



IMPACT OF GOVERNMENT TRAINING ON FAIRTRADE CERTIFICATION: EVIDENCE FROM SRI LANKA'S SPICE FARMERS

E. A. G. S. Amarawansa*

Department of Export Agriculture, Sri Lanka

Fairtrade (FT) is an alternative trading system that encourages sustainable development by improving trading conditions and safeguarding the rights of downgraded producers in developing countries. Despite the solid potential for FT adoption with adherence to core principles such as minimal chemical use and the absence of child or forced labour, the uptake in the spice sector remains extremely low. This study investigated the impact of training on the application behaviour of spice farmers for FT certification, addressing a critical evidence gap in the agricultural certification literature. A randomized controlled trial was conducted for 1,200 spice farmers in 30 Grama Niladhari divisions across the Central Province of Sri Lanka. The results revealed that training that consisted of both Fairtrade and organic content was 36.3 to 38.7 percentage points more likely to apply for FT certification. Heterogeneity analysis suggests that the treatment effects are consistent across most subgroups, with female-headed households indicating particularly high responsiveness. This study underscores the importance of targeted, content-specific training in expanding Fairtrade participation among smallholder farmers, advancing both economic equity and sustainable development.

Keywords: Fairtrade, certification, training, application behaviour

** Corresponding Author: samanmaleeamarawansa@yahoo.com*



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INTRODUCTION

Fairtrade (FT) is a sustainable trading model that aims to ensure fairer access and opportunities in international trade by advancing communication, transparency, and respect among stakeholders. It makes a key contribution to sustainable development by enlightening trading conditions and ensuring fair treatment for vulnerable producers and workers, particularly in the Global South (World Fairtrade Organization, 2023).

Sri Lanka, a major spice-producing nation, is well-positioned to benefit from FT certification due to its traditional low-chemical use, strong smallholder base, and obedience to key FT principles such as the prohibition of child labour, gender equity, and sustainable environmental practices (Spice Factors, 2019; Pepper, Chains, & Lanka, 2017). Despite these favourable conditions, the number of FT-certified spice farmers remains extremely low (DEA, 2018). This limited uptake has been linked to a lack of awareness and insufficient policy-level intervention.

To address these gaps, the Department of Export Agriculture (DEA) introduced the Spice Crop Promotion Programme, which includes training to facilitate both Fair Trade (FT) and Organic certification. However, since participation in this programme is voluntary and non-random, identifying its actual impact on farmer behaviour and certification outcomes is empirically challenging. On the other hand, little attention has been paid to studying the impact of training on product certification aspects in agriculture. Additionally, no study has examined the impact of training on fair-trade certification in any sector, including the spice sector, which makes this an important topic for research. This study was carried out to examine the impact of the government training programme on the application behaviour of spice farmers for FT certification.

METHODOLOGY

Research design

A randomized controlled trial (RCT) was performed to estimate the training impact, and the research was conducted in the Central Province of Sri Lanka. An RCT assigned 1,200 households from 30 GN divisions into two treatments and a control group. A sample size of 1,200 was selected to ensure strong statistical power, exceeding the minimum of 384 recommended for large populations at a 95%



confidence level (Krejcie & Morgan, 1970). Treatments adapted the DEA's training programme, adding certification training and tailored informational leaflets.

The main survey was conducted simultaneously with the training programme for all 1,200 HHs to gather information regarding the HH roster, HH assets, spice crop production and previous training experience. The application data were collected after the application due date.

Empirical framework

A linear regression model was employed to estimate the causal effects of government training programmes on Fairtrade application behaviour. We estimated the average treatment effects (ATEs) of two training interventions on application behaviour specifically focusing on training participation (Equation 1).

$$Y_{it} = \beta_0 + \beta_1 T_{1i} + \beta_2 T_{2i} + \delta_0 X_i + \varepsilon_0 \quad (1)$$

In Equation 1, Y_{it} denotes the application behaviour, which is coded as 1 if farmer i applied by time t (corresponding to the application deadline), and 0 otherwise. The variables T_1 and T_2 are binary indicators equal to 1 if the farmer was participated in treatment 1 or treatment 2, respectively, and 0 otherwise. The coefficients β_1 and β_2 are the main parameters of interest, capturing the average treatment effects of participation to treatment 1 and treatment 2, respectively. X_i is a vector of baseline covariates included to adjust for potential imbalances across groups, despite random assignment. ε represents the error term and standard errors are clustered by GN divisions.

To assess the robustness of the findings, the intention-to-treat (ITT) effect was also estimated as the reduced-form effects of being invited to the interventions as Equation 2. $Z_{1,i}$ and $Z_{2,i}$ denote random invitation to each treatment.

$$Y_{it} = \beta_0 + \beta_1 Z_{1i} + \beta_2 Z_{2i} + \delta_1 X_i + \varepsilon_1 \quad (2)$$

RESULTS AND DISCUSSION

Baseline Balance

Most covariates are balanced across treatment and control groups, indicating that the random assignment was largely successful. However, a few variables show statistically significant differences. Specifically, household head (HHH) working age, HHH gender, participant gender, and non-agricultural income differ significantly between the T1 and control groups. For the T2 and control groups, HHH working age, HHH gender, and non-agricultural income show imbalances.



Participation in Training

1,057 HHs participated in training out of the 1,200 HHs, generating an 88% participation rate for the whole sample. There was 91% participation in the T1 group and 86% in the T2 and Control groups. The higher participation rate emphasizes the external validity of RCT, which can be compromised with a reduced participation rate (Beasant et al., 2019).

Impact of Training on Application Behaviour

The impact of training on spice farmers' application behaviour for FT certification is examined based on treatments T1 and T2 and results presents in Table 1. The first two columns present ATE estimates while next two columns present ITT estimates. Columns a show the results without covariates, while the columns b includes adjusting for imbalanced covariates. Both ATE and ITT results with and without imbalanced covariates are consistent in general. Participants in T1 were 36.3 to 38.7 percentage points more likely to apply for FT certification compared to those in the control group, while T2 had no significant impact on application behaviour.

Table 1

Impact of training on application behaviour

	Application decision			
	ATE		ITT	
	(1a)	(1b)	(2a)	(2b)
Fairtrade and organic training (T1)	0.387*** (0.053)	0.384*** (0.053)	0.367*** (0.052)	0.363*** (0.053)
Organic training (T2)	-0.059 (0.040)	-0.063 (0.040)	-0.058 (0.038)	-0.062 (0.039)
Control mean	0.164	0.169	0.163	0.177
Unbalanced covariates	No	Yes	No	Yes
Observations	1057		1200	

Notes: Cluster robust standard errors are in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$
Unbalanced covariates (4): Household head working age, household head gender, participant gender, non-agriculture income

Heterogeneity

We assessed heterogeneity across various demographic and socio-economic groups among the study farmers. The analysis revealed that the impact of training on application behaviour was largely consistent across these groups, with the only exception, female-headed households were more likely to apply for FT certification This finding contrasts with the results of Aidoo and Fromm (2015), who identified



membership in farmers' organizations, awareness of certification, and cocoa farm size as the primary determinants of farmers' willingness to adopt certification schemes. However, consistency in treatment effects across most subgroups supports the external validity of our findings, suggesting that the intervention is likely to produce similar outcomes in other populations with comparable characteristics.

CONCLUSIONS/RECOMMENDATIONS

This study evaluated the impact of training interventions on spice farmers' application behaviour for Fairtrade (FT) certification. The findings reveal that government training that integrates both FT and organic certification content (T1) significantly increases the likelihood of farmers applying for FT certification, resulting in a 36.3 to 38.7 percentage point increase in application behaviour. In contrast, training focused solely on organic certification (T2) failed to generate a statistically significant change in application rates. The robustness of treatment effects across diverse farming subgroups strengthens the external validity of the results. The research findings confirm the importance of implementing integrated training covering both FT and organic certification as a viable and an effective policy tool to improve application of fair-trade certification.

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