

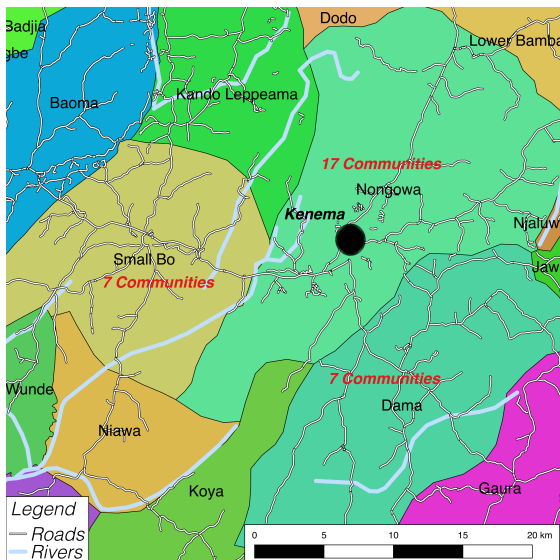
Opportunities for the Sierra Leone Cocoa Sector

Introduction

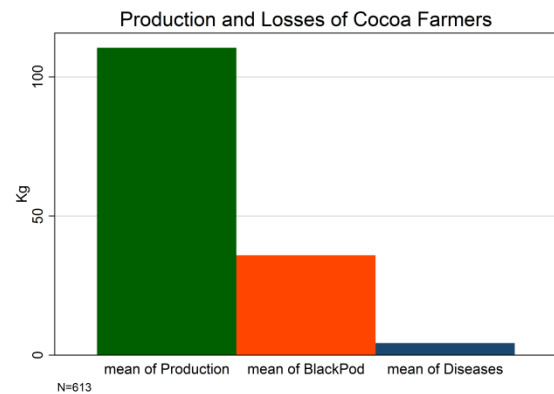
There has been recent resurgence of interest in agriculture as a key driver for poverty reduction. Low investment in agriculture have translated into low productivity and food insecurity, especially in Sub-Saharan Africa. The cocoa sector in Sierra Leone can play important role to combat rural poverty, as the global demand for cocoa is rising. Wageningen University, Njala University, Theobroma and Agroproduce Management Services (AMS), have joined in a consortium to evaluate different formulas for increasing cocoa production. As part of this evaluation we interview cocoa farmers in the Kenema area. In this research summary we present first results.

Methodology

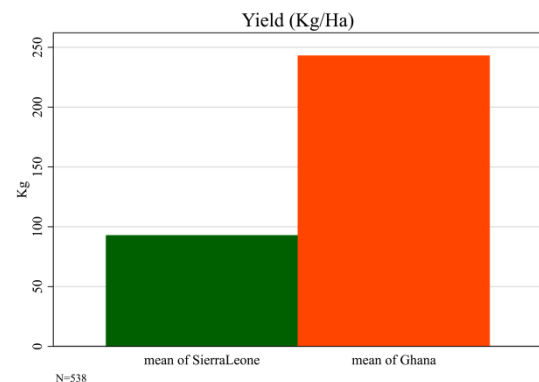
We collected data in 31 villages close to Kenema, and accessible by road. The data was collected in April 2016. From each village, 45 heads of household were randomly selected to participate in the interview. The interview took about one hour. We interviewed around 1400 participants, 52% of which owned a cocoa farm



Results



We see average production levels are a little over 100 kg per cocoa farmer. However, there are high losses, especially due to Black Pod, a fungal disease. About 40 kg of production is lost to this disease. 75% of farms have had problems with Black Pod in the past year. Other diseases do not lower production nearly as much. Cocoa Yields in Sierra Leone are low. On average, farmers produce less than 100 kg per hectare. In comparison, in Ghana yields are about 250 kg per hectare. Improving farmers' yield can be a powerful contribution to poverty reduction in rural areas.



Farm ownership is high: 92% of farmers own their farm (as opposed to leasing or sharecropping). Farmers are active on their farms, working an average of 78 days and many (70%) have recently expanded or created new farms. Farmers have high knowledge of best treatments against Black Pod, and brush their farms regularly. Inputs are very low. Fertilizer, pesticides and herbicides are applied by at less than 2% of farmers.

Table 1: Cocoa Farming and Marketing

	N	Mean	Standard Deviation	Minimum	Maximum
Total cocoa production in 2015	613	110.5	164.9	0	1750
Cocoa Yield (Kg/Ha)	613	81.4	93.4	0	691.9
# days work on cocoa farm in 2015	638	77.9	73.9	0	357
Is owner of their cocoa farm (1=yes)	702	0.92	0.27	0	1
Expanded cocoa farm (1=yes)	702	0.69	0.46	0	1
Suffered from black pod in 2015 (1=yes)	684	0.75	0.43	0	1
Suffered from other diseases (1=yes)	679	0.16	0.37	0	1
Removed black pods after rainfall	516	0.85	0.35	0	1
Underbrushed at start of rainy season	516	0.80	0.40	0	1
Used fungicide on infected pods	516	0.0058	0.076	0	1
# of times brushed in 2015	700	2.64	2.05	0	20
# days fermented	569	4.73	1.64	2	14
# days dried	569	4.84	1.50	1	15
Used fertilizer (1=yes)	697	0.022	0.15	0	1
Used chemical pesticides (1=yes)	697	0.010	0.100	0	1
Price received for 1 kg of cocoa (in 1'000 Le)	532	10.1	11.3	0	100
Sold cocoa in Kenema (1=yes)	578	0.66	0.47	0	1
Sold cocoa in own community (1=yes)	578	0.29	0.45	0	1
Sold cocoa in regional town (1=yes)	578	0.21	0.41	0	1
Usually sell to the same trader (1=yes)	577	0.45	0.50	0	1
Cocoa price was discounted (1=yes)	578	0.29	0.45	0	1
Age of cocoa farm	529	10.7	10.0	1	50

Most farmers ferment and dry their cocoa, but in 29% of cases farmers receive a lower price because the quality of their cocoa was too low. Farmers receive on average a price of 10 thousand Leones for a kilogram of cocoa. Most farmers travel to Kenema to sell their cocoa, but regional towns and within-village selling also accounts for at least a third of sales. In about half the cases farmers build a relationship with a trader, otherwise they simply seek the highest price. Most cocoa farms are young (10 years), which is positive as production goes down as trees age.

Conclusions

Sierra Leonean cocoa could be an important contributor to reducing rural poverty. However, inefficiencies and diseases stifle production. Production could be improved in several ways. (1). Reduce losses from black pod. We find that farmers have high knowledge of how to prevent black pod: around 80% of farmers knew that black pods should be immediately removed from the farm to prevent spread, and the farm should be sufficiently underbrushed to increase air flow. Therefore, an information campaign is not sufficient to achieve change. We find that older farms tend to have more black pod, and the same holds for small farms. An approach could be to promote the creation of new farms, at a larger

scale. (2). Increase the use of inputs. We see very low use of fertilizer, pesticides and herbicides. A disadvantage is that this reduces the opportunity for joining certification schemes which give higher cocoa prices. (3). Improve the quality. Through better fermenting and drying practices farmers can achieve a higher price for their cocoa.

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