APPENDICES

Appendix 1: Questionnaire for cocoa farmers

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FACULTY OF TROPICAL AGRISCIENCES

A study on the analysis of production efficiency and the impact of extension services and policies on cocoa productivity in the western region of Ghana

Questionnaire for cocoa farmers

Please this is purely an academic exercise, Confidentiality is assured.

Please tick in appropriate box

Name of district…….

Community name……..

Economic Background of the Farmers

1. Name of farmer…….....

2. Age: …….

3. Sex: Male [ ] Female [ ]

4. Marital Status: A. Single [ ] B. Married [ ] C. Divorced [ ] D. Widow [ ] E. Widower[]

5. Educational Background: A. Primary [ ] B. Secondary [ ] C. Technical/Vocational [ ] D. Tertiary [ ]

6. The number of children and household members who help in the cocoa farm activities.

……

Section B. Cocoa Input Information

9. How many times do you get pesticides? Regularly [ ] Twice a year[ ]

10) Which type of Pesticides did you used? a) Akatemaster [ ] b) Confidor [ ] c) Sumitox [ ]

11) How much quantities of Pesticides used?.....

12. Did you spray your farm with Fungicides? Yes [ ] No. [ ]

10. Do you spray your cocoa farms with insecticides? Yes [ ] No [ ]

11) Type of insecticide used…….

12) Quantity of insecticides used……

11. If No, why …….

13. If yes, which of these did you used; A. Nordox [ ] B. Kocide [ ] C. Ridomil [ ] D. Fungular [ ] E. Others [ ], Name……..

21. Did you apply fertilizer in your cocoa farms? Yes [ ] No [ ]

22. If yes, which of these did you use; A. Asasewura [ ] B.Cocofeed [ ] C. Urea [ ]

D. Sidalko[ ] E. Others [ ], Name……

Information on Agrochemical Usage

Inputs	**Quantity**	**Cost per unit**	**Total Cost**
Confidor			
Akatemaster			
Nordox			
Ridomil			
Fungular			
Asasewura			
Cocofeed			
sidalko			
Urea			
others			

Information on Agrochemical Usage

Plot No.	**Fertilizer Application**		**Insecticides Application**			**Fungicides Application**		
	Qty		Qty	Frequency	Total/Av.	Qty	Frequency	Total/Average
1								
Total								

23. Did you receive extension services last year Yes [ ]No. [ ]

24. Did you like the extension service received? Yes [ ] No. [ ]

25. Did you benefit from mass-spraying exercise? Yes [ ] No [ ]

26. How many times did you benefitted? Once [ ] twice [ ] thrice [ ] quadruple [ ]

27. Is labour readily available? A. Yes [ ] B. No [ ]

28. What was the cost of labour per day (Gh¢), …….

Labour Information (Hired labour Family Corporative)

Activities	**Hired labour**			**Family Labour**			**Cooperative**			
	No. of persons	Hours spent/ day	No. of days	No. of persons	Hours spent/day	No. of days	No. of persons	Hours spent/day	No. of days	Cost/labourer /day
Weeding/pruning										
Fertilizer Application										
Insecticides Application										
Fungicides Application										
Plucking of cocoa beans from the trees										
Husk removal										
Transportation of cocoa beans from the farm										
Drying and Bagging										

Section C. Cocoa Output Information

30. How many bags of cocoa beans did you harvest last cocoa season? ……

Information on Age of Cocoa tree, Acreage and Output

Plot	**Age**	**Farm size (acre)**	**Output (bags)**	**Total/Average**

Appendix 2: Efficiency levels of individual cocoa farmers

DMUs	Technical Efficiency Score (CRS)	Pure Technical Efficiency (VRS)	Scale Efficiency	RTS
01	0.666667	0.820643	0.812371	Increasing
02	0.486651	0.641361	0.758778	Increasing
03	0.846561	0.917015	0.92317	Increasing
04	0.631387	0.681645	0.926269	Increasing
05	0.841463	0.860529	0.977844	Increasing
06	0.904875	0.926101	0.97708	Increasing
07	0.318738	0.437607	0.728366	Increasing
08	0.521557	0.620166	0.840995	Increasing
09	1	1	1	Constant
10	1	1	1	Constant
11	1	1	1	Constant
12	0.630782	0.886238	0.711753	Increasing
13	0.709835	1	0.709835	Decreasing
14	0.862408	1	0.862408	Increasing
15	0.738048	0.738817	0.998959	Decreasing
16	0.172312	0.219642	0.784515	Increasing
17	0.409234	0.645455	0.634025	Increasing
18	0.284024	0.395512	0.718116	Increasing
19	0.587656	0.633125	0.928183	Increasing
20	0.351562	0.426702	0.823906	Increasing
21	0.572687	0.643312	0.890217	Increasing
22	0.299137	0.566052	0.528462	Increasing
23	0.224353	0.55249	0.406076	Increasing
24	0.614082	0.695736	0.882636	Increasing
25	0.369606	0.526316	0.702251	Increasing
26	0.543585	0.544071	0.999106	Decreasing

27	0.211341	0.303005	0.697484	Increasing
28	0.344965	0.506579	0.680971	Increasing
29	0.255403	0.390678	0.653742	Increasing
30	0.286526	0.456838	0.627194	Increasing
31	1	1	1	Constant
32	1	1	1	Constant
33	0.800649	0.809042	0.989626	Increasing
34	0.472047	0.483654	0.976001	Increasing
35	0.370119	0.469412	0.788475	Increasing
36	0.642857	0.79949	0.804084	Increasing
37	1	1	1	Constant
38	0.64522	0.652666	0.988592	Increasing
39	1	1	1	Constant
40	0.44364	0.470299	0.943315	Increasing
41	0.234657	0.540486	0.434159	Increasing
42	0.619048	1	0.619048	Decreasing
43	1	1	1	Constant
44	0.326531	0.5	0.653061	Increasing
45	0.290343	0.410714	0.706922	Increasing
46	0.498213	0.585317	0.851184	Increasing
47	0.264386	0.422819	0.625293	Increasing
48	0.653226	0.899586	0.726141	Decreasing
49	0.291364	0.408377	0.713469	Increasing
50	0.438609	0.501736	0.874183	Increasing
51	0.439888	0.464847	0.946306	Increasing
52	0.413985	0.452109	0.915676	Increasing
53	0.258839	0.390433	0.662952	Increasing
54	0.357104	0.412938	0.864789	Increasing
55	0.266053	0.358227	0.742696	Increasing

56	0.488112	0.50911	0.958755	Increasing
57	0.634921	0.810669	0.783205	Increasing
58	0.413642	0.434446	0.952115	Increasing
59	0.470514	0.602916	0.780398	Increasing
60	0.60788	0.745248	0.815675	Increasing
61	0.745329	0.75845	0.982699	Increasing
62	0.694083	0.747089	0.92905	Increasing
63	0.465381	0.503471	0.924345	Increasing
64	0.690377	0.710359	0.97187	Increasing
65	0.486841	0.612791	0.794465	Increasing
66	0.360046	1	0.360046	Increasing
67	0.715596	0.750332	0.953706	Increasing
68	0.834783	0.878309	0.950443	Decreasing
69	0.64726	0.785888	0.823604	Increasing
70	0.190709	1	0.190709	Increasing
71	0.437909	0.46451	0.942734	Increasing
72	0.513202	0.60737	0.844958	Increasing
73	0.716329	0.736778	0.972244	Increasing
74	0.594658	0.621717	0.956476	Increasing
75	0.358055	0.448382	0.79855	Increasing
76	0.879633	1	0.879633	Decreasing
77	1	1	1	Constant
78	0.397997	0.426911	0.932273	Increasing
79	0.460255	0.504228	0.91279	Increasing
80	0.837997	0.86715	0.966381	Increasing
81	1	1	1	Constant
82	1	1	1	Constant
83	1	1	1	Constant
84	0.833533	0.873196	0.954577	Increasing

85	0.964948	1	0.964948	Increasing
86	0.971178	1	0.971178	Increasing
87	0.797546	0.973502	0.819254	Increasing
88	0.864266	0.893362	0.96743	Increasing
89	0.492669	0.566983	0.86893	Increasing
90	0.957811	0.96536	0.99218	Increasing
Pooled	**0.60**	**0.70**	**0.84**	

Appendix 3: Pictures of the researcher spraying and weighing cocoa during his field visit


GHANA COCOA BOARD
PRODUCT OF GHANA