



Impact Brief

S U S T A I N A B L E T R E E C R O P S P R O G R A M

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COSTS ASSOCIATED WITH FARMER FIELD SCHOOLS AND VIDEO VIEWING CLUBS ON COCOA INTEGRATED CROP AND PEST MANAGEMENT: THE EXPERIENCE OF STCP

The Sustainable Tree Crops Programme (STCP) and its partners have been involved in adapting, testing and validating the farmer field school (FFS) methodology for training cocoa farmers in West and Central Africa on integrated crop and pest management (ICPM) since 2003. The programme also developed and tested a second methodology, video viewing clubs (VVC), between 2006 and 2008. In 2006 STCP initiated the scaling-up of FFS in Cameroon, Cote d'Ivoire, Ghana and Nigeria through partnerships with a diversity of national partners (Table 1). FFS and VVC expansion started in 2008 in Liberia and Ghana, respectively.

participant recruitment) and recurrent costs (e.g. implementation and supervision of schools).

Worldwide the combination of start-up and recurrent costs for FFS are highly variable, ranging between US\$10-80 per participant for schools that mainly focus on food crops (Van den Berg and Jiggins, 2007; Duveskog, per. comm., 2011). FFS costs depend on several factors such as the type and scope of the implementing organisation (i.e. public, private, NGO), type of staff used for training and the length of the training cycle.

Table 1: Roles of STCP and partners in implementing FFS, 2010

	Government extension	Research	NGOs	Cooperatives	STCP ^a
Cote d'Ivoire	Lead	Support	Implement	Support	Backstop
Ghana	Support	Resource persons	Implement	n/a	Lead
Nigeria	Lead role	Resource persons	Implement	n/a	Backstop
Cameroon	Support	Resource persons	Implement	Lead	Lead
Liberia	n/a	n/a	Implement	n/a	Lead

^aOver time, STCP expects to phase out its role in leading the scaling up process by institutionalising the FFS approach in national organisations

Calculating the cost of any intervention is central to guiding the scaling-up process as prospective scaling-up partners need to determine the amount of financial resources required to invest in order to achieve their objectives, both in scope and in time. Boxes 1 and 2 outline the key cost elements for FFS and VVC. FFS costs include items associated with a structured farmer-to-farmer (F-t-F) diffusion approach which aims to increase the number of farmers impacted by FFS.

No standardised methodology exists for calculating FFS cost, nor is there consensus on which cost elements to include in the calculation. In general, a distinction is made between base costs of the executing organisation (e.g. staff costs, vehicles, etc.), start up costs (e.g. training of trainers, community identification, needs assessment,



FFS participants preparing an agro-eco systems analysis drawing (photo: S. Muilerman)

Box 1: Key cost elements of STCP's cocoa ICPM farmer field school methodology

<p>Training of Trainers</p> <ul style="list-style-type: none"> New FFS facilitators attend a 5-6 week residential training of trainers (ToT) workshop, conducted in two sessions Close supervision of new facilitators for one training cycle. Experienced facilitators are supervised less intensively ToT costs include: resource persons; training venue and equipment; facilitators' and trainers' food, accommodation and expenses; per diems and stipends; materials and stationary; transportation <p>Implementation</p> <ul style="list-style-type: none"> FFS consists of 15-30 farmers who attend 15-20 bi-weekly sessions over a 9-10 months period Facilitation provided either by: 1) farmer facilitators working in pairs and supervised by extension staff, or 2) a farmer facilitator working with an extension agent 	<ul style="list-style-type: none"> FFS implementation costs include: community sensitisation, needs assessment and participant recruitment; materials and stationary; facilitators' stipends; transportation, facilitator supervision and monthly meetings; communication and reporting, testing of facilitators and FFS graduation. <p>Farmer-to-Farmer diffusion (F-t-F)</p> <ul style="list-style-type: none"> A structured system of farmer-to-farmer diffusion is implemented whereby each FFS participant agrees to share knowledge with two other farmers (referred to as secondary knowledge recipients or SKR). F-t-F costs include: field visits by facilitators; 2 farmer guidebooks; 2 field days.
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Box 2: Key cost elements of STCP's cocoa ICPM video viewing club methodology

<p>Training of Trainers</p> <ul style="list-style-type: none"> New VVC facilitators attend a 14 day residential training of trainers (ToT) workshop with similar cost items as a FFS ToT <p>Implementation</p> <ul style="list-style-type: none"> In 2010, the VVC curriculum in Ghana covered 11 videos related to ICPM, nursery operations and planting cocoa shown over a 6 month period Sessions are facilitated by a farmer facilitator Implementation costs include: community sensitisation, needs assessment and participant recruitment; equipment (television, video player, generator, rewinder, cables); provision for equipment repair; materials and stationary; an illustrated guidebook for each participant; facilitators' stipends and transportation; supervision of facilitators; monthly meetings; communication and reporting.
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Calculating STCP's Cost for FFS and VVC

The following training cost analysis is based on activities implemented directly by STCP, or by partners working in close collaboration with STCP and provides indicative cost figures to guide the scaling-up process. Independent partner costs were not yet available at the time of writing. For reasons discussed below, it is expected that costs will be significantly lower once the methodologies are fully assimilated or decentralised into partner structures. Cost figures for Nigeria are not presented as FFS

implementation in that country is fully funded by state governments; STCP's role is limited to conducting ToTs and providing technical backstopping.

Based on total cost over three training cycles in four countries, it costs on average US\$1917 to implement an FFS and US\$71 to train one farmer. Costs and number of farmers enrolled varied significantly between countries (Table 2). It cost US\$ 1853 to run a VVC and US\$78 to train one farmer using that method.

Table 2: Farmer Field School and video viewing club costs over three training cycles^a (US\$)

	FFS (2009)				VVC (2010)
	CAM ^b	RCI	GHA	LIB	GHA
ToT costs for one facilitator ^a	291	189	302	173	182
Equipment costs ^c	-	-	-	-	305
Implementation costs ^d per school/club (materials, supervision, facilitator)	1385	1377	1949	2001	1001
Total cost per school/club (facilitator ToT, implementation, equipment)	1676	1566	2251	2174	1853
Average number of participants per school/club	20	32	30	29	25
Cost per farmer (facilitator training, implementation, materials)	84	49	75	75	78
Additional cost of training two secondary knowledge recipients	16	16	16	16	-

^a Assumes that the programme starts with new facilitators who are trained and supervised intensively during the first training cycle and run two more cycles as experienced facilitators

^b Includes ToT and implementation costs borne by the cooperative partners

^c Assumes straight line depreciation for television sets, video players and generators over a two year life and a salvage value of zero

^d Assumes a conservative 20% cost reduction for supervision costs in the second and third year in Cameroon and Ghana (in italic)

Training of Trainers

The full cost of a 5-6 week residential ToT for FFS varies between US\$520-905 per facilitator, a high investment in capacity building that is mitigated by the number of training cycles a facilitator covers. Where a facilitator is only used for one training cycle, ToT costs account for 18-36% of the total cost to train one farmer in that first training cycle compared to 8-17% of the cost to train one farmer when a facilitator covers three training cycles. For the shorter VVC ToT, the cost decreases from 29% to 10% of the cost per farmer, respectively.

ToT cost elements depend largely on organisational choices made by the training implementer. On average, 65% of the FFS ToT costs were spent on hiring the venue and for participants' food, accommodation and stipends. ToT costs can be significantly reduced while maintaining quality if organisations:

- use facilitators for multiple training cycles;
- apply their own cost structures for staff, transport and other operational costs;
- use cocoa matter specialists within national extension agencies as resource person instead of more costly researchers;
- organise non-residential ToT workshops and/or use less costly venues;
- optimise the number of participants in a ToT by training between 20-30 persons.

Implementation

The per unit implementation cost over three training cycles ranges between US\$1377-2001 for FFS, and US\$1306 for VVC (Table 2). This cost is a function of many factors, including the level of supervision needed, the size of the operational area and the number of participants. In Cote d'Ivoire and Liberia, where data are available for supervision costs for both new and experienced facilitators, the reduction in supervisory activities after the first FFS training cycle accounted for a 49% and 21% reduction respectively in implementation cost. Average implementation costs across the four countries goes down from US\$2040 per FFS cycle run by new facilitators, to US\$1474 per FFS cycle run by experienced facilitators.

The issue of who should compensate facilitators is a subject for debate. Efforts by STCP in Cameroon, Ghana and Nigeria to develop or support demand driven systems whereby trainees contribute in kind or in cash toward the facilitator's stipend have so far been largely unsuccessful due to participants' reluctance

live up to the agreement. On the other hand, a few cases of self-funded FFS were recorded in Cameroon and Nigeria.

Options for reducing implementation costs include :

- use facilitators for multiple training cycles;
- national organisations apply their own cost structures for staff, transport and other operational costs;
- test new arrangements for partnering farmer and extension facilitators and for compensating them;
- facilitators broaden their training activities to cover other enterprises;
- implementing organisations do away with superfluous elements of the FFS methodology such as farmer graduation ceremonies;
- conduct VVC in centralised and/or existing video viewing locations, thereby reducing equipment costs;
- implementing organisations use a centralised system for bulk procurement of FFS materials, thereby optimising economies of scale.

Farmer-to-Farmer diffusion from FFS

Two out of the three farmer-to-farmer diffusion cost elements; facilitator field visits and field days, are associated with facilitators' costs and are therefore an integral part of FFS implementation costs. Notably, facilitators do not receive an additional remuneration for visiting the fields of secondary knowledge recipients (SKR), which hides an important cost associated with F-t-F diffusion. While field days are part-and-parcel of the FFS methodology, under the F-t-F system used by STCP, the target audience is SKRs. Therefore the main additional cost associated with the F-t-F diffusion system is the cost of two farmer guidebooks on cocoa ICMP for SKRs. In Ghana, the cost for two guidebooks amounted to \$16 per FFS graduate but could be reduced significantly by decisions on printing options.

Contextualising Cost


Worldwide, interactive training methods such as FFS and VVC require high human and financial capital investment relative to technology transfer training approaches. This should not however be seen as a disadvantage of these methodologies. There are three key justifications for the relatively higher costs of implementing FFS in particular. The first is sustainability; the expectation that farmers will

use their improved decision-making capacity and experimentation skills acquired from FFS to adapt crop and pest management strategies to changing circumstances. The second is human and social capital strengthening which includes improved knowledge, skills, leadership abilities, increased membership in groups and networks and improved relationships. Thirdly, facilitators trained by FFS programmes – whether extension agents or farmers – can be used for other development and research activities. FFS costs must therefore be rated against a programme's immediate and long-term development impacts and how these impacts contribute to national development goals.

The impacts of STCP's FFS programme have been assessed in terms of productivity and human and social capital gains. Studies show a yield increase of 15-40% among FFS graduates and a 10-20% decrease in pesticide use (Gockowski et al., 2011). Data from Cameroon (David, 2007) and Ghana (David and Asamoah, 2011) showed that FFS participants had superior knowledge on cocoa ICPM compared to non-participants. These studies also suggest that FFS can be a starting point for social change by improving farmers' ability to make observations on their farm conditions, apply new knowledge to solve other problems, enhancing individual social skills by creating new networks for knowledge exchange and support, promoting group formation and improving farmers' confidence and ability to work more effectively in groups. Results on VVC impact will be available in 2012.

More research is needed on the cost effectiveness of FFS and VVC, taking into account productivity, social and developmental impacts. Results will contribute to and guide STCP's efforts to scale up and institutionalise farmer training approaches within national institutions.

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STCP Impact Brief aims to provide information to be utilised by the public and private sectors, and community organizations. It intends to help frame policy discussions while stimulating dialogue amongst tree crops stakeholders so as to foster an understanding of the social, economic, environmental and political implications of the integration of innovations in West and Central Africa.

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