REPORT

Does environmental certification in coffee promote “business as usual”? A case study from the Western Ghats, India

Arshiya Bose , Bhaskar Vira, Claude Garcia

Received: 17 August 2015 / Revised: 15 April 2016 / Accepted: 24 May 2016 / Published online: 21 June 2016

Abstract Conservation initiatives are designed to address threats to forests and biodiversity, often through partnerships with natural-resource users who are incentivized to change their land-use and livelihood practices to avoid further biodiversity loss. In particular, direct incentives programmes that provide monetary benefits are commended for being effective in achieving conservation across short timescales. In biodiversity-rich areas, outside protected areas, such as coffee agroforestry systems, direct incentives, such as certification schemes, are used to motivate coffee producers to maintain native tree species, natural vegetation, restrict wildlife hunting, and conserve soil and water, in addition to encouraging welfare of workers. However, despite these claims, there is a lack of strong evidence of the on-ground impact of such schemes. To assess the conservation importance of certification, we describe a case study in the Western Ghats biodiversity hotspot of India, in which coffee growers are provided price incentives to adopt Rainforest Alliance certification standards. We analyse the conservation and social outcomes of this programme by studying peoples’ experiences of participating in certification. Despite high compliance and effective implementation, we find a strong case for the endorsement of ‘business as usual’ with no changes in farm management as a result of certification. We find that such ‘business as usual’ participation in certification creates grounds for diminishing credibility and local support for conservation efforts. Working towards locally relevant conservation interventions, rather than implementing global blueprints, may lead to more meaningful biodiversity conservation and increased community support for conservation initiatives in coffee landscapes.

Keywords Agroforestry · Asia · Certification · Incentives · Perceptions

INTRODUCTION

In the recent past, normative frameworks for social justice, environmental issues, and business ethics were vocalised by governments, labour unions, and even religious institutions. However, in the current scenario of globalising economies, ideas and cultures, in which social and environmental issues are transnational rather than national, and regulation of these norms are increasingly provided by a new set of actors, such as NGOs, businesses, and public–private partnerships (Giovannucci and Ponte 2005; Raynolds et al. 2007). In this ‘regulatory wake’ (Raynolds et al. 2007, p. 147), national and transnational actors promote new governance mechanisms or voluntary regulatory systems, such as certification, eco-labelling, and production standards. These voluntary systems act as market-based incentives, which identify and reward commodities that are produced under the acceptable social and environmental conditions (Muradian and Pelupessy 2005). As conscientious consumers embrace certification labels as guarantees of ethical and sustainable practices, certification schemes have expanded across the globe and most notably in Europe and North America (Linton 2005; Giovannucci et al. 2008). This is particularly valid for global agrifood systems, wherein governments were historically responsible for monitoring food safety and quality standards and providing an assurance to the public about the conditions of production. However, with a globalisation of the agrifood industry and the rise in private retailers setting their own standards, there has been a shift in governance from public to private actors, and, indeed, third-party certifiers (Hatanaka et al. 2005).

The coffee industry has been one of the most active spaces for voluntary regulatory standards through

certification oriented towards traceability, environmental sustainability, fair treatment of workers, quality, and price security (Marie-Vivien et al. 2014). Most of these regulatory regimes are third-party certifications, with potential to transform governance of global coffee chains (Muradian and Pelupessy 2005). A glance at a supermarket shelf reveals a diversity of packages branded with imagery of resplendent tropical birds, shade trees, faces of farmers, and geographic origins. A closer look reveals stamps of certification labels: Fair Trade, Organic, Bird-Friendly, Starbuck's C.A.F.E. Practices, UTZ-Certified, and Rainforest Alliance (Bacon 2010; Jha et al. 2011). This paper focuses on Rainforest Alliance (RA) certification, one of the most widespread environmental certifications in the coffee industry with 5.4 % of the world's coffee as RA certified (3.7 % of RA's certified coffee comes from India) (SAN 2015).

The research framework for this study emerged from academic and policy discourses on market-based incentives or direct payments for conserving biodiversity. Given this starting point, our hypothesis was that RA certification was designed specifically to achieve environmental change. The Alliance's stated mission is to "conserve biodiversity and ensure sustainable livelihoods by transforming land-use practices, business practices, and consumer behaviour" (RA 2016). RA states, "We believe that the best way to keep forests standing is by ensuring that it is profitable for businesses and communities to do so. [...] Once businesses meet certain environmental and social standards, we link them up to the global marketplace where demand for sustainable goods and services is on the rise" (RA 2016). Our assumption, therefore, was that RA certification had been a key driver of land-use and farming practices amongst coffee growers who participated in RA certification. We also hypothesized that coffee growers face significant economic costs associated with the actions needed to meet certification standards, making certification price premiums a significant driver of participation, and influencer of farming and land-use practices in the region. In 2010, Blackman and Rivera published an important study on the evidence base for social and environmental impacts of sustainable certifications. They concluded that a lack of empirical evidence and adequate counterfactuals made it difficult to draw any conclusions about whether certifications had long-lasting impacts. In this study, we draw from their conclusions and identify further empirical gaps, such as a critical lack of information on the perceptions of participating landowners (in this case coffee growers) towards the certification schemes (Siedenburg et al. 2012). We aim to better understand the implications of sustainable coffee certifications by delving into the lived experiences of producers. This study asks two questions: (a) how do coffee growers

experience changes associated with RA certification?; (b) what are the impacts of peoples' experiences on their views and overall willingness to participate in conservation projects?

We explore these questions by carrying out detailed case study research of Rainforest Alliance certification in Kodagu District, India.

STUDY SITE AND METHODS

This study was carried out over a period of 15 months from 2011 to 2014 in Kodagu district in the state of Karnataka. The district falls within the Western Ghats, one of 34 global 'biodiversity hotspots' (Mittermeier et al. 1998; Myers et al. 2000).

Coffee is one of the key drivers of the regional economy and the cultural identity of Kodagu (Sathish et al. 2006; Ghazoul et al. 2009). Kodagu is the largest coffee producing districts in India, producing about 37 % of the total volume of green coffee in India (CBI 2016). As of today, coffee plantations in the district cover a total of 104 000 ha (75 500 ha of Robusta [*Coffea canephora*] and 28 500 ha of Arabica [*Coffea Arabica*]), with a production of 120 916 metric tonnes (CBI 2016). Coffee production provides direct employment for about 500 000 people in India and 250 000 in Kodagu alone (Lee and Lee 2007). In fact, India is a comparatively lesser-known, but fairly significant producer, ranking 6th in the world for green coffee production (ICO 2016).

The landscape of Kodagu is a complex mosaic of multiple elements, many of which are tree-based. Trees, in one form or the other, cover over 78 % of the district. Outside of protected areas, the district harbors about a thousand sacred groves under more or less formal community management. Private owners control shaded-coffee plantations and a few scattered remnants of private forest or cardamom plantations not yet converted into coffee. Shade-grown coffee plantations comprise 33 % of the tree cover of the district (Bhagwat et al. 2008). Unlike other coffee production areas in the world, farmers maintain multi-storied coffee agroforestry system for a variety of reasons, including but not restricted to tenure rights, timber and pepper production, and the protection of the coffee flower buds during the dry season (Garcia et al. 2010). As many of these trees are the remnants from the former forest covering the district, shaded-coffee plantations in Kodagu have a very high biodiversity, and are shown to play a role in conservation outside protected areas (Depommier 2003; Bhagwat et al. 2005; Garcia et al. 2009; Ghazoul et al. 2009). Tree densities on an estate range from 285 to 1471 trees per hectare, a figure that is comparable to that of surrounding forests (Desjeux 1999).

However, this landscape is undergoing transformations linked to the intensification of coffee production, many of these leading to a biodiversity loss. Garcia et al. (2009) suggest that 30 % of forest cover was lost between 1977 and 1997, while the area under coffee doubled, particularly between 1982 and 1986. The environmental impact of intensification of coffee cultivation in Kodagu is well documented. Research projects have studied the impact of intensification on tree biodiversity, bird and insect diversity, and pollination services (Muschler 2001; Vaast et al. 2006; Garcia et al. 2010, Bal et al. 2011; Rao 2011). Therefore, the three major drivers of this change are: (a) the loss of forest cover and expansion of commercial croplands; (b) the reduction of shade canopy on coffee plantations; and (c) the increase of the proportion of exotic tree species in the canopy.

Semi-structured and open-ended interviews constitute the main research method for this study. Interviews were conducted through clustered sampling based on groups of certified and non-certified farmers. A total of 222 coffee growers were covered, including 142 certified and 80 non-certified producers. The average size of landholding was 5.32 ha ($n = 222$). Each farmer incurred mean production costs of USD\$ 1180.4 per ha ($n = 222$) and yielded an average output crop of 2968.75 kg of coffee cherry per acre or approximately 1662 kgs of green coffee per hectare ($n = 222$). (see Tables 1, 2 for descriptive statistics about coffee producers interviewed in this study).

Narratives of change were the primary qualitative method used to explore the perception of shade-grown certification by coffee growers. This was adapted from the ‘most significant change’ (MSC) technique that was developed for use by the international development organisations to monitor the impact of their projects (Davies and Dart 2005). In developing these narratives of change, coffee growers were asked to reflect on the most significant changes they had experienced as a result of participating in RA certification. Data from open-ended interviews were recoded to glean key elements of the interviewee’s response to questions on changes

experienced as a result of RA certification. This process yielded three narratives on peoples’ experiences for participating in RA certification. In addition, semi-structured questionnaires were used to collect data on farmers’ perceptions of changes in yield and production costs and contribution of price premiums to annual. In addition, direct evidence was collected on the average density of shade trees per acre, including exotic silver oak to draw comparisons between certified and non-certified farms.

RESULTS

To qualify for certification, producers have to ensure that their management practices comply with the RA’s standards. Farms are verified by an external auditing agency recruited directly by RA. In this case, IMO-Control (IMO) based in Bangalore, India, carries out annual audits to evaluate compliance with certification standards. Once a farm is audited, its coffee is labelled as RA certified and sold to buyers of certified coffee. These certified buyers, mostly exporters purchase certified coffee at a premium of between USD\$1 for unwashed Robusta and Arabica and USD\$2 for washed Robusta and Arabica. Interviews with the audit agency and review of official documents showed that coffee plantations in Kodagu demonstrated a high degree of compliance with certification standards. It was difficult to directly verify this, given the sensitivity associated with carrying out random inspections of farms and the confidentiality of evaluation reports. Auditors were also reluctant to share actual statistics on percentage of farms that qualify or disqualify annually. However, an auditor commented saying, “I have done dozens of audits and not had to disqualify any farm. Everyone is compliant”. All certified producers also attested to being audited before being awarded RA-certification status. Given challenges of direct evidence collection and the focus of our study on peoples’ lived experiences, the core research approach was to create ‘Narratives of Change’.

Narratives of change

RA-certified coffee growers were requested to reflect on the certification process. Interviewees were asked to create narratives on change that reflected their lived experience of certification. For example, (a) have you modified farm management or any practices to qualify for RA certification?;(b) what (if any) have been these modifications as a result of RA certification?; and (c) what are (if any) the challenges associated with qualifying for certification? This generated three key stories of change as described by certified coffee farmers, presented below:

Table 1 Descriptive statistics of certified and non-certified producers

Characteristic	RA-certified producer	Non-certified producer
Farm size (ha)	4.68	5.92
Green coffee yield (kg/ha)	1771	1631.56
Production costs (USD\$/ha)	434	396.61
Native trees per hectare	170.07	273.5
Percentage of Silver Oak to total number of trees per hectare	29.39 %	22.85 %

Table 2 Ten principles that govern rainforest alliance's sustainable agriculture certification

1. Establishing and maintaining a social and environmental farm management system
2. Ecosystem conservation through protection of waterways and wetlands
3. Wildlife protection through monitoring presence
4. Water conservation through monitoring of usage and non-contamination
5. Fair treatment and good working conditions through prohibition of child labour and adherence of norms proposed by international bodies, such as the United Nations and International Labour Organisation
6. Occupational health and safety to reduce the risk of accidents
7. Building community relations through consultation with surrounding farms about certification processes
8. Integrated crop management through restriction of chemicals that pose danger to people and the environment
9. Soil management and conservation through prevention of erosion and reduction of chemicals use, wherever possible
10. Integrated waste management through recycling, reducing consumption, and safe disposal

Source SAN (2010)

Business as usual scenario (69.01 %)

Most coffee growers in Kodagu experience RA certification as 'business as usual'. Farmers describe certification as a case, where (a) almost negligible modifications are required to farm management to qualify for RA certification, or (b) in cases, where farm management modifications were required these were minor and easy to follow.

For example, 69.01 % ($n = 142$) of certified producers claimed that negligible modifications were required to farm management practice to qualify for RA certification. Farmers said "Certification was a business as usual scenario" (Certified Farmer (CF)-44), such that:

"It is very simple to follow certification rules. I did not need to make any big changes to my estate's management" (CF-23).

"My estate has always been eco-friendly. I did not have to do anything new to get it certified" (CF-10).

Farmers did not modify existing farming practices nor implement any additional social or environmental standards to meet RA's criterion. This view was consistent across the range of RA standards concerning ecosystem conservation, protection of water sources, wildlife conservation, occupational health and safety for workers, community relations, and integrated crop and waste management. For example, an important critical criterion in RA standards prohibits the use of agrochemicals mentioned in the List of Banned and Severely Restricted Pesticides in the US by its Environmental Protection Agency or pesticides banned or severely restricted in the European Union. In response to adequately meeting this criterion, a certified grower commented, "I stopped using prohibited chemicals like Endosulfan over 5 years ago. I did not alter what chemicals or pesticides I was using or not using because of RA certification" (CF-130). While we did not directly test soil and water composition to verify claims made by farmers, we are

able to compare these responses with those of non-certified growers. 135 of 142 certified coffee growers claimed that they were not using prohibited chemicals even before they joined RA certification. In comparison, 76 of 80 non-certified producers interviewed claimed that they did not use these chemicals. Seven-certified coffee producers and four non-certified producers asserted that many legally permitted chemicals are prohibited chemicals sold under different manufacturing brands and, therefore, refused to answer the question.

Concerning RA's critical criterion on wildlife protection, many certified and non-certified growers claimed that the traditional hunting was somewhat common, despite it being deemed illegal under the Wildlife Protection Act of India (1972) (WLPA). However, all 142 of interviewed certified growers asserted that RA certification had not added any additional wildlife protection measures to strengthen the implementation of the WLPA or monitor wildlife present on coffee farms. RA standards require farms to maintain a farm diary and record wildlife sightings. While 42.25 % (60 of $n = 142$) of certified growers had a folder for wildlife records as part of the overall Farm Diary for RA, very few producers actually recorded sightings (7 individuals, 4.92 %, $n = 142$). These seven growers also demonstrated that they had been recording bird and wildlife sightings in journals even before they had decided to participate in RA certification. For example, a farmer said, "I keep a field diary where I record uncommon birds and wildlife. I enjoy watching wildlife. I was doing this from many years before I joined RA certification" (CF-120). In fact, 8.75 % or 7 of 80 non-certified growers also maintained similar wildlife journals.

When certified growers were asked whether they had found it challenging to meet RA's standards, 84.50 % ($n = 142$) claimed that they had found qualifying easy and straightforward. Describing the RA audit and qualification process, a producer stated the following:

“I was first asked to join certification by Ecom.¹ One of their staff came to my farm and explained RA certification. They said that I would not need to do much, but I could get a premium for my coffee. They would cover any certification fee; therefore, I agreed just to see what it was all about. After some weeks, someone from Ecom came back and did a pre-audit. He told me that I needed to put up signboards showing my coffee storage godown and room where I keep any chemicals and fertilisers. A few months later, the auditors did a surprise inspection. Someone from Ecom called me the evening before and said that he would bring the auditors the next morning. The auditors came and spent about 2 h on my farm. They walked around and inspected my storage areas to see what types of chemicals were being used. They also spoke to my workers in my absence and asked them about wages, health benefits, and whether they had to spray Endosulfan. They also asked me about a soil and water test, but I had already done these through the Coffee Board Research Station. I showed this report to them which was a basic report telling me the pH and Nitrogen, Phosphorous and Potassium composition of my soil. Then, they looked at my wages diary and asked me if I was employing children. I served them some of our farm’s coffee, and a few months later, Ecom called me and said my farm had been RA certified. I have been certified for 3 years, and the audit is always the same” (CF-54).

Data from surveys show that in 61.26 % of audits ($n = 142$), soil and water samples were not directly tested and the qualification instead relied on most recent analysis often conducted by the Coffee Board of India at the request of the producer.

When producers were asked to reflect on whether it was ‘difficult’ to qualify for certification, 84.50 % ($n = 142$) said it was easy to qualify for certification, such as: “Certification is no big deal to qualify for” (CF-23). In addition, 125 of 142 farmers (88.02 %) interviewed explained that they had experienced marginal or no increase in production costs as a result of investments required by certification. The 17 farmers who had experienced increased investments attributed it to the purchase of protective gear for their workforce, which is required under the Occupation Health & Safety standards of certification. The average production costs were USD\$434 for certified Robusta farms and USD\$396.61 for non-certified Robusta farms. For Arabica, production costs were USD\$504.76 per acre for certified farmers and USD\$ 644.37 per acre for non-certified farms.

Majority of certified producers, (98.59 %, $n = 142$) growers also stated that they had experienced no changes to coffee yields after certification. The average yield was

3162.5 kg of unwashed coffee cherry per hectare (or approximately 1771 kg of green coffee) for certified growers ($n = 142$) and 2913.5 kg per hectare (1631.56 kg of green coffee) for non-certified growers ($n = 80$).

With regards to ecosystem management and RA’s standards on shade cover on coffee farms, we found that both certified and non-certified farms had comparable density of shade trees, including exotic silver oak (*Grevillea robusta*). For example, direct evidence revealed that certified farms had on average 170.07 native tree species (locally referred to as junglewood) per hectare, while non-certified farms had 273.5 native trees per hectare ($p = 0.0424$, Mann–Whitney Test). 29.39 % of total shade trees on certified farms ($SD \pm 57.2$, mean = 51.95 %) were silver oak. This figure was 22.85 % ($SD \pm 51.3$, mean = 71.48 %) for non-certified farms ($p = 0.0995$, Mann–Whitney Test). Furthermore, 94.36 % ($n = 142$) of certified growers said that neither certified buyers nor auditors had actively encouraged shade-grown coffee during initial and follow-up meetings or inspections. Producers were told that RA is an environmental certification, but no further details on the different RA principles were shared.

When certified growers were asked to reflect on RA standards and shade cover, one grower commented as follows:

“Planters are removing shade trees and planting exotics like silver oak, but RA certification is not preventing this, because shade cover is an optional criterion and not mandatory. When the auditors came I had to specially request them to mark that I was following RA’s standards on shade cover (i.e. maintaining 40 % shade and 12 tree species per hectare), but the auditor did not know how to measure shade cover or identify tree species to verify that it was, indeed, at least 12 species. I am a nature lover, but what about the hundreds of farmers who are deforesting?” (CF-79).

A representative from Ecom, a key buyer of RA-certified coffee is quoted as: “Right now maintaining 40 % shade cover and 12 species per hectare is not a big issue. If RA guidelines required farmers to maintain 60 % or plant more junglewood species; then, it would definitely impact our certification. If that is the case, nobody will come and join. Openly speaking planters are joining, because not much is needed” (Ecom-2).

Furthermore, only four of 142 growers (2.81 %) claimed that certification had impacted their attitude towards conservation. These growers are quoted saying,

“I was always aware about the environment, but you could say I am more aware now. Only, my attitude has changed. My practice is the same as before” (CF-26).

¹ Ecom Trading Pvt. Ltd. is a buyer and exporter of coffee, including RA and UTZ-Certified coffees from India.

However, majority of respondents (97.18 %, $n = 142$) stated that certification had not resulted in any changes in their attitudes towards ecologically acceptable farming practices. Many of these growers also admitted that following certification had made them “disappointed with certification” (CF-13), as demonstrated by the following comment: “We always maintained this standard of production. It is not because of certification that I am farming this way and even if we did not maintain these standards, I do not think that we could have changed our practice so rapidly just for certification” (CF-16).

Overall, the lived experience of RA certification is described by most participating coffee growers as a ‘business as usual’ scenario.

Book-keeping as biggest change (17.60 %)

While the majority of certified farmers claimed that certification had resulted in no significant changes in farming practices, a few farmers had experienced modifications to the way they manage their plantations. These experiences of change, although minor in the number of respondents who ascribed to the narratives, are nevertheless relevant to gain a holistic understanding of how certification is perceived by coffee farmers on the ground.

The majority of coffee growers who experienced changes to their estate as a result of undertaking RA certification did so in the area of document management (17.60 %, $n = 142$). Coffee farmers talked about increased ‘book-keeping’ to refer to the additional time and manpower invested in documentation required in certification. A significant portion of increased documentation concerned financial management and account-keeping concerning expenditures, which many growers claimed not to maintain in as much detail prior to certification. In addition to maintaining accounts, certified farmers are also required to maintain ‘Farm Diaries’. These diaries require farmers to maintain records of the type, quantity, and frequency of fertilisers and pesticides used. The Farm Diary also consists of a record of meetings organised with plantation workforce, concerning occupation health and safety and training workshops on waste management. The experience of “extra paperwork” (CF-1) has led to the perception that the most critical change generated through RA certification has been increased book-keeping, as is verified by this statement by a certified farmer,

“Book-keeping is more disciplined after certification. This is the biggest change” (CF-17).

Modifications in occupational health & safety (13.38 %)

Of a total of 142 certified growers, 13.38 % perceived certification standards, as having resulted in modifications

in Occupational Health & Safety of farm workers. These producers explain that the health and safety criterion requirements were experienced as the most significant change resulting from certification, such as:

“The social obligations have become little more after certification. Environmental conditions are not at all an issue” (CF-27).

In Kodagu, complying with RA’s certification standards on Occupational Health & Safety has centred on the following activities: (a) providing plantation work force with protective gear, e.g., rubber gloves, masks and coats to be used during application of chemical sprays; (b) construction of shower facilities for workers; (c) construction of additional toilets for workers; (d) construction of additional waste disposal units on farm; and (e) designating and clearly sign boarding storage areas for coffee and chemical inputs. Farms who had to invest to purchase protective equipment directly as a result of RA, spent USD\$192.30 as a one-time cost.

“Biggest change was to provide workers with protective equipment. I used to give gloves from before, but after certification I had to give masks and coat also” (CF-35).

Finally, over 95.77 % ($n = 142$) of certified coffee growers interviewed said they were ambivalent about continuing their participation in certification. In fact, 61.97 % ($n=142$) of these certified growers claimed that they were considering opting out of certification within the next year. They cited their mistrust of certification as being the primary rationale.

DISCUSSION

This study explores the change experienced by coffee producers as a result of their joining and qualifying for RA certification. We demonstrate through a ‘narratives of change’ approach, corroborated with direct evidence concerning production costs, coffee yields, and presence of shade trees, that the majority of producers who participate in RA certification experience it as maintaining ‘business as usual’. Those coffee producers who claim to have changed their farm management practices describe these changes in the area of increased book-keeping and documentation and modifications in occupational health and safety. While certified producers would describe book-keeping and occupational health and safety measures as minor modifications, it could be argued that, in fact, RA’s most important impact has been to ensure the safety of workers through the requirement of use of protective equipment. Although occupational health and safety may

not reflect in RA's mission statement and the number of producers who claim they have had to modify farm management in this area, even 19 cases of increased safety for plantation workers should not be easily discounted.

However, the 'business as usual' scenario raises concerns and questions about the design and implementation of RA certification. Evidence from this study suggests that the implementation and audits, in particular, can be tightened, such that the full potential of existing RA standards is achieved. For example, if soil and water samples from all certified farms are not directly tested by the auditors; then, the credibility regarding the use of prohibited chemicals is difficult to verify. Furthermore, there are no clear stipulations on what methodology or lab tests would suffice and how recently these tests need to have been conducted. Similarly, if auditors were unable to measure shade canopy; then, it would be reasonable to assume that they would not actively encourage the 40 % shade and 12 species per hectare requirements.

Hidden impacts of certification

At the outset, while RA certification may not be achieving significant environmental outcomes, the business as usual scenario does not appear to be disruptive. Coffee growers are certainly receiving price premiums for being RA certified, their farm management and documentation systems are more streamlined and the occupational health and safety of a few farms have been improved all as a result of participating in certification. However, a closer look at peoples' perceptions towards certification revealed a growing disenchantment with such schemes that ultimately impacted perceptions towards many other conservation projects in the region. The failure to alter status quo has left imprints on farmers' perceptions about which activities and ideologies constitute a conservation project. For example, reflecting on the experience of participating in RA certification certified coffee growers said the following:

"After doing certification, I do not understand what it means to grow sustainable coffee" (CF-20).

"We have not done anything. I think certification is not at all concerned with shade trees or environment" (CF-13).

"Why are you so interested to discuss conservation? They (referring to RA) itself are not interested" (CF-28).

These comments indicate confusion, disillusionment with certification that seems to stem from this experience of business as usual. Farmers have been recruited, audited, approved, and rewarded for maintaining status quo on their farm. Producers are recruited, pre-audited, audited, and

awarded a certificate for few modifications, especially concerning environmental impacts of their farming and land-use practices. This experience has even caused suspicion regarding RA's motives and this is evident in the following comments:

"It is important to know what the goal of this project is. There is distrust in the village because of lack of knowledge. More trust would make it a partnership. Right now, it is one-way traffic" (CF-18).

"Certification is started; therefore, traders can get more benefit than us. They get more business and profit. Certification has nothing to do with farmers or environment" (CF-7).

"Is it because RA wants my coffee? Are they keen about certification only to get high-quality coffee from India? We do not know what their terms are or their main motive to go in for certification" (CF-30).

The lack of communication between RA, auditors, Ecom, or other buyers of certified coffee, and coffee producers has played a significant role in allowing speculation and mistrust of RA's motives and the purpose of certification. None of the 142 certified growers or 80 non-certified growers had ever interacted with an RA official. Their first impression of RA certification is through communication with certified buyers and auditors, neither of who appear to actively communicate the conservation motives of RA standards. Producers are told RA is an environmental certification and a signboard with RA's logo (a tree frog) is put up. However, we argue that a lack of communication between RA representatives and producers is not the sole cause of this growing discontent. Producers' disillusionment is further strengthened when they are awarded a certificate without modifying many farm management practices, evident in the following comment:

"I was Rainforest Alliance certified for 4 years, but I did not have to do a single thing. I do not think I am very eco-friendly, but still I am given a certificate and premium. Certifiers try to pull wool over my eyes, but I know that certification is not for real conservation" (CF-35).

RA certification is perceived as a market tool intended to serve the business interests of coffee traders and exporters worldwide. The majority view is that the lack of tangible changes to farm management is indicative of an underlying vested interest that has not been openly communicated to farmers.

In some cases, we found that peoples' perceptions towards certification impacted their perceptions towards conservation projects in general, even leading to an outright rejection of conservation ideals. For example, a farmer is quoted as saying:

“If all environment projects are like certification, I am not interested in keeping my shade trees” (CF-57).

Subsequent conservation projects have been received with scepticism on account of peoples’ participation in RA certification. For example, a local NGO attempting an awareness campaign on the ecological importance of native shade trees was met with considerable apprehension. An employee from this organisation said, “Planters tell me that they already participated in a conservation scheme, but it did not achieve anything. They keep asking me if I like RA that have some ulterior motive and they are reluctant to participate”.

In fact, many certified growers repeatedly make reference to an underlying agenda or vested interest in RA certification. For example, certified growers commented, “I am RA certified and I did not have to stop or start doing anything differently. I know that RA is certification is about biodiversity conservation, because I see the frog label, but how is it that I can remove my shade trees and still be certified? There must be some business agenda to certification that is not clear” (CF-31).

In this paper, we argue that the growing discontent and perception of a hidden vested interest in RA certification stems from the experience of business as usual. These perceptions of RA certification, subsequently, influence peoples’ perceptions towards conservation projects and campaigns in general even if these are not associated with RA.

Limited impacts of RA certification

The core focus of this paper is on producers’ perceptions of RA certification. Empirical evidence presented in this paper cannot fully analyse why RA certification standards present a business as usual scenario in Kodagu. However, empirical evidence presented in this paper raises two important questions: (a) Are RA standards themselves too low of a bar that allows nearly any coffee grower into the certification programmes?; and (b) Is anyone allowed into certification regardless of whether they meet the full criteria at the outset?

Based on the narratives of change and experiences of certified coffee producers, primarily the business as usual scenario, evidence suggests that reality is a combination of both these questions. It could be argued that RA environmental and social standards are too low to drive significant modifications especially with respect to specific conservation outcomes, such as maintaining native shade tree species or monitoring biodiversity. This study shows that the density of native shade trees and exotic tree species was not statistically significant between RA-certified and non-

certified farms. This finding is corroborated by existing ecological research in the landscape which shows that the coffee agroforestry system in Kodagu is already fairly biodiverse with tree densities comparable to natural forests (350 trees per hectare) and species diversity (280 species have been documented across coffee farms with an average of 55 species per hectare) (Garcia et al. 2010; Rani et al. 2011; Marie-Vivien et al. 2014).

With regard to whether all producers qualify for certification at the outset, the data are more ambiguous given that audit reports are not shared and auditors claim that all farms qualify. However, this study also reveals that with respect to some criteria, most notably the standards on chemical use, external evaluations are used to verify the use of prohibited chemicals rather than direct verification. Such external evaluations raise some questions about the chain of custody and auditing process.

Overall, it could be argued that if RA’s environmental standards were more specific and stringent, the business as usual scenario would play out quite differently. Only farms that met the criteria in their entirety would qualify for certification. Other farms would have to make tangible modifications to farm management to be certified. A set of standards that resulted in tangible steps towards the improvement of ecosystem management could also address peoples’ scepticism and mistrust of certification, at least from the point of view of RA’s environmental objective. In its current avatar, RA certification is increasingly counterproductive and undermining local support for conservation projects as whole.

An interesting analytical comparison is scholarship on peoples’ perceptions towards conservation projects (often in and around PAs) that restrict peoples’ access and use. In such cases, negative perceptions stems from the strict restrictions on livelihood and land-use practices, or in other words, imposing too much (Wells and McShane 2004). In the case of RA certification in Kodagu, peoples’ lack of support for conservation efforts is rooted in mistrust emerging from a lack of visible restrictions on their farming practices.

CONCLUSION

Sustainability certifications have expanded across the globe and now cover a wide range of commodities, production systems, and environmental and social concerns. Despite their proliferation, evidence on their impacts is limited (Blackman and Rivera 2010) and recent scholarship has focussed on the technicalities of how to measure impact and evaluate effectiveness. Tscharntke et al. (2015) advocate numerous recommendations to generate a more robust

evidence base for impacts of certification, such as credible counterfactuals and the use of standardised indicators of sustainability. However, attention must also be directed towards fundamental assumptions about the willingness and perceptions of landowners to participate in such schemes. In this paper, we highlight the perceptions of coffee growers participating in RA certification and argue that the overall experience has been one of business as usual thereby leading to a growing discontent with conservation measures. We argue for a refined subset of standards that consider environmental threats and social concerns that are important at the landscape level, but may be overlooked by the overall global certification. A global certification implemented in conjunction with a local conservation project or measures might be better suited to address both environmental outcomes as well as more adapted to alleviate peoples' mistrust towards such initiatives. One way to address this could be Landscape Labelling, as conceptualised by Ghazoul et al. (2009) and advocated, more recently, by Tscharntke et al. (2015) might offer a strategy that combines global certifications with locally meaningful PES schemes.

Finally, this study also highlights the importance of implementing certification measures that are ultimately farmer-friendly and flexible in their implementation in design. For certification measures to attract and sustain large numbers of producers, its implementation has to consider local effects, and then, quickly modify its design, so as to resolve any emerging issues. A credible way of achieving both flexibility and higher outcomes would be to develop country or region specific RA standards, where coffee growers meet RA's global baselines standards, but also receive additional price premiums or in-kind benefits (e.g. agronomic or quality enhancement support) for following these country-specific standards.

Acknowledgments The authors acknowledge the support of Dr C.G. Kushalappa and faculty of Forestry College, Ponnampet (University of Agricultural Sciences), India. This study would not have been possible without the collaboration of the many farmers and the financial support of the William Vaughan Lewis, Philip Lake, SMUTS and Lundgren Research Awards from the University of Cambridge and The Rufford Small Grants for Nature Conservation.

REFERENCES

- Bacon, C.M. 2010. Who decides what is fair in fair trade? The agri-environmental governance of standards, access, and price. *The Journal of Peasant Studies* 37: 111–147.
- Bal, P., C.D. Nath, K.M. Nanaya, C.G. Kushalappa, and C. Garcia. 2011. Elephants also like coffee: Trends and drivers of human-elephant conflicts in coffee agroforestry landscapes of Kodagu, Western Ghats, India. *Environmental Management* 47: 789.
- Bhagwat, S., C.G. Kushalappa, P.H. Williams, and N. Brown. 2005. The role of informal protected areas in maintaining biodiversity in the Western Ghats of India. *Conservation Biology* 19: 1853–1862.
- Bhagwat, S., K.J. Willis, J.B. Birks, and R.J. Whitaker. 2008. Agroforestry: A refuge for tropical biodiversity. *Trends in Ecology & Evolution* 23: 261–267.
- Blackman, A., and M. Naranjo. 2010. Does ecocertification have environmental benefits: Organic coffee in Costa Rica. Resources for the Future Discussion Paper 10–25.
- Blackman, A., and J. Rivera. 2010. The evidence base for environmental and socioeconomic impacts of 'sustainable' certification. Discussion Paper, Resources for the Future, RFF DP 10–17 (March 2010).
- CBI. 2016. Data trends on coffee production in India. Coffee Board of India. Accessed April 12, 2016, from <http://www.rainforest-alliance.org/about>.
- Davies, R., and J. Dart. 2005. The 'most significant change' (MSC) technique. A guide to its use. Accessed April 12, 2016, from <http://www.mande.co.uk/docs/MSCGuide.pdf>.
- Depommier, D. 2003. The tree behind the forest: Ecological and economic importance of traditional agroforestry systems and multiple uses of trees in India. *International Society for Tropical Ecology* 44: 63–71.
- Desjeux, Y. 1999. *Contribution des arbres d'ombrages des caféiers à l'approvisionnement en bois de feu des petits planteurs du Coorg, (Karnataka, Inde du Sud)*. ENITA: Mémoire de fin d'études.
- Garcia, C., S. Bhagwat, J. Ghazoul, C.D. Nath, K.M. Nanaya, C.G. Kushalappa, Y. Raghuramulu, R. Nasi, and P. Vaast. 2009. Biodiversity conservation in agricultural landscapes: Challenges and opportunities of coffee agroforests in the Western Ghats, India. *Conservation Biology* 24: 479–488.
- Garcia, C.A., S.A. Bhagwat, J. Ghazoul, C.D. Nath, M.N. Konerira, K.G. Cheppudira, Y. Raghuramulu, R. Nasi, and P. Vaast. 2010. Biodiversity conservation in agricultural landscapes: Challenges and opportunities of coffee agroforests in the Western Ghats, India. *Conservation Biology* 24: 479–488.
- Ghazoul, J., C. Garcia, and C.G. Kushalappa. 2009. Landscape labelling: A concept for next-generation payment for ecosystem service schemes. *Forest Ecology and Management* 258: 1889–1895.
- Giovannucci, D., and S. Ponte. 2005. Standards as a new form of social contract? Sustainability initiatives in the coffee industry. *Food Policy* 30: 284–301.
- Giovannucci, D., A. Byers, and L. Pascal. 2008. Adding value: Certified coffee trade in North America. Munich Personal RePEc Archive, MPRA Paper No. 17174.
- Hatanaka, M., C. Bain, and L. Busch. 2005. Third-party certification in the global agrifood system. *Food Policy* 30: 354–369.
- ICO. 2016. Total production by exporting countries, international coffee organisation. Accessed April 12, 2016, from <http://www.ico.org/prices/po-production.pdf>.
- Jha, S., C.M. Bacon, S.M. Philpott, R.A. Rice, V.E. Mendez, and P. Lederach. 2011. A review of ecosystem services, farmer livelihoods, and value chains in shade coffee agroecosystems. In *Integrating agriculture, conservation and ecotourism: Examples from the field*, 141–208. New York: Springer.
- Lee, H.L., and C.Y. Lee. (eds.). (2007). *Building supply chain excellence in emerging economies*, vol. 98. New York: Springer Science & Business Media.
- Linton, A. 2005. Partnering for sustainability: Business-NGO alliances in the coffee industry. *Development in Practice* 15: 600–614.
- Marie-Vivien, D., C.A. Garcia, C.G. Kushalappa, and P. Vaast. 2014. Trademarks, geographical indications and environmental

- labelling to promote biodiversity: The case of agroforestry coffee in India. *Development Policy Review* 32: 379–398.
- Mittermeier, R.A., N. Myers, J.B. Thomsen, G.A. Da Fonseca, and S. Olivieri. 1998. Biodiversity hotspots and major tropical wilderness areas: Approaches to setting conservation priorities. *Conservation Biology* 12: 516–520.
- Muradian, R., and W. Pelupessy. 2005. Governing the coffee chain: The role of voluntary regulatory systems. *World Development* 33: 2029–2044.
- Muschler, R.G. 2001. Shade improves coffee quality in a sub-optimal coffee-zone of Costa Rica. *Agroforestry Systems* 85: 131–139.
- Myers, N., R.A. Mittermeier, C.G. Mittermeier, G.A. Da Fonseca, and J. Kent. 2000. Biodiversity hotspots for conservation priorities. *Nature* 403: 853–858.
- RA. 2016. *Rainforest alliance: Our mission*. Accessed April 12, 2016, from <http://www.rainforest-alliance.org/about>.
- Rani, P., B. Sathish, G.S. Mohana, S. Chittiappa, and C.G. Kushalappa. 2011. *Field guide—trees of coffee agroforestry systems in Kodagu*. Ponnampet: CAFNET Project, Forestry College.
- Rao, V. 2011. *Impact of grevillea robusta composition on bird diversity in coffee plantations in Cauvery Watershed Area of Coorg district*. Coorg: French Institute of Pondicherry.
- Raynolds, L. T., D. Murray, and A. Heller. 2007. Regulating sustainability in the coffee sector: A comparative analysis of third-party environmental and social certification initiatives. *Agriculture and Human Values* 24: 147–163.
- SAN. 2010. *Sustainable agriculture standard*. San Jose, Costa Rica: Sustainable Agriculture Network.
- SAN. 2015. *SAN/Rainforest Alliance impacts report: Evaluating the effects of the SAN/Rainforest Alliance certification systems of farms, people and the environment*. Accessed April 12, 2016, from http://www.san.ag/biblioteca/docs/SAN_RA_Impacts_Report.pdf.
- Sathish, B., C. Kushalappa, and S. Wall. 2006. An insight into the socio-economic view of coffee based agroforestry systems of Kodagu: A small scale forestry Small-scale forestry and rural development: the intersection of ecosystems, economics and society. In Proceedings of IUFRO 3.08 Conference, hosted by Galway-Mayo Institute of Technology, Galway, Ireland, 18–23 June 2006., National Council for Forest Research and Development (COFORD).
- Siedenburg, J., A. Martin, and S. McGuire. 2012. The power of “farmer friendly” financial incentives to deliver climate smart agriculture: A critical data gap. *Journal of Integrative Environmental Sciences* 9: 201–217.
- Tscharntke, T., J.C. Milder, G. Schroth, Y. Clough, F. DeClerck, A. Waldron, R. Rice, and J. Ghazoul. 2015. Conserving biodiversity through certification of tropical agroforestry crops at local and landscape scales. *Conservation Letters* 8: 14–23.
- Vaast, P., R. Van Kanten, P. Siles, B. Dzib, N. Franck, and J. M. Harmand. 2006. Shade: A key factor for coffee sustainability and quality, 887–896. Association for Science and Information on Coffee.
- Wells, M.P., and T.O. McShane. 2004. Integrating protected area management with local needs and aspirations. *Ambio* 33: 513–519.

AUTHOR BIOGRAPHIES

Arshiya Bose (✉) completed her Ph.D. from the University of Cambridge, UK. Her interests include political ecology of market-based conservation.

Address: Department of Geography, University of Cambridge, Downing Place, Cambridge CB2 3EN, UK.
e-mail: arshiyabose@gmail.com

Bhaskar Vira is the Director, University of Cambridge Conservation Research Institute & Reader in Political Economy of Environment and Development, Department of Geography. He trained as an economist, and works on the political economy of environment and development. His research interests include incentives for natural-resource use and management, state-society interactions over natural resources, and multi-stakeholder partnerships for natural-resource management.

Address: Department of Geography, University of Cambridge, Downing Place, Cambridge CB2 3EN, UK.
e-mail: bv101@cam.ac.uk

Claude Garcia is a Senior Scientist at CIRAD, the French International Centre of Research and Agronomy for Development, in the Research Unit “Goods and Services of Tropical Forest Ecosystems”. He also leads the Forest Management and Development Group in ETH-Zurich. His main focus is the interaction between public policies, local practices, and ecological dynamics. Based on the distribution of biodiversity and the land-use dynamics in forest and agroforest landscapes, he analyses the drivers and strategies involved in the decision-making processes of the stakeholders with tools, such as companion modeling.

Address: Forest Management and Development (ForDev), CHN F 75.2, Universitaetstraase 16, 8092 Zurich, Switzerland.
e-mail: claude.garcia@usys.ethz.ch