

## Fertile Ground: Boosting Cocoa Production among Ghanaian Smallholders

### Summary and policy-relevant findings

A scheme in Ghana that combines training with fertilisers, insecticides and pesticides on credit to groups of Ghanaian cocoa farmers has shown remarkable success in increasing production and incomes for farmers:

- Average farm production increased by 20% as a result of the programme.
- The increase in production was worth nearly three times the value of the loan.

One of the key parts of the programme is that farmers are grouped and are jointly liable for the repayment of all the loans within their own group.

Policy conclusion: The initial design of the programme was successful. There were high average increases in production and only 10% of the farmers in the study experienced difficulties in repaying the loans. However there is a nearly 40% drop-out rate from the programme. Inconsistent use of fertiliser and other inputs remains a common problem in the cocoa sector in Ghana. This indicates that lack of access to credit is only one of the barriers to increasing cocoa output in Ghana.

Further work is underway in 2009 to identify these other barriers to increasing cocoa output.

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### Policy context

Cocoa production is one of the cornerstones of Ghana's economy. However, cocoa yields per hectare of land in the country are among the lowest in the world. Low use of fertiliser has been identified as one of the likely causes of such low yields. Farmers are often unable to pay for the fertiliser before the harvest.

#### GHANA'S COCOA SECTOR

In 2007, 35% of Ghana's GDP and 60% of Total Employment were in agriculture.

The Cocoa Industry is the single largest contributor to agricultural GDP (4.5%).

In 2007, only 6% of all total credit went to the agricultural sector.

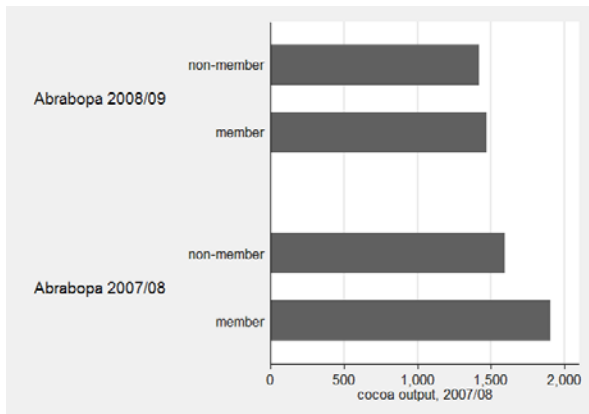
credit to groups of Ghanaian cocoa farmers. This is coupled with a training program to improve their farming and business skills. The CAA project has been running since 2006 and is run by WIENCO. WIENCO is a Dutch and Ghanaian joint venture that imports and distributes fertiliser, pesticides and insecticides for use in cocoa farming. A team of researchers from the Centre for the Study of African Economies (CSAE), the Ghana Institute of Management and Public Administration and the Research, Monitoring and Evaluation Department of the Ghana Cocoa Board assessed the programme's effectiveness during 2007 and 2008.

The research team assessed the programme by comparing the yields from participating farmers to comparable non-participating farmers. This comparison allowed researchers to distinguish between the effects of the programme and those factors that qualified the farmers for membership of the programme. On average, members of the 2007/08 programme have higher cocoa output than those who joined for the 2008/09 programme. This is shown in Figure 1 overleaf.

### Project description

The Cocoa Abrabopa Association (CAA) is a not-for-profit organisation offering fertiliser and pesticides on

Figure 1. Shows the difference in 2007/08 cocoa output between those who became members in that year and those who became members in 2008/09. Output levels among non-members in the same villages are shown for comparison.



Source: Caria et al. (2009)

Over the three seasons since the CAA programme first started, membership has risen eightfold, from 1,400 farmers in 2006/07 to 11,000 in 2008/09. Despite apparent successes in increasing income and achieving high loan recovery rates, the drop-out rate remains high at 38%. Of 6,300 farmers enrolled in 2007/08, more than 2,400 were not enrolled in the program in the subsequent year. Figure 2 shows the evolution of CAA members.

Figure 2 –Evolution and retention of CAA group membership

year of foundation	Number of groups present in		
	2006	2007	2008
2006	163	44	35
2007		724	427
2008			643
<b>all</b>	163	768	1105

Source: Opoku et al. (2009)

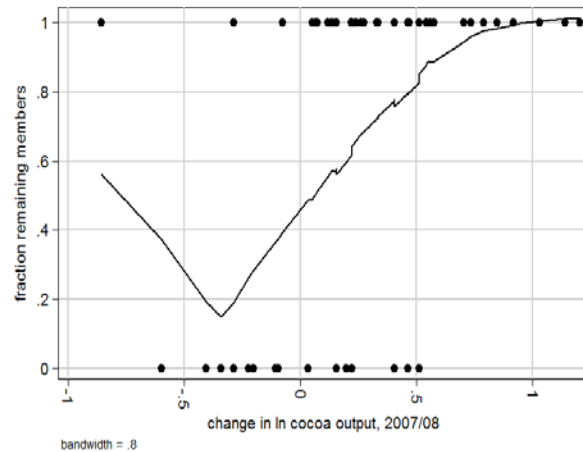
### Future research

Future research will look at why over one third of newly-participating farmers leave the programme. This is of particular interest not only because the target membership of 50,000 for this programme requires a higher re-enrolment rate. It is also important because previous work on the cocoa sector in Ghana shows that farmers often stop using technologies such as fertiliser, even when these appear to be profitable on average (as discussed in Zeitlin 2009).

One of the possible reasons for the high drop-out rate of new members is a wide disparity of the short-term benefits between different farmers in the scheme. So, for example whilst production increased *on average* by 20%, increases in production for individual farmers may

have been substantially lower. The data, as illustrated in Figure 3, appear to show that as farmers' estimated returns to the programme increase, they are more likely to stay in the programme.

Figure 3. Shows the changes in cocoa output from 2006/07 to 2008/09 among CAA members, and the rate of programme retention.



Another possible reason for the high drop-out rate is that farmers also need access to insurance against default by group members or bad weather. The risk of default by group members might rise as the average loan size increases and so provision of this kind of default insurance is likely to help further expansion of the programme.

If this is the case, then giving farmers access to credit only removes one of important barriers to increasing cocoa production.

### For more detailed information

On the CAA programme:

- <http://www.wienco.com/cocoa.htm>

For more information on the evaluation of the CAA programme:

- <http://www.csae.ox.ac.uk/resprogs/cocoa/>
- Stefano Caria, Richman Dzene, Emmanuel Opoku, Francis Teal, and Andrew Zeitlin (2009). "Impacts of group-based microfinance in agriculture: Evidence from Ghana's Cocoa Abrabopa Association." Paper presented at the CSAE Conference, March 2009. Available at: <http://www.csae.ox.ac.uk/conferences/2009-EDiA/papers/473-CariaTealZeitlin.pdf>

For more information on similar studies:

- Andrew Zeitlin (2009). "Producer networks and technology adoption in Ghana". Paper presented at 6th Midwest International Economic Development Conference, May 2009. Available at: [http://www.apec.umn.edu/faculty/pglewwe/Minnconf/papers\\_by\\_presenters\\_last\\_name/Zeitlin%204.30.09.pdf](http://www.apec.umn.edu/faculty/pglewwe/Minnconf/papers_by_presenters_last_name/Zeitlin%204.30.09.pdf)

#### ABOUT THE RESEARCHERS

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Cocoa pod Photo: © Jonathan Ernst, World Bank

The Centre for the Study of African Economies (CSAE) is an economic research centre within the Department of Economics at Oxford University. The CSAE carries out economic research with a particular focus on Africa. Its aim is to improve economic and social conditions in the poorest societies. CSAE researchers often use unique data which give them unrivalled insight into the underlying issues. The resulting policy recommendations address questions in the economic and political spheres as well as in civil society in developing countries. These recommendations based on quantitative analysis are the distinctive feature of the CSAE's work and set it apart from many other research institutions. CSAE research is funded by the UNIDO, the World Bank, the ESRC, the Department for International Development (DFID), and the Bill and Melinda Gates Foundation. The views expressed are not necessarily those of the funding bodies. **Briefing paper prepared by Markus Eberhardt and Paolo Falco. Series Editor: Karin Loudon.**