

ALLANBLACKIA STUHLMANNII

Farmers' preferences

A study by Shrestha et al (2007) on relative attractiveness of allanblackia cultivation in Ghana shows that, farmers indicated considerable interest in allanblackia domestication. Of the 110 respondents interviewed, 93% expressed interest in cultivating allanblackia. Interested farmers were motivated by the future potentials of allanblackia for incomes, employment and ecological restoration, among others. Motivated by these perceived benefits of allanblackia, 64% of farmers interviewed were prepared to the extent of willing to make initial investments in hiring labour, clearing land, planting, weeding etc while 51% were prepared to purchase seedlings. 83% of them either had their own land or were prepared to make investments in acquiring land for allanblackia cultivation.

Extent of adoption

A study by Meshack (2004) on indigenous knowledge of allanblackia in East Usambara, Tanzania, shows that the majority of farmers (76%) have allanblackia trees on their farms and that most have one to ten trees. The reason they have kept these trees in their farm include: to obtain seeds for extraction of oil, shade for cardamom crops, and leaves of the trees are believed to cure chest pain. Out of 110 respondents, 60% mentioned that they have between 1 to 10 trees on their farms, 13% mentioned to have 11-20, very few 5% said they have above 20 trees and the remaining 21% do not have allanblackia trees on their farms (Table 1)

Table 1: Percentage response on the number of Allanblackia in the farmland

No. of trees	Frequency	Percent
1 - 10 trees	66	60
11 - 20 trees	15	13.6
Above 20 trees	6	5.5
Do not have	23	20.9
Total	110	100

Source: Meshack 2004

Economics of production

The seeds of *Allanblackia* trees produce edible oil with significant global market potential. Consequently, a private-public partnership involving Unilever and known as 'Novella Africa' is engaged in the development of *Allanblackia* as a new crop in a number of African countries (Jamnadass et al. 2010). *Allanblackia* holds huge promise as a Egir (2007) carried out a study on sustainable supply chain management, price setting and marginal cost. Different scenarios for allanblackia production were evaluated (Table 2). The results of nine scenarios of financial internal rates of return (IRR) and net present values (NPV) evaluation suggested that allanblackia domestication would be as profitable as cocoa production. All the scenarios were viable, even the worst case scenario (8) that could occur is viable: the price per kg of allanblackia seeds remains at USD 0.1575 in year 0, increases by 10% (to USD 0.1732) in the first year (2008), and subsequent years; cost of seedlings and other materials, cost of land, labour and capital (at 19%) are all evaluated at private market prices. Here the net present value (NPV) by year 20 and at 19% discount rate is USD 70,875 and the financial IRR is 60 percent. The average net internal rate of return of the project is estimated to be 60 percent which implies at a cost of capital of

60% interest rate the project will break even. The contract farming system of Unilever (Scenario 9) is also worthy (at 5% discount rate); the NPV and IRR are estimated as USD 33,285 and 103% respectively (Table 2, 3, 4).

Table 2: Analysis of worthiness of investments in allanblackia in Ghana, including calculation of internal rates of return (IRR) and net present values (NPV)

Scenario	Description	Price in USD	NPV (USD)	IRR (%)
	Unit price	0.17	98307	74
	Seedling cost	0.16	0	
1	All cost except land rent			
	Unit price	0.53	305820	150
	Seedling cost	0.24	0	
2	All cost except land rent			
	Unit price	0.53	307302	104
	Seedling cost	0.24	0	
3	All costs, including land rent			
	Unit price	0.53	306032	94
	Seedling cost	1.59	0	
4	All costs, including land rent			
	Unit price	0.32	181164	80
	Seedling cost	1.59	0	
5	All costs, including land rent			
	Unit price	0.53	307407	105
	Seedling cost	0.16	0	
6	All costs, including land rent			
	Unit price	0.32	182540	89
	Seedling cost	0.16	0	
7	All costs, including land rent			
	Unit price	0.17	71429	60
	Seedling cost	1.59	0	
8	All costs, including land rent			
9	Unit price	0.21	33545	103

No other costs except land
rent

1 USD = 9450 GHC (2007); Unit price = price of seeds per Kg.
Source : Egyir 2007

Table 3: Scenario 1-8: Establishing an acre of allanblackia private farm (with seed subsidy) in Ghana

Activity	Cost in USD	Remarks
One acre of land	1058.20	Paid once
Cost of seedlings per acre	71.43	
Land preparation	95.66	
Total fixed cost	1225.29	
Wellington boots*	6.35	A maximum of 2 years
Drying cocoa mat**	26.46	A maximum of 5 years
Weeding, fertilizer, chemical and maintenance cost***	84.66	Done every year
Planting	25.40	
Total Variable Cost	142.87	
Total cost/ acre	1368.15	
Total cost/ha	3420.37	

Assumptions

*= W. boots lasts 2 years hence cost of replacement is computed at the end of every other 2 years at 10%.

**=Drying mat last 5 years hence cost of replacement is computed at the end of every other 5 years at 10%.

***=Weeding, chemicals, fertilizer and maintenance cost are incurred every year hence labour cost was computed every year using 10% increment.

Source: Egyir 2007

1 USD = 9450 GHC (2007)

Burkle and Palenberg (2009) carried out a cost analysis of investing in allanblackia and found that total net benefits after 20 years assuming a 20% discount rate were USD 402. (Table 5)

Table 5: Cost Analysis: Evaluations on per hectare basis and in USD per ha

Activity	Amount/ years
Initial investment costs (1st 3 years)	434.07
Years to break even (in nominal terms)	6.00
Years to break even (real terms, 20% discount rate)	9.00

Total net benefits (in nominal terms after 20 years)	5420.00
Total net benefits (in real terms, 20% discount rate after 20 years)	402.22
Total labour days (over 20 years)	892.59
Net returns per labour day (nominal benefits)	5.19

Source: Burkle and Palenberg 2009

1 USD= 1.35 Euro (2007)

Shrestha et al (2007) carried out a comparative analysis using expenditures and incomes calculated from field data. The results indicated that annual net returns on cocoa and oil palm per acre were USD 159 and USD 48 respectively as compared to allanblackia whose annual net returns were USD172 (Table 6). However, allanblackia has a much higher initial investment cost than the other two crops.

Table 6: Comparison of costs and benefits on Allanblackia, Cocoa and Oil palm based on field data

	Allanblackia (USD)	Cocoa (USD)	Oil palm (USD)
Initial investment before gestation	208.89	77.78	137.04
Total annual cost	17.78	123.70	140.00
Total annual revenue	190.15	282.22	188.15
Net annual cash benefit	171.85	158.52	48.15

Source: Shrestha et al 2007

1 USD= 1.35 Euro (2007)

Further reading

Amanor, K.S. (2006). Socioeconomic Conditions of Allanblackia Production and Perceptions of Farmers and Collectors. Institute of African Studies, University of Ghana, Legon

Bürkle, E. and Palenberg, M. (2009). Allanblackia Supply chain as a Strategic Alliance with Unilever R&D Netherlands Case Study ADA Business Partnership, Tanzania Global Public Policy Institute (GPPi).

Egir, I. S. (2007). Allanblackia: Standard Setting and Sustainable Supply Chain Management - Price Setting and Marginal Cost Study. International Union for Conservation of Nature (IUCN).

Jamnadass, R., Dawson, I.K., Anegbeh, P., Asaah, E., Atangana, A., Cordeiro, N.J. Hendrickx, H., Henneh, S., Kadu, C., Kattah, C., Misba, M., Muchugi, A., Munjuga, M., Mwaura, L, Ndangalasi, H., Nja, C.S., Nyame, S., Ofori, D., Peprah, t., Russell, J., Rutatina, F., Sawe, C., Schmidt, L., Tchoundjeu, Z., Simons, T.(2010). Allanblackia, a new tree crop in Africa for the

global food industry: Market development, smallholder cultivation, and biodiversity management. *Forests, Trees and Livelihoods*, 2010, Vol. 19, pp. 251–268

Meshack, C. (2004). Indigenous knowledge on *Allanblackia Stuhlmannii* in the East Usambara Mountains, Tanzania. Tanzania Forest Conservation Group.

Shrestha, R.B. et al (2007). Relative Attractiveness of *Allanblackia* Cultivation in Ghana: Farmer's Perceptions and Willingness, Final Draft, Novella Partnership Ghana, October 2007.

Tissari, J and Danso, E.Y. (2007). *Allanblackia*: Standard Setting and Sustainable Supply Chain Management: A mid term evaluation final report.