

Impact of Coffee Certification on Sustainability of Indian Coffee Growers

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Abstract

The international coffee market has been one of the most volatile agricultural markets. The coffee business has been one of the most dynamic spaces for deliberate regulatory standards through certification situated towards detestability, natural supportability, and reasonable treatment of labourers, quality, and value security (Marie-Vivien et al. 2014). These programs and principles are currently essential for many agricultural landscapes around the world. This research work audits experimental research surveying the effect of coffee certification programs on sustainability of Indian coffee grower.

Introduction

For Coffee cultivators, having a certification can ensure access to new markets or guarantee a superior price for their product. The certification enables the makers to make a significant difference between his coffees which starts to be sold outside the traditional commodity channel. Therefore producing certified coffee is a technique that can be utilized by the producer, and it brings monetary advantages and expanding the aggressiveness of coffee in the global market.

Coffee is a wide world and earning more foreign exchange from many countries.

Certification can be considered as a market-based strategy for allocating an incentive to a given quality in a commodity, regardless of whether ecological, social, or financial. Nonetheless, to whom value is appointed isn't clear in every case.

Literature Review

Chiputwa (2015) found that Chiputwa (2015) found that Fair trade-organic cooperative resulted as a 0.7% expansion hasty in crediting causation straightforwardly to certification, related improvement activities or

determination predisposition towards the underlying inclusion of better-educated individuals

Given certification's rising prevalence, it is imperative to basically evaluate the changed thoughts, practices, and possibilities of these activities. Existing researches separate in their evaluations. While some recommend that certification represents minimal in excess of another bundling model (Freidberg, 2003), others battle that these endeavours have significant positive effects (Taylor and Scharlin, 2004). We contend that certification and marking represent a significant institutional road for advancing social and ecological manageability, yet that key varieties in the thoughts and practices utilized in these endeavours impudently their positive potential. Various contemplates break down the generation effects of specific coffee activities (Bacon, 2005; Bray et al., 2002; Mutersbaugh, 2002; Reynolds et al., 2004; Rice, 2001). A couple of studies break down certified coffee markets (Giovannucci, 2001; Giovannucci and Koekoek, 2003) or the job of certification inside the general coffee product chain (Daviron and Ponte, 2005; Giovannucci and Ponte, 2005; Renard, 2005; Talbot, 2004). We broaden this literature by means of an efficient, similar large scale examination of the five significant coffee

certification and naming activities which address social and ecological supportability.

Kimberly Ann Elliott (2018) Demand for and supply of "sustainable" coffee (and different commodities) have developed high.

Research Methodology

The investigation was observational, including a field-based approach in coffee-creating districts. The primary data was gathered utilizing observation and questionnaire. The secondary data was gathered using books, journals and magazines related to coffee producers. Researcher using non-probability convenience sampling technique is employed for selection of 150 samples. The collected data is analyzed and interpreted properly. Statistical tools used for analyze the data with help of the IBM SPSS 20

Analysis

Hypothesis

- Ho: There is no significant association between Certified Coffee growers and Sustainable Development
- Ho1: There is an association between Certified Coffee growers and Sustainable Development

Table 1. Association between Certified Coffee growers and Sustainable Development

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.212 ^a	4	.000
Likelihood Ratio	16.13	4	.001
Linear-by-Linear Association	11.166	1	.001
N of Valid Cases	150		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is .44.

Inference

From the above table.1 shows that chi-square test at 5% level of significance p-value is less than the 0.05. So, null hypothesis is rejected. Hence, there is an association between Certified Coffee growers and Sustainable Development

Hypothesis

- Ho: There is no significant association between farmers participating in conventional and alternative trade networks.
- Ho2: There is an association between farmers participating in conventional and alternative trade networks.

Table 2. Association between farmers participating in conventional and alternative trade networks

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.4328 ^a	4	.370
Likelihood Ratio	5.788	4	.216
Linear-by-Linear Association	.118	1	.732
N of Valid Cases	150		

Source: Computed Data

- a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is 2.89.

Interpretation

From the above table.2 shows that chi- square

test at 5% level of significance p-value is more than the 0.05. So, null hypothesis is accepted. Hence, there is no significant difference between farmers participating in conventional and alternative trade networks.

Dependent Variable: Profitability

Table 3. Ordinary Least Square (OLS) Regression

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	-10010	9949	-1	0.31	
Weeding	-0.06	2.99	-0.02	0.98	
Fertilizer	2.14	0.97	2.19	0.03	**
Harvesting	-2.1	0.73	-2.88	0	***
Shade Lopping	1.38	0.73	1.87	0.06	.*
Pruning	0.56	1.36	0.41	0.68	
Scuffling	3.53	1.84	1.91	0.05	.**
Handling	4.07	2.87	1.41	0.15	
Desuckering	-0.8	2.18	-0.36	0.71	
Drying	6.89	2.48	2.77	0	***
Liming	-3.84	3.61	-1.06	0.28	
Composting of on farm wastes	-1.11	0.33	-3.33	0	***
Certified.1.Yes.0.No.	8392	3219	2.6	0.01	***
Residual standard error: 180	80 on 137 degrees of freedom				
Multiple R-squared: 0.3275,	Adjusted R-squared: 0.2686				
F-statistic: 5.56 on 12 and 137 DF, p-value: 1.075e-07					

Note: ***, **, * indicates significance at 1%, 5%, and 10% level

It is also important to know what factors affect the profitability of coffee growers in our sample. Profitability of a farm may

depend on several activities such as weeding, use of fertilizer, harvesting, shade lopping, pruning, scuffling, handling, desuckering,

drying, liming, composting of on farm wastes etc. in addition, another factor that might affect profitability of a farm is the certification. We can hypothesize that that certified farms are more profitable as compared to the non-certified farms. In an attempt to understand what factors are determining profitability we have run a Ordinary Least Square regression considering

profitability as dependent variable and all other variables mentioned above as the independent variables. All the independent variables except certification are continuous in nature. The certification variable is a dummy variable. If the sample farm is certified we have marked them as 1 otherwise 0.

Efficiency Analysis

Table 4. Stochastic Frontier Production Function Estimation

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	3.50	1.28	2.72	0.00	**
Area (in acres)	0.34	0.04	7.75	0.00	***
Weeding Cost	0.15	0.08	1.81	0.06	.
Fertilization Cost	0.51	0.10	4.80	0.00	***
Harvesting Cost	-0.02	0.09	-0.27	0.78	
Shade Lopping Cost	0.31	0.07	4.04	0.0001	***
Handling Cost	-0.01	0.03	-0.51	0.60	
De-suckering Cost	-0.02	0.01	-1.69	0.09	.
Drying Cost	-0.007	0.006	-1.04	0.29	
Certified.1.Yes.0.No.	0.44	0.07	5.91	0.00	***
SigmaSq	0.17	0.01	8.98	< 2.2e-16	***
Gamma	0.00	0.01	0.001	0.9991	
Mean efficiency: 0.99					
Log likelihood value: -81.66					

Table 2 provides the results of Ordinary Least Square (OLS) Regression. It can be easily

observed from the table that the major variable of our interest i.e. certification is

significant at 1 percent level. It also tells us that a certified farm makes an extra profit of Rs. 8392 as compared to non-certified farm. In addition, it is also found that variables like

harvesting, Drying, and composting of on farm waste makes significant negative impact on profitability. These variables are significant at 1 percent level.

Table 5. Results of Decomposition Function

Total Revenue					
Traditional			Certified		
Actual	y1	48231.6	Actual	y2	90497.5
Frontier	y1*	809589.7	Frontier	y2*	109589.7
	y1**	109591.2			

		% Contribution
Technical Change	1	0.00%
Efficiency	42265.9	100.00%
Input use	-1	0.00%
Actual difference	42265.9	100.00%

One rupee increase in harvesting cost reduces profitability by Rs. 2.1. Similarly, 1 rupee increase in liming cost reduces profitability by Rs. 3.84. One rupee increase in the cost of composting of on farm waste reduces profitability by Rs. 1.11. On the other hand, one rupee increase in drying activity increases profitability by Rs. 6.89 the variable drying is significant at 1 percent level. The other factors which contribute positively towards profitability are fertilizer and scuffling. These two variables are positive and significant at 5 percent level. One rupee increase in fertilizer expenditure profitability rises by Rs. 2.14.

Probably, fertilizer use results in increased productivity of coffee and thus leading to higher level of production in the same way the increased expenditure due to scuffling results in increased profitability of Rs. 3.53.

Conclusion

There is some proof that certification relates to improving educational attainment following the introduction of the certification. Hence, there is an association between Certified Coffee growers and Sustainable Development. The variables like harvesting, Drying, and composting of on farm waste

makes significant negative impact on profitability.

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