



Long-term impact of Fairtrade coffee certification on household income in India

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Introduction

- Araku valley of India contributes 10,900 MT of coffee production annually.
- Fairtrade is market-based instrument and tool to promote closer working conditions of farmers and relocate them with a price premium (Jena et al., 2017)
- Producers gain new skills, develop new organizational capacities and improve the ability to negotiate with other actors
- Minimum coffee prices and easy access to market improves access to value chain and boosts economic performance.

Materials and Methodology

- Dealing with cross-sectional data, selection bias occurs as a common econometric application (Wooldridge, 2002).
- Propensity Score Matching and Endogenous switching regression to overcome endogeneity and self-selection bias.
- Farmers are partitioned into their certification status as certified and non-certified to capture the differential responses of two groups.

Underlying data and study regions

- Study region: Araku valley, India
- Cross sectional data of 386 households from 2011 and 2018
- Coffee produced by tribal groups called Adhibasis
- Total area under coffee is 20,000 hectares
- Data collected through multistage sampling followed by semi-structured questionnaire, key informant interviews and focus group discussions

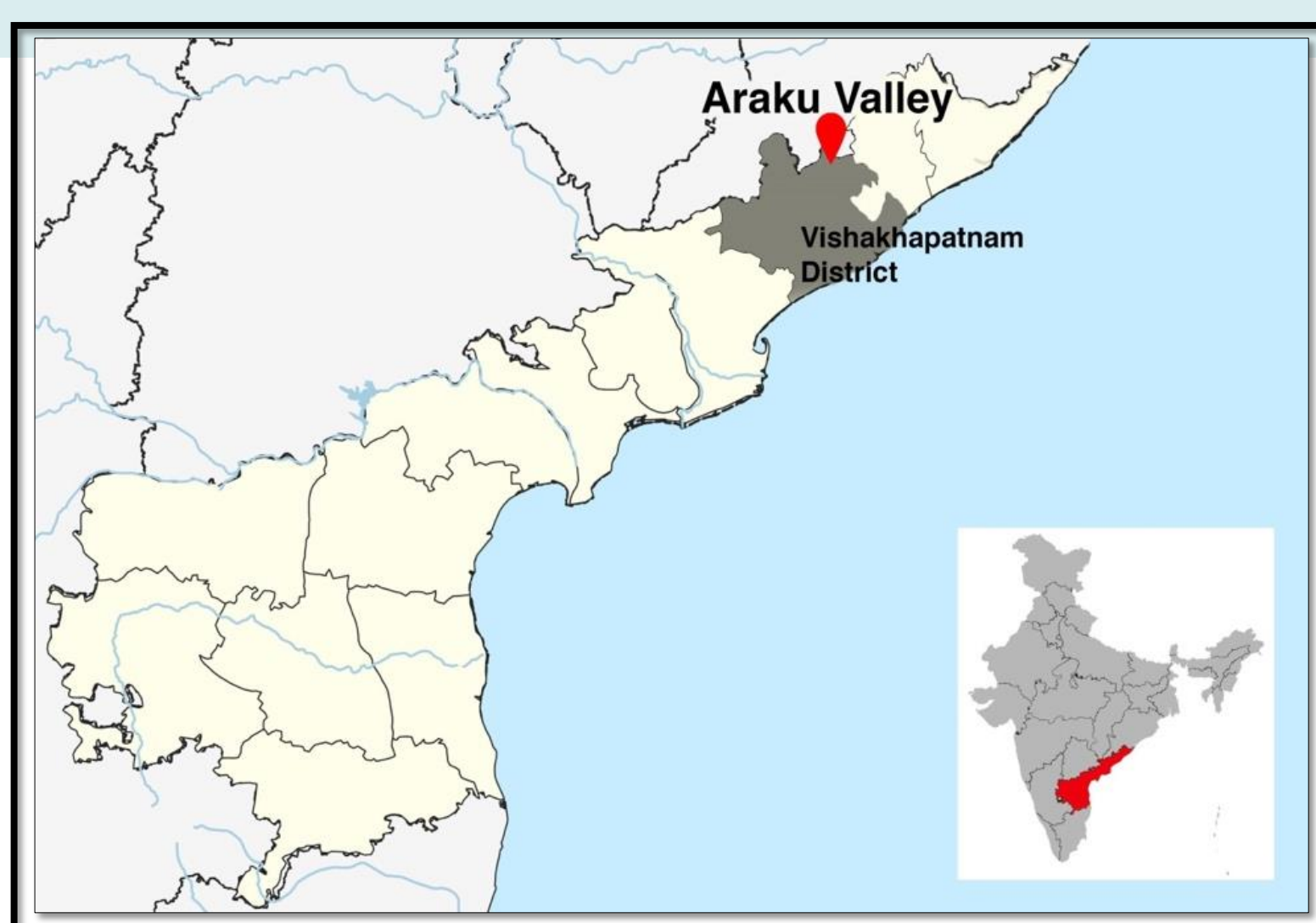


Fig: Araku valley in a map of India

Discussion

There is a positive association of coffee sales price and income among certified households. Off-farm income is found to be one of the important livelihood diversification strategies in the study area. Older and experienced farmers are likely to be motivated for certification due to reasons of good ties with extension service providers and know-how of production techniques over time (Jena et al., 2017). Certifications have positive impacts on the income of farmers through capacity building i.e., training in coffee which subsequently includes better agricultural practices and quality improvements. The higher and stable prices in coffee as a result of certification have been associated with cooperative members willing to invest in physical capital, such as processing equipment (Chiputwa et al., 2015). However, non-members of cooperatives also benefit from infrastructures built through price premium for social projects like clean drinking water, school buildings, etc.

References

- Chiputwa, B., Spielman, D. J., & Qaim, M. (2015). Food standards, certification, and poverty among coffee farmers in Uganda. *World Development*, 66, 400-412.
- Ranjan Jena, P., & Grote, U. (2017). Fairtrade certification and livelihood impacts on small-scale coffee producers in a tribal community of India. *Applied Economic Perspectives and Policy*, 39(1), 87-110.
- Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data*. MIT press.

Descriptive results

Var Name	Description of variable	Mean (SD)	
		2011	2018
Certification	Certification status, 1= if the household is certified, 0=otherwise	0.59 (0.49)	0.56(0.49)
Household size	Number of members in household	4.64(1.45)	4.41(1.67)
Gender of HH head	1 if HH head is male and 0 otherwise	0.86(0.34)	0.70(0.45)
Age	Age of HH head in years	41.03(11.44)	46.87(13.02)
Education	Education of HH head in years	2.61(4.29)	3.66(4.89)
Tropical Livestock Unit	Number of livestock converted to common unit using conversion factor	0.94(1.21)	1.27(1.28)
Training	1 if respondent has received any training, 0 otherwise	0.46(0.49)	0.71(0.45)
Landholding	Size of farm in hectares	4.85(2.82)	5.29(2.93)
Land under coffee	Area of coffee in hectares	2.27(1.20)	2.25(1.26)
Total production	Production of coffee in kg	487.52(527.78)	364.45(1384.08)
Experience	Year of experience of HH head in coffee farming	14.45(9.39)	18.56(9.71)
Shock faced by HH	1 if HH experience shock and 0 otherwise	0.85(2.82)	0.92(0.27)
Monthly per capita income (PPP\$)	Monthly income of household divided by household members	122.44(115.12)	204.61(315.89)
Coffee Income (PPP\$)	Income generated from coffee	320.26(383.87)	408.62(476.60)

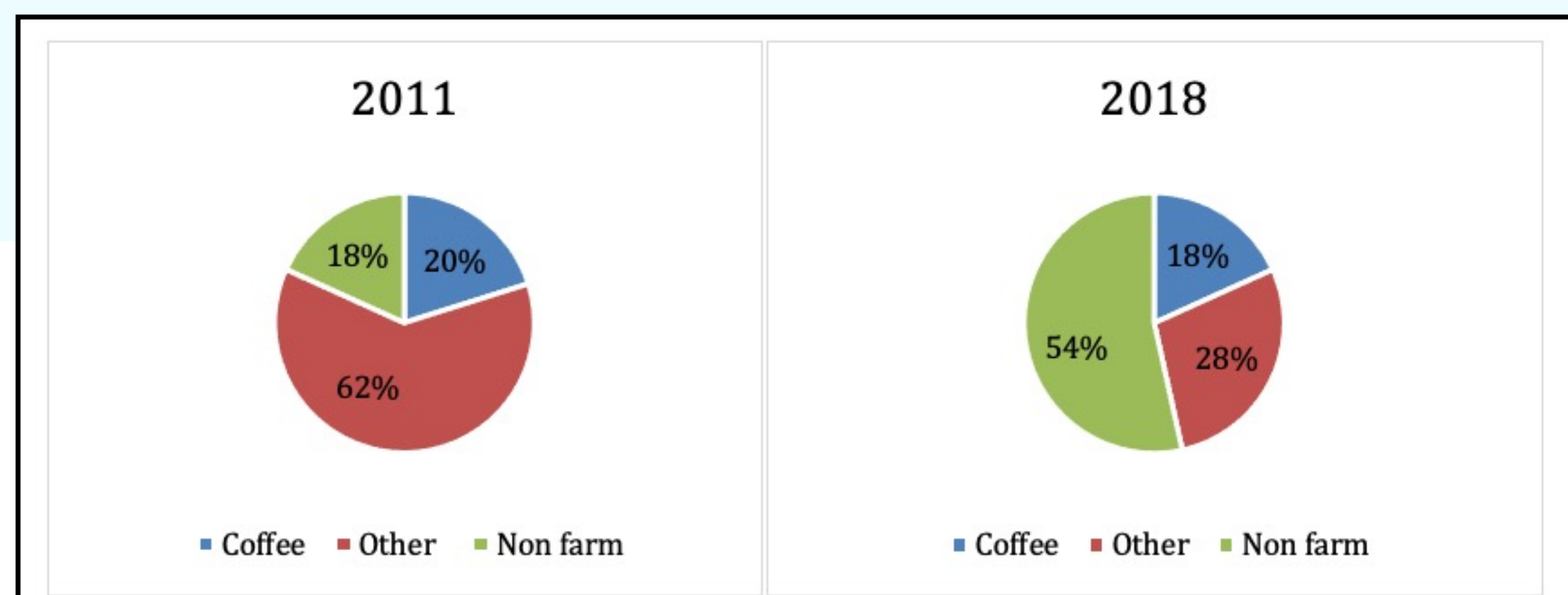


Fig: Income sources of farmers

Empirical results

- Following a Probit regression model, the positive coefficient of age, participation in training, tropical livestock unit, and cropping experience are significant at a 5% level of significance meaning households with these or more of these are likely to participate in Fairtrade.
- All the matching methods (nearest neighbor, kernel, radius) show significant results for dependent variables. The five nearest neighbors have created the highest treatment effect for coffee income and per capita household income.
- Certified households gained from being certified; statistically their mean household income was 8% higher than it would have been if they had not certified. Similarly non-certified households would have earned if they had been certified.

Conclusion

- Fairtrade certification has positive effect on income, on average 8% higher per capita income than non certified members
- Age of household head, coffee training, livestock asset base and cropping experience are major determinants of certification
- Direct benefits – higher farm gate price and easy access to market
- Indirect benefits – coffee training, equipment support, communal infrastructures
- Certification encourages farmer to specialize in coffee production
- Fairtrade should be promoted to improve livelihood of farmers

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