous population and immigrants were often used as scapegoats to explain Côte d'Ivoire's crisis.[xxxvii],[xxxviii] Complicating matters, many of the immigrants in the north were Muslim while southern Côte d'Ivoire, the base of political power, was predominantly Christian. Tensions among Côte d'Ivoire's ethnic groups were layered on top of these religious differences.

In 1995, President Bédié tapped into anti-immigrant sentiment by using a policy of *Ivoirité* (being a "true" Ivoirian) to deny public services and citizenship to many northerners who were immigrants. Bédié also used *Ivoirité* to eliminate political rivals, such as Alassane Outtara, then Prime Minister, from being an eligible candidate as well as to disenfranchise potential immigrant supporters.[xxxix] In addition to ethnic and religious differences, differing levels of northern and southern prosperity increased the tensions. Southern Côte d'Ivoire was more prosperous because of its large coffee and cocoa exports. Northern Côte d'Ivoire's primary export was cotton, which was less profitable.

Tensions came to a head on December 24, 1999 when a military coup d'état removed Bédié from power. Promising free and fair elections and an end to *Ivoirité*, General Robert Gueï took control of the government until elections could be held in 2000. Running up to the election Gueï positioned himself as a presidential candidate. Gueï attempted to rig the elections, but in the end lost to Laurent Gbago.[xl] After a coup attempt by Gueï failed, Gbago was sworn in as president. In 2002, mutinous Ivoirian soldiers attempted another coup. The coup failed, but rebel forces took control of northern Côte d'Ivoire.[xli] Civil war ensued.

The civil war devastated some parts of Côte d'Ivoire's economy, while others parts remained surprisingly immune to the conflict. The fighting primarily took place in the north, which hurt the cotton and rice industries. The cocoa and coffee farmers in the south continued exporting at levels similar to those before the civil war.[xlii]

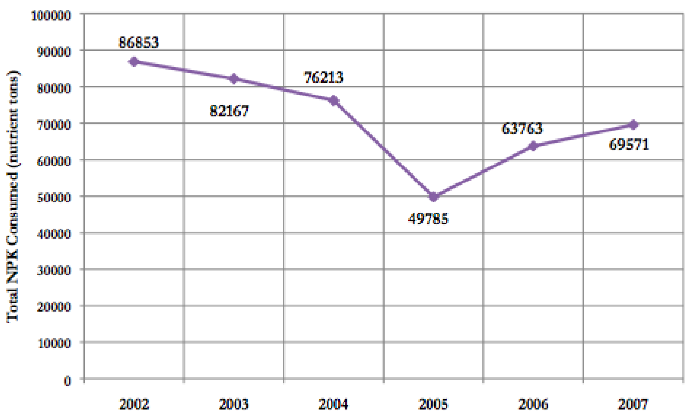
Figure 1. Cocoa Production Levels in Côte d'Ivoire 1997-2007 (tons)



Data Source: FAOSTAT (2009)

Rebels controlled the north and the Gbago-led government controlled the south. To raise revenues, the government heavily taxed cocoa. This provided significant revenue to the government but surprisingly did not lower production levels of cocoa, as Figure 1 illustrates.[xliii]

Figure 2. Total NPK Consumed in Côte d'Ivoire 2002-2007 (nutrient tons)



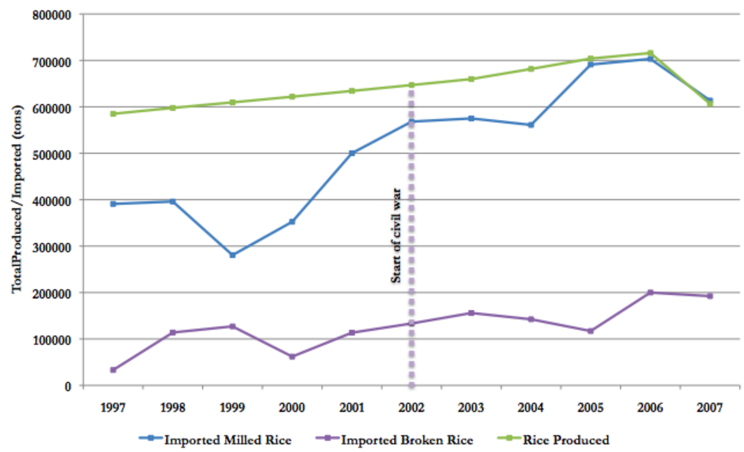
Data Source: FAOSTAT (2009)

During the war, fertilizer consumption steadily declined (see Figure 2). Most of the decline can be attributed to destruction of the distribution system that transported fertilizer to the northern cotton-growing region, an area that consumed a significant amount of fertilizer.

The resulting increase in transport costs had a severe adverse impact on the northern regions where many fertilizer intensive crops, such as rice, were grown. Declining harvests in the north led to greater domestic food insecurity, as many in the south turned further toward rice imports to fulfill food needs.

After the coup d'etat in 1999, imports of milled rice climbed for the next 7 years, as shown in Figure 3. In 1999, Côte d'Ivoire imported approximately 280,000 tons of milled rice. By 2006 that number had more than doubled to over 703,000 tons.[xliv] Domestic rice production also increased until 2006, but at a lower rate. Even with this increase, imports continued to rise as urban households in southern Côte d'Ivoire needed a reliable source of food.

Figure 3. Total Rice Produced Domestically/Imported (tons)



Source: FAOSTAT (2009)

Rebuilding

The government and rebel factions signed the Ougadougou Peace Accord in 2007. Slowly, Côte d'Ivoire has begun to rebuild. The government has worked to repair infrastructure and develop stronger civil institutions.

The increase in food prices between 2007 and 2008 challenged the peace in Côte d'Ivoire. In 2008, riots occurred in major Ivoirian cities like Abidjan. Protestors were angry with the government over the high prices for food imports, particularly rice, which many urban Ivoirians rely on as a staple food. Today, there is no evidence to suggest that the GoCI plans to refocus domestic agricultural policy on food crops anytime in the near future. Government agricultural policy will most likely continue to focus on the production of export crops.

Conclusion

The political economy of Côte d'Ivoire is heavily dependent upon and influenced by the production of cocoa. Cocoa is the top export, and cocoa export taxes provide one of the largest sources of revenue for the GoCI. Cocoa is not heavily dependent on fertilizer inputs and growers been able to increase production by expanding cropland. The small contribution of fertilizer to production of this essential crop may help explain the GoCI's low priority on expanding fertilizer production and use.

Civil war disrupted Côte d'Ivoire's economy and society from 1999 until 2007. During this time, domestic cocoa production grew as did rice imports. Today, Côte d'Ivoire heavily depends on high world market prices for cocoa and purchases of cheap imported rice and other food crops. Even with the food riots in 2008, the GoCI has not made increasing domestic food production an important focus of agricultural policy. Given that a large part of government revenue comes form the export of cocoa and coffee, the government has chosen to focus resources on crops that increase revenue. The GoCI runs the risk, however, that a drop in world cocoa prices or rise in rice prices and other imported food crops could reignite civil unrest.

Please direct comments or questions about this research to the Evans Policy Analysis & Research (EPAR) PI, Leigh Anderson, at eparx@u.washington.edu.

Endnotes

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