



POLICY BRIEF

Policies and development strategies to achieve agricultural transformation in the cocoa belt of Cameroon

Overview

Although Cameroon has undergone rapid urbanization during the last two decades, it is still a largely agrarian economy with a high incidence of rural poverty. More than 50 percent of the Cameroonian population lives in rural areas and cash crop agricultural sector is still by far the most important sector of the Cameroonian economy in terms of employment

Among Cameroon's major export crops, cocoa is the most important. From 2000 to 2005, about 175 millions dollars per year were earned by Cocoa producers. This crop constitutes an important source of income for 27 percent of all agricultural households in Cameroon, and contributes significantly to poverty alleviation in rural areas.

However the majority of the agricultural workforce in the cocoa belt of Cameroon employs low productivity technologies which result in low returns to labor. Consequently, the most promising prospects for increasing incomes lie in exploiting opportunities for increases in productivity with those farmers capable and able to innovate their technology system

Recognizing the crucial role of agricultural productivity in the transformation process, the African Union has proposed a Comprehensive Africa Agricultural Development Program (CAADP) as part of its New Partnership for Africa's Development (NEPAD) initiative. The CAADP has as its objective, 6 percent annual growth in agricultural productivity by 2015.

In this Policy Brief, we address a number of questions on agricultural transformation in the cocoa belt of Cameroon and various policy options that can be used to facilitate agricultural sector transformation are identified

What is Agricultural Transformation?

Most analysts agree that agricultural transformation is central to redressing Africa's Poverty problem. Agricultural transformation is a process by which individual farms shift from highly diversified, subsistence-oriented production towards more specialized production oriented towards the market or other systems of exchange. The process involves a greater reliance on input and output delivery systems and increased integration of agriculture with other sectors of the domestic and international economies.

How can agricultural sector transformation help?

One of the defining characteristics of the structural transformation process is a downward trend in real price of agricultural commodities coupled with an increasing trend in their production. The cheap commodity supplies generated by productivity growth are important to industrial development for at least three reasons:

- 1) *It frees up labor resources,*
- 2) *high productivity growth helps to maintain low wage rates because, food, a basic necessity, is low cost and*
- 3) *Where the commodity is exported, foreign exchange needed to buy capital goods for industry is generated.*

The transformation of agricultural sector could also results on poverty reduction as farmers adopt new innovations and increase their size and scale of operations resulting in significant growth in average farm income despite declining agricultural prices.

What are the main policy challenges that were explored?

The analysis begins with consideration of several proposed innovations in production technology and markets. We then examine a scenario whereby the more inefficient, high cost producers who are no longer viable under the new cost and price structure following technical change, diversify out of cocoa production and into other alternatives. We also consider other means of counteracting the price decline associated with the structural transformation process.

The model is used to estimate the predicted effect of an intervention on equilibrium quantities of demand and supply, price, farm incomes and producer surplus.

The productivity enhancing innovations and investments examined include:

- The widespread adoption of integrated crop and pest management practices for cocoa,
- Improvements in the marketing efficiency of both cocoa and food crops, and the diffusion of improved planting material for cassava, plantains and yams as well as cocoa, and oil palms.
- Public and private investments in roads and market infrastructure.

Several interventions designed to respond to the labor redundancy and negative price effects caused by on-farm productivity growth are simulated. These include:

- The conversion of no-shade cocoa production systems to shaded cocoa agroforestry,
- The diversification of marginal cocoa land to other commodities such as oil-palm, and cassava,
- The promotion of increased cocoa consumption in emerging markets (China and West Africa).

The analysis concludes with several scenarios of potential shifts in the demand and supply of the important agricultural markets that approach the productivity objectives of the CAADP.



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What could be the impact of the widespread adoption of integrated crop and pest management (ICPM) practices for cocoa on farmers in the cocoa belt of Cameroon?



The impact of the planned training of 2,100 cocoa farmers in ICPM each year through Farmer Field School (FFS) extension techniques developed between the framework of the Sustainable Tree Crops Program (STCP) was estimated. Given this assumption and using results that have been documented in the impact studies of STCP-FFS conducted to date, it appears that, the adoption of ICPM practices for cocoa would increase cocoa net production by 700 tons annually and global market price adjusts downward causing the weighted farmgate price to decline by \$1.21/t. Non-participant farmers reduce their output by approximately 185 tons in response to lower farmgate price. Total cocoa revenues would increase by \$ 689,000. This is only equivalent to 0.55% increase in productivity which is a long way from 6%. To attain a 6 % growth rate in the cocoa sector only through FFS extension would require training 20,650 cocoa farmers annually

Figure 1: Change in cocoa and non-cocoa output

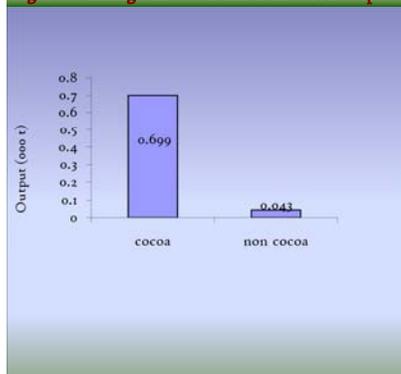
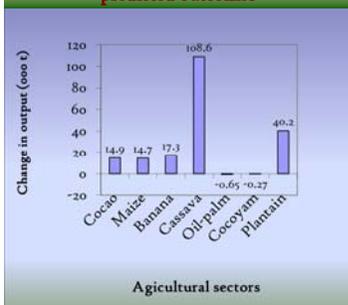


Figure 2: Improved planting material predicted outcomes



The improved planting material included in the analysis focus on cocoa, plantain, cassava, banana and maize. According to MINADER, the policy objective regarding these crops is to increase productivity annually by about 7%. Overall, the impact of improved cocoa planting material on rural income growth is positive and projected at \$14.5 million. The overall rural revenue in the cocoa belt increase by \$22 million, since

Would the diffusion of improved planting material benefit farmers in the cocoa belt?



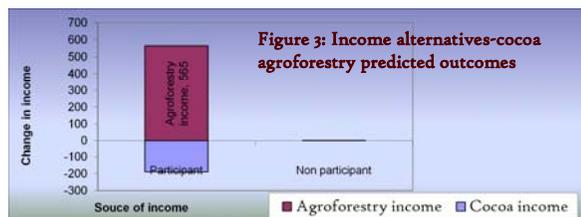
food supplies increase by 180,000 tons and cocoa by 15,000 tons. Assuming a realistic 2 percent rightward shift of food crops, the overall income will increase by about \$8 million.

Diversification policies are they necessary to improve farmer welfare in the cocoa belt?



Purpose diversification of the cocoa belt to help the sector transition to a new structural composition is an important option to explore. The second diversification strategy based on the conversion of marginal cocoa land into either oil-palm or cassava plantations shows that converting cocoa land to oil-palm farms will decrease the overall rural income by \$8 million, while redeploing marginal cocoa resources on cassava production increase foods and overall revenue by \$15 and \$9 million respectively.

Several diversification strategies that can reduce the downward pressure on cocoa price as marginal cocoa resources are redeployed were analyzed. The target of the first strategy is an annual conversion of about 4,000 hectares of full sun cocoa to partial shade systems planted to either fast growing timber species or fruit trees. The second strategy is the conversion of marginal cocoa farms/farmers (low productive cocoa farms/farmers) to other alternative crops production (i.e. oil-palm or food crops). The impact of the leftward shift of the cocoa supply curve due to the adoption of the cocoa agroforestry system induces a favorable upswing in the price of cocoa, negative income growth of \$312,000 and the overall revenue increases by \$1.5 million because of the additional agroforestry income (figure 3).





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Investment in market efficiency and demand promotion in emerging market are necessary to boost agricultural transformation in the cocoa belt

So What can be done?

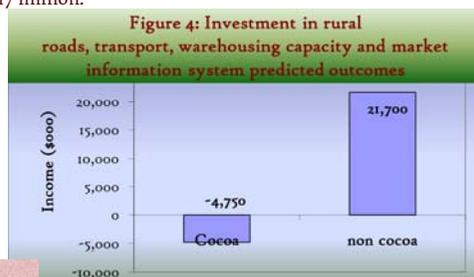
* Marketing systems can be rendered more efficient through investment in human capital, marketing infrastructure and market information system. The impact of such interventions in our analysis is reflected by the rightward shift in farmgate demand as marketing margins are reduced.

Assisting farmer in marketing of their cocoa through the improved information flows, collective selling and bulking of product, development of quality control and standards, and cooperative management principles has been shown to result in significant efficiency gains. Price premiums of 9 to 10 percent have been the result reported in previous studies in Cameroon.

Shifting the demand for cocoa and other crops at the farmgate by reducing marketing costs through collective sale induces positive impacts on farmers' income by about \$398,000.



A reasonable sustained investment program in the cocoa area by both private and public sector would result in a 2 percent annum decrease in the cost of marketing. The impact of such intervention will be substantial, generating a 1.5 percent increases in farmer incomes equivalent to about \$17 million.



* It has been shown that the weighted average per capita consumption of cocoa in the four main producer countries is 61 grams per annum. A promotional efforts (such as the negotiation of a multi-lateral agreement or bi-lateral agreement with the China to promote Chinese consumption of West African cocoa) and new product development could result in a national farmgate demand shift to the right. The impact of this policy will induce an increase in cocoa farmer income by about \$900,000.

The simultaneous effects of reduction in marketing margins and the promotion of emerging market would positively affect farmer incomes by 2 percent, corresponding to \$18 million.

In Conclusion,

- Generating productivity enhancing innovations in both food crops and cocoa will in general lead to lower prices
- Farmers who adopt innovations early are biggest beneficiaries since they grow in size and see their incomes increase. Consumer also benefit from lower prices
- Global competitiveness is maintained
- Without productivity enhancing innovations in the face of growing demand, prices will rise
- Global competitiveness erodes as other countries pursue research and development (e.g. the development of South west Asian oil palm industry and the demise of the West African oil palm industry.
- Farm remain small, output can only be expanded by conversion more forest land
- The rise in urban food prices chokes off growth in manufacturing and industry as employers are forced to pay higher wage.
- Inefficient producers remain poor and marginally employed for a time.

- Investment in marketing system efficiency and demand promotion increases farmgate demand and prices offsetting. Lower marketing costs and a competitive market structure benefits both producers and consumers.
- Helping marginal cocoa producers find and develop alternative employment can facilitate the transformation process.

Reaching CAADP target of 6% productivity growth in the cocoa belt and achieving rural transformation will require investment beyond those of small development projects. Government actions are critical since CAADP also calls for significant increases in government spending on agriculture and development. Therefore:

- * **Government should commit to a process of innovation generation and diffusion. This means significantly increasing the resources allocated to Agricultural research and Development,**

* **Government and donor agencies should agree to a common framework and investment strategy for rural development in the cocoa belt,**

* **Investment in data collection for the monitoring and evaluation of agricultural performance needs to accompany and inform the investment portfolio.**

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