The research was carried out by KUIT CONSULTANCY, a Consultancy working in sustainable supply chains. Based in the Netherlands. It supports companies, producers, governments and development organizations in designing, implementing and evaluating sustainable supply chains. Focus areas are tropical commodity supply chains with an emphasis on coffee, cocoa, tea and food crops. Projects range from multi-country and multi-stakeholder settings to single issue consultancies. This was the second phase of a study they conducted for 4C Association in 2009.

**KEY FINDINGS**

**Food quality and dietary improvement**

The effect of the 4C implementation is greatest in Uganda where protein intake for both adults and children has increased significantly as well as self-reported quality of diet. In Vietnam the only positive livelihood effect is found in a significant increase in the number of coffee production assets at household level.

**Reduced use of Agrochemicals**

In Vietnam one farm management indicator that changed positively is a reduction in the amount of agrochemicals used. Efficient use of inputs is one of the goals of implementation of the 4C entry level standard as well as elimination of use of highly hazardous and internationally banned chemicals.

**More training**

The study finds that 4C farmers tend to have more access to training on different topics in both countries, although not consistently for all topics. Farmers in Uganda are more likely to move on to other more demanding standards as a result of knowledge gained and improved practices. For Vietnam this training may also be seen to result in significant reduction in use of agrochemicals as farmers make better informed choices.

**More cost efficient and better income**

In Uganda the study finds that the change in production cost per unit land and per unit green coffee has improved (i.e. production costs per hectare were reduced more in the 4C group than in the control group). This subsequently leads to 4C verified farmers showing a significant improvement in net income on a per Mt green coffee basis. A key goal of implementation of the entry level standard is that farmers are equipped with information to make informed choices on inputs.

**CONTEXT**

The study took place in the context of harvests affected by black coffee twig borer in Uganda leading to a loss of 8.6% in production. In Vietnam the production was stable and rising while the average prices of robusta fluctuated in a range of 36% points within the period. Vietnam also continues to strive for a sustainable level of production from the current 670,000 ha to a revised target of 600,000 ha, initially at 500,000 ha.

**RESEARCH METHODS**

- **Baseline**
  - Starting year and data over 4 years for comparison.
- **Counter factual**
  - Comparison with a control group that has not implemented the code.
- **Statistical analysis**
  - Use of statistical analysis to tease out any significant differences, as well as a scientific review.
ESTIMATING THE IMPACT OF IMPLEMENTATION OF THE 4C ENTRY LEVEL STANDARD IN UGANDA AND VIETNAM

LESSONS

Gaining insights into implementation of the 4C entry level standard, on the ground and its contribution to desired change, is crucial to the 4C Association. This helps continuously improve the standard as well as facilitate innovations that support implementation at farm level and further contribution to impact. 4 key observations from the study are as follows:

- Gradual adoption: Of the changes in economic and agronomic performance that are observed in Vietnam, none correlates with application of GAP training. This leads to the belief that the training messages and/or training methods need further analysis and could possibly be improved upon. Efficiency in training and also the root causes for lack of targeted improvements are important to help improve this situation.

- Safety at work is a clear weakness in the response by the farmers, as availability and use of protective gear when handling agrochemicals was either incomplete or at a very low level. With the situation worse in Uganda although only 50% of the farmers used biocides compared to 80% in Vietnam. More effort should be put, so that where there is use then appropriate protection is ensured.

- Access to education, the share of children that attend school of those that should do so exceeds 95% across for all categories and groups, except for girls in Uganda in the 4C verified group. There the share is 93% and it did not change over time. Among the control group in Uganda this share increased from 94% to 97%, hence the negative effect among the 4C verified group, there is need to study more the reasons behind such a result, as farmers are continuously encouraged to ensure their children get a decent education.

- Although the implementation has contributed to positive results in yield, for Vietnam the net change in income over the period of study has been negative for 4C farmers and to a larger extent than the control. Though the income is more than the control, the reduction over the period was at 105USD/Mt compared to the control at 45 USD/MT. Income improvements from coffee are critical to household well-being as the majority of farmers rely primarily on coffee for their income.

4C ASSOCIATION RESPONSE

4C Association appreciates the insights and recommendation of the report as well as the effort to validate the content and assumptions of the 4C Association theory of change. Also appreciated is the confirmation where the theory is valid and the observations when the theory is not achieved. This helps continually improve the theory. A more detailed response to this independent study is available on our website http://www.4c-coffeeassociation.org/about/impact.

4C ASSOCIATION IN UGANDA AND VIETNAM

- Implementation of the 4C entry level standard in Uganda started in 2008 and 2007 in Vietnam, when a first verification was carried out.

- Since that year, the entry level standard implementation has expanded in both countries with support from, Cooperatives, Exporters and roasters.

- By 2015 there were 8 licensed 4C Units representing about 24,500 producers in Uganda as well as 109 units representing 110,000 producers in Vietnam.

ABOUT 4C ASSOCIATION

Our vision
The 4C Association aims to unite all relevant coffee stakeholders in working towards the improvement of the economic, social and environmental conditions of coffee production and processing to build a thriving, sustainable sector for generations to come.

Our mission
The 4C Association is the leading multi-stakeholder sustainable coffee platform, guiding the mainstream sector toward more sustainable production in a non-competitive arena where all relevant stakeholders are enabled to participate.

This research was independently carried out by KUIT CONSULTANCY. It was commissioned by the 4C Association in 2015 as phase 2 to a previous study in 2009. 4C Association, March 2016.

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