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.

Contact details: e: csae.enquiries@economics.ox.ac.uk t: +44-1865-271084

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.

Project description

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

<table>
<thead>
<tr>
<th>year of foundation</th>
<th>Number of groups present in</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of groups present in</td>
<td>163</td>
<td>44</td>
<td>35</td>
</tr>
<tr>
<td>2006</td>
<td>724</td>
<td>643</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>724</td>
<td>643</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>643</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>all</td>
<td>163</td>
<td>768</td>
<td>1105</td>
<td></td>
</tr>
</tbody>
</table>

Source: Opoku et al. (2009)

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.

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.

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.

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.

For more detailed information

On the CAA programme:

- [http://www.wienco.com/cocoa.htm](http://www.wienco.com/cocoa.htm)

For more information on the evaluation of the CAA programme:

- [http://www.csae.ox.ac.uk/resprogs/cocoa/](http://www.csae.ox.ac.uk/resprogs/cocoa/)
Fertile Ground: Boosting Cocoa Production among Ghanaian Smallholders

For more information on similar studies:


ABOUT THE RESEARCHERS

Richman Dzene is a Lecturer at the Ghana Institute of Management and Public Administration.

Emmanuel Opoku is a Senior Research Manager, Research, Monitoring and Evaluation Department, Ghana Cocoa Board.

Stefano Caria completed the MPhil in Economics at Oxford in 2009. He joins the London-based Overseas Development Institute in September 2009.

Francis Teal is the deputy director of the CSAE and his research concentrates on performance of labour markets, wage determination and firm growth in Africa.

Andrew Zeitlin is a Research Officer at the CSAE and a Junior Research Fellow at St Antony’s College, Oxford. His research focuses on social interactions in technology adoption, and his DPhil studied the cocoa industry in Ghana.

Cocoa pod Photo: © Jonathan Ernst, World Bank