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Trademarks, Geographical Indications and Environmental Labelling to Promote Biodiversity: The Case of Agroforestry Coffee in India

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The district of Kodagu, also called Coorg, in the Western Ghats of India produces 2% of the world's coffee, the expansion and intensification of which have reduced the forest cover by more than 30% in 20 years. Innovative actions are therefore urgently required to link economic development and biodiversity conservation, and stakeholders are exploring three strategies to add value to coffee from Coorg and prevent further biodiversity erosion: registration of trademarks; geographical indications; and environmental certification, via eco-labels. This article analyses their respective strengths and weaknesses and discusses the synergies between them.

Key words: Agroforestry, biodiversity, coffee, eco-labels, environmental labelling, geographical indications, India, trademarks

1 Introduction

The concept of Ecosystem Services (Millennium Ecosystem Assessment, 2005), associated with new market mechanisms and applied to the management of natural resources, has created promising avenues to manage trade-offs between conservation and development (Bayon, 2004). The principle of Payment for Ecosystem Services (PES) is that the external beneficiaries of these services remunerate through contractual agreements the local communities that have adopted management practices of ecosystems which guarantee the continuous delivery of these services (Wunder, 2007). In this article, we look at PES in the form of a value-addition scheme for goods originating from the target ecosystem. These products may derive a quality or reputation from the ecosystem and be identified by their geographical origin. Alternatively, they can be produced according to practices

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guaranteeing the continuous delivery of ecosystem services. For this to work effectively, consumers must be willing to pay a premium to producers.

This raises important issues and the following key questions in particular. (i) What are the conditions under which such a scheme can transfer part of the value attributed to the ecosystem with its cultural and biological diversity to the products originating from it with an added value on the market? And (ii) how can this added value be shared equitably among the stakeholders involved, maximising the impact of such a scheme and successfully balancing the double purpose of conserving the cultural and biological diversity and fostering the economic development of the local community?

We address these two questions through the example of Kodagu, also called Coorg, the most important coffee-producing district of India, situated in the high biodiversity hotspot of the Western Ghats. This ecosystem is described in Section 2. We chose this area because we have witnessed during our research for the CAFNET and BIODIVALLOC projects the development of three different strategies aiming to add value to products originating from Coorg. These three strategies presented in Section 3 are: (i) the registration of trademarks for coffee using the geographical name Coorg; (ii) the registration of geographical indications (GIs) on a series of products from Coorg; and (iii) the implementation of environmental certifications and ecological labels for coffee. In Section 4, we analyse the respective strengths and weaknesses of these strategies, highlighting the importance of governance and co-ordination between stakeholders, whether policy-makers and/or beneficiaries of the strategies.

2 Study area

The district of Kodagu (75°25'-76°14' E and 12°15'-12°45' N) is located in the Western Ghats in the Southwestern part of India. Around 30% of its area is under forest cover, 30 % under lowland rice paddy fields and 30% under complex, multi-storied coffee agroforestry systems (Garcia and Marie-Vivien et al., 2007). Coffee plantations have expanded considerably over the last 40 years, taking over the forested areas up to the limits of the state-controlled forests (Garcia and Bhagwat et al., 2010). During the British administration, the district was known by the name of Coorg (Richter, 1870) and its reputation as well as its products are still associated with this name (Rao and Lokesh, 1998). Henceforth, we shall use Kodagu to refer to the district and Coorg to refer to products and services which originate from it, such as 'Coorg oranges' or 'Coorg green cardamom'.

The reputation of the district lies in its biophysical as well as its cultural features. An independent kingdom till its annexation by the British Empire in 1834, Kodagu has managed to retain its idiosyncrasy compared with the rest of the State of Karnataka, to which it belongs administratively since 1956 (Rao and Lokesh, 1998). This singularity has marked the landscape, especially the private forested areas, where the land-tenure rights and forest-tree ownership regulations retain certain restrictions imposed before and during the colonial period (Moppert, 2005).

The district produces one-third of India's coffee[1] and this crop is the main economic driver of the region (ibid.). Coffee cultivation has made its mark on the landscape as well as on people's minds. The image of the district and that of the Kodava community, the traditional owners and inhabitants of the area, are closely linked to coffee cultivation and to coffee agroforests. The home page of the Central Coffee Board of India website, which is responsible for overseeing all coffee production within India, shows two Kodavas in their traditional costumes. The reputation of Coorg coffee has spread all over South India and beyond.

In Kodagu, before the development of coffee cultivation, the main traditional crops were rice grown in the lowlands and cardamom under forest cover on the hills (Ramakrishnan and Chandrashekara et al., 2000; Moppert, 2005). Although coffee has been grown since the seventeenth century, it only started being marketed by British planters towards the end of the nineteenth century (Bidie, 1869). Today whether it is arabica (*Coffea arabica L*) or robusta (*Coffea canephora var. robusta*), coffee has overtaken most other crops. Over the years, forest areas have been transformed into coffee plantations with the forest canopy thinned down to provide more light to the coffee plants grown underneath. Other crops are often grown in association with coffee plants, especially pepper (*Piper nigrum*) vines grown on the tree trunks, orange trees (*Citrus reticulata*) and more specifically a local ecotype of mandarin (*Kodagina kittale*) grown amidst forest trees, and cardamom (*Elettaria cardamomum*) in the understory of forest trees.

This landscape is undergoing significant changes due to the intensification of coffee production, following a pattern somewhat similar to that described in Mesoamerica (Perfecto and Rice et al., 1996). Native tree species are gradually being replaced by 'Silver Oak' (*Grevillea robusta*), a fast-growing species of Australian origin (Nath and Pélissier et al., 2011). Along with a reduced diversity of native tree species, there are also fewer trees in coffee plantations. Traditionally, the canopy cover was necessary for maintaining a favourable microclimate, in particular high humidity, so that coffee flower buds could survive the long dry season and blossom with the arrival of the first rains preceding the monsoon (Richter, 1870). The development of sprinkler irrigation, specifically used to trigger flowering, has freed many planters from this constraint, effectively providing a technological alternative to an ecosystem service (Boreux et al., 2013).

Nonetheless, as they have retained a significant portion of the initial forest cover, the coffee plantations of Kodagu still retain an important part of the original forest-tree biodiversity (Elouard and Guilmoto, 2000; Bhagwat and Kushalappa et al., 2005) and are probably amongst the richest on the planet in terms of biodiversity (Garcia and Bhagwat et al., 2010). An inventory of 114 plantations carried out in 2008 identified 290 different tree species in the canopy cover of the coffee plantations with an average of 30 species per hectare (Garcia et al., 2013). The challenge is to valorise such a coffee-agroforestry landscape under threat from the commercialisation of the unique products originating from it in a market of differentiated goods.

1. See website of the Indian Coffee Board: http://indiacoffee.org/indiacoffee.php?page=CoffeeData (visited December 2011).

3 Strategies to transfer value from landscape to product

Over the last 10 years, we have witnessed the emergence of three distinct strategies to transfer part of the intangible values of the landscape to the products originating from it, in particular coffee, its emblematic crop. All three strategies are based on signalling products on the market, with the objective of gaining added-value based on the reputation of the Kodagu ecosystem. Signalisation gives consumers additional information about the quality characteristics of a product in order to persuade them to favour it in their shopping.

The first two strategies are based on marketing the reputation of the geographical origin Coorg, allegedly referring to the high biodiversity of this area, registered as a trademark or a geographical indication for identifying coffee and other products from Kodagu. Geographical indications and trademarks confer exclusive rights on the name, securing added-value for the products. But trademarks and GIs follow different philosophies; trademarks are being used to identify the source of the producers/manufacturers, whereas GIs focus on the geographical origin of products that have quality, characteristics or reputation attributable to their geographical environment (Evans, 2010). Although protection of geographical origin has initially been focusing mainly on wine and cheese, there is now an international trend of promoting coffees according to their place of cultivation (Hughes, 2009; Teuber, 2009; Rotstein and Christie, 2010)[2] also taking place recently in India, as described in sub-sections 3.1 and 3.2.

The third strategy is based on marketing the environmentally friendly practices of coffee production as advocated in a set of rules guaranteed by eco-labels. Rather than attracting consumers on the ground of the reputation of the specific geographical origin of the product(s), eco-labels attract consumers on the basis of the eco-labelling reputation as efficient in protecting the environment. The first environmental label was the Blue Angel label, introduced in Germany for industrial goods in 1978. Since then the number of environmental labels has increased rapidly, as well as their complexity with the inclusion of additional environmental and quality attributes, social criteria and traceability (Grote, 2009). The coffee industry is particularly receptive to environmental labelling which is spreading from Latin America towards India as described in sub-section 3.3.

3.1 Trademarks

The majority of Indian coffee is marketed under the brands of large coffee roasters without mentioning its geographical origin. Some coffees are sold under the name of the estate, for example 'Dark Forest' commercialised by the company Coffee Day. However, an increasing proportion of Indian coffee is now being marketed with the mention of its

2. Many coffee GIs have been recognised or are currently in the process of recognition at national level around the world. For example, the four appellations of origin registered under the Lisbon Agreement for the international registration of appellation of origin, a kind of GI guaranteeing a strong link with the place of origin: Café Veracruz, Café Chiapas, Café Villa Rica, Café Machu Picchu-Huadquina; Blue Mountain in Jamaica, Sidamo and Yirgacheffe in Ethiopia, Marcala in Honduras, Antigua in Guatemala, Toraja in Indonesia. The recognition of 'Café de Colombia' as a Protected Geographical Indication (PGI) in the European Union in 2008 is perhaps the most famous case, together with the legal dispute between Starbucks and the Ethiopian government around the use of Ethiopian GIs on coffee. (Rotstein and Christie, 2010).

geographical origin registered as a trademark, though without ensuring that it effectively originates from that particular geographical origin.

Individual trademarks of companies. The rise of trademarks using the name Coorg for coffee sold in the domestic market by Indian companies, can be easily noticed in local retail shops in Bangalore and has been confirmed by a survey of trademarks for coffee with the name Coorg registered at the Indian trademark registry.[3]

Tata Coffee Limited (Tata Coffee), the largest plantation owner in the Western Ghats (Garcia and Bhagwat et al., 2010), launched a chain of outlets in 1993 called 'Coorg Filter Coffee' retailing freshly roasted and ground coffee. One of these blends is sold under the name 'Coorg Super Strong'(Tata Coffee Ltd, 2011). The company also refers on its website to 'Coorg pure', for a blend of arabica and robusta. In 1996, Tata Coffee registered the trademark 'Coorg'[4] for 100% pure coffee, i.e. without any addition of chicory (Mercereau and Vignault, 2008). Tata Coffee also used to market coffee with the trademark 'Coorg Golden Roast' for coffee blended with chicory, but this has been withdrawn.[5]

Apart from Tata Coffee, other stakeholders in the coffee supply chain use trademarks using the name 'Coorg', such as 'Coorg Coffee' used by the company Dharma Awakening, which was available in the airport outlets of Bangalore until February 2011.[6] Another trademark 'Coorg Coffee' is used by Coorg Coffee Supplies Pvt Ltd, a company based in Bangalore, selling blends from beans 'chosen from the high grown estates of South India' (Coorg Coffee Supplies, 2011).

Even outside India, stakeholders market coffee with the name Coorg. For example, 'Coorg Coffee Beans' is a Melbourne-based importer of green coffee beans, claiming to source its coffee exclusively from Kodagu (Coorg Coffee Beans, 2011). The trend is intensifying with recent applications for trademarks such as 'Coorg Mist Coffee' and 'Coorg Exotica Coffee'[7] and 'Coorg magic',[8] all of which are now under objection because of their descriptiveness.

Indeed, all these trademarks are regular, individual trademarks, meaning that they should have some kind of distinctive character, i.e. enabling the particular goods or services provided by one trademark to be distinguished from those of another. Thus, trademarks which consist exclusively of indications which may serve in the trade to designate the kind, quality, quantity, intended purpose, values, geographical origin or time of production of the goods or other characteristics of the goods or services are not to be registered.[9] To avoid abusive appropriation of common names or terms, trademarks cannot consist exclusively of descriptive terms such as coffee and Coorg. The Indian courts have confirmed the prohibition of descriptive trademarks: a trademark for tobacco comprising the name Simla,[10] a famous hill station, was cancelled as the name Simla should remain freely

3. See website of Indian Intellectual Property Office: http://www.ipindia.nic.in/
4. Trademarks n° 589347.
5. Trademark n°722966 abandoned, register of Indian trademarks, consulted on 25 September 2008.
6. Personal observation.
7. Trademark application n°1880653 and n°1880652, applied for on 5 November 2009 by Poornima Virupaksh, both under objection, see http://124.124.193.235/eregister/eregister.aspx.
8. Trademark application n°2072180.
9. Article 9.1 (a) (b) of the Indian Trademark Act, 1999.
10. 'Tobacco Co of India vs Registrar of Trademarks', High Court of Calcutta, AIR 1997 Cal 413.

available to all. Complex trademarks that add to the geographical name a non-descriptive word, logo or drawing are valid. It is thus possible to register many trademarks comprising the word Coorg associated with a distinctive logo, and this is indeed what is happening. Even if none of these trademarks can claim an exclusive right to the word Coorg, the existence of numerous trademarks using Coorg might prevent a collective action for protecting Coorg as a geographical indication, for example.

More importantly, these regular trademarks do not guarantee a link between the coffee being traded and the ecosystem in which it is produced. Regular trademarks do not have to comply with a set of rules such as the area of origin. Thus, there is no guarantee that the coffee originates from Kodagu. The packaging of coffees sold with the name Coorg does not indicate clearly the exclusive origin, Kodagu. For example, outlets of Tata Coorg filter coffee sell blends from Hassan and Chickmagalur, two neighbouring coffee-producing districts, as well as from Kodagu. Similarly, the trademark 'Coorg Coffee' of Coorg Coffee Supplies Pvt Ltd is used for a coffee blend from Kodagu and Chikmagalur.[11] But trademarks do not deceive consumers. If they expect when buying branded coffees with the name Coorg to enjoy coffee originating exclusively from Coorg while it is a blend from various origins, the trademark is deceptive and can not be registered. Such a criterion for the validity of trademarks is difficult to enforce, however, as it requires knowing whether consumers are being deceived or not. Therefore, with such trademarks not being challenged, it can be asserted that they do not guarantee the link to origin.

Regular trademarks using the name Coorg echo the situation encountered with the trademark 'Sidamo' registered by the government of Ethiopia which expects value-addition from royalties on the name Sidamo without having to implement a certification system as to the origin of the coffee (Rotstein and Christie, 2010). In conclusion, while regular trademarks are easy to register and manage, which explains their increase, they do not seem to be a relevant tool for valuing attributes from a particular landscape or ecosystem, as they do not certify the origin of the goods, contrary to certification trademarks and GIs.

Certification trademarks of the Coffee Board. The Coffee Board of India is a statutory body under the authority of the Ministry of Commerce. It lost the monopoly over coffee marketing in domestic and export markets in 1996 (Dorin and Landy, 2002). However, it continues to play a major role in providing technical support to the coffee sector regarding the production of different coffee varieties, coffee agricultural management and the promotion of Indian coffee.[12] One of the steps taken in this direction has been to register 13 logos as trademarks to identify 13 distinct coffee-producing regions in India, including Coorg,[13] consisting of a drawing and the name of the region.

Initially there were no technical specifications associated with these logos regarding the origin, agricultural management, processing method, or coffee varieties. This initiative was purely for marketing purposes. As these trademarks of the Coffee Board comprised the geographical name of the origin of the coffees, they were considered descriptive and thus

11. Interview with Coorg Coffee Supplies, 2008.
12. 'In a liberal economy the Coffee Board has to become more powerful to promote domestic consumption , increase export and aid the industry in terms of marketing and technical aids for the production of speciality coffee, instant coffee' (Coffee Board, 2008).
13. Trademark application filed on 10 March 2003, n° 1181814, now abandoned, see, http://124.124.193.235/eregister/eregister.aspx.

lacking distinctiveness by the Indian Office of Trademarks, which asked that they be changed to certification trademarks, which was done in 2008.[14] A certification trademark can be descriptive and thus consists of geographical terms and certifies the goods or services with respect to their origin, manufacturing mode or other characteristics.[15] The use of a certification mark can be authorised only if the designated product respects certain standards, and cannot be refused if it complies with them. The trademark owner decides upon the content of the standards, and is responsible for the certification of producers who wish to use the trademark, but can not use it himself to guarantee his impartiality. Certification trademarks can be used to enforce rules regarding the origin and the manufacturing mode of the products, but the certification and control capacities of the trademark owner then become critical (Josling, 2006). Nonetheless, the application of the Coffee Board, and particularly the Coorg logo, is still under objection on the ground that 'the certification rules are not yet proper'.[16] According to the Coffee Board, one of the main criteria would be that the coffees must meet the quality specifications as prescribed by the Board for different classifications/ grades of lots.[17]

Such a definition of a set of rules certifying the quality of the coffee is a path towards registration of Coorg Coffee as a geographical indication.

3.2 Geographical Indications

While trademarks have been known for a long time in India, the Geographical Indications of Goods Act was passed in 1999 and came into effect in 2003. It is aimed specifically at protecting geographical names of reputed products, following the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPs) of the World Trade Organization (WTO) to which India has to conform (Audier, 2000; Addor and Grazzioli, 2002). Geographical indications (GIs) are indications which identify a good as originating or produced in the territory of a country, or a region or locality of this territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin.[18]

According to the Indian Act, a GI application must include a technical specification, also called a code of practice, which includes description of the product, its history, its geographical environment comprising natural and/or human factors (production method) and all other elements which justify its uniqueness,[19] including a map of the delimited area. GIs being a collective right, the applicant has to represent the interests of the producers.[20] Once the GI has been registered, all the producers complying with the specifications are authorised to use it after being registered at the GI Registry (Balganesh, 2003).[21] As of today, out of 200 applications, 150 GIs have been registered in India, such as the famous

14. Trademark n°168 88 98, filed on 19 May 2008.
15. Art. 2.(e) of the Trade Mark Act, 1999.
16. See status of Trademark n°168 88 98, filed 19 May 2008: http://ipindiaservices.gov.in/eregister/eregister.aspx (accessed February 2012).
17. Interview with Dr Raghuramulu, joint director research, Coffee Board of India, December 2012.
18. Art. 2.1.e. of the GI Act 1999.
19. Art. 11.2 and the completed columns in the applications for GI published in the GI journal.
20. Art. 11.1 of the GI Act 1999.
21. Art. 17 of the GI Act 1999.

Darjeeling tea (Das, 2010), with the objective of protecting the Indian Heritage (Nair and Kumar, 2005; Jena and Grote, 2010). The Coffee Board has registered two GIs for coffee, 'Robusta Monsooned Malabar' and 'Arabica Monsooned Malabar', both specialty coffees obtaining their quality through the process of 'monsooning', a natural rewetting process of exposing the beans to high air humidity which results in distinct changes in their colour and cup quality.[22] This 'monsooning' occurred originally by accident on the Malabar Coast while coffee was being stored for a long period in warehouses before shipment overseas. Traders have been aware of this coffee reputation for a long time, and consequently this specialty coffee fetches a premium on the international market.

In the case of Coorg coffee, no action has yet been taken towards its protection as a GI by either the Coffee Board or producers themselves. One of the reasons is that a GI is not a simple indication of source, as can be the case with certification trademarks, but is reserved to designate products which demonstrate uniqueness attributable to their geographical origin. The GI strategy is therefore relevant if a given quality, reputation or any other characteristic can be attached to the product (Bérard and Marchenay, 2007). As a reward for this qualitative link with origin, GIs benefit from a higher level of protection than trademarks in many legal systems (Gangjee, 2007). Clearly, it is important to question and assess whether the criteria of quality, characteristics or reputation are fulfilled in the case of Coorg Coffee.

(i) GI based on quality or characteristics of Coorg coffee. According to a series of surveys (Mercereau and Vignault, 2008) conducted amongst different stakeholders in the Indian coffee sector, including buyers, processors, roasters, distributors in the domestic market, as well as exporters, Coorg coffee does not have any specific quality or uniqueness when compared with coffee from Chikmagalur or Hassan, the neighbouring districts. The well-established reputation for quality in the international market is attached to a blend of different South Indian robusta coffees, referred to as 'Indian Robusta' without any further details about its specific origin within India, and used for espresso characterised by a creamy, much sought-after quality (ibid.). The lack of distinctiveness of Coorg coffee compared with coffee from the neighbouring districts is also argued by the former Director of the Coffee Board, Shri G. V. Krishna Rau.[23] This explains the Board's strategy of registering trademarks instead of GIs, avoiding the need to demonstrate the uniqueness of the coffees. It seems therefore that there is not yet a distinct cup quality of Coorg coffee, whereas coffees of origin protected through GIs, such as Antigua coffee in Guatemala or Blue Mountain in Jamaica, are specialty coffees with superior organoleptic qualities, already marketed worldwide. Nonetheless, we believe that the numerous examples of trademarks referring specifically to Coorg, and the absence, to our knowledge, of any example of coffee marketed with the names Chikmagalur or Hassan, suggest that there is a clear and established reputation for Coorg coffee. Thus, it is relevant to assess if a GI on Coorg coffee can be registered on the sole criterion of reputation, even in the absence of intrinsic cup quality.

22. GI n°114 , applied for 5 April 2007, registered 28 March 2008, *Official Gazette of Geographical Indications* n°21.
23. Interview 10 July 2007.

(ii) GI based on reputation of the ecosystem and history of Coorg. Reputation as an autonomous criterion of the GI definition was introduced during the World Trade Organization negotiations. Clearly, it appears to be far more general than intrinsic quality and characteristics of the product, which must be distinguishable, and formally offers the possibility of registering a GI for a product without any particular quality or characteristics but solely having a good reputation linked to any factor(s) whatsoever. The reputation of Coorg coffee is supported by its unique ecosystem, namely, the specific, biodiversity-rich canopy of the plantations and the history of Kodagu. Such specificity might justify a GI. Yet a study of GIs already registered in India (Marie-Vivien, 2010a) for agricultural products demonstrates that the natural factors described in GI applications include agro-ecological components such as soil properties, rainfall regime, altitude or genetic material but rarely characteristics of the whole ecosystem beyond the selected product. For example, the GI 'Mysore Betel leaf' describes the cultivation system and the crops associated with coconut palms. Others such as the GI 'Coorg green cardamom' mention that the crop is cultivated under shade, i.e. under a forest canopy and oriented to the North for optimal lateral shading. However, the nature of the canopy, in terms of density or composition of forest tree species, is not specified, while the reputation of eco-friendliness of Coorg coffee, acknowledged at local and national levels, is due to the canopy, remarkable for its diversity of native species. The registration of a GI on the grounds of the biodiversity richness supported by an ecosystem would be a novel development.

The same study on GIs in India (Marie-Vivien, 2010a) demonstrates that the history of the product, the place and its inhabitants, acknowledged in the 'Proof of origin/Historical records' section of the GI application, is a major criterion regarding GI validity. For example, the GI application 'Monsooned Malabar coffee' describes the history of coffee commercialisation to Europe by sea and the discovery of the monsooning process. The GI 'Feni', the liquor obtained by distilling cashew nuts, describes the history of cashew nut cultivation and the distillation process as well as the historical context of the State of Goa (Rangnekar, 2009). The specifications of existing GIs for Coorg products, however, never describe the specific history of the district of Kodagu and its inhabitants, the Kodavas. One reason might be that neither the orange nor the cardamom is as emblematic of Coorg as is coffee. Nevertheless, the history of Kodagu combined with the reputation of the landscape as environmentally friendly and biodiversity-rich constitute sufficient grounds to justify the registration of a GI. Such a hypothesis of registering a 'green GI' opens the door to environmental certification.

3.3 Eco-labels

During the last three decades and in response to the growing demand of mostly North American, European and Japanese consumers, a multitude of 'green' labels (or eco-labels) has been developed to promote coffee cultivation respectful of the natural resources as well as socially responsible, in order to improve the living conditions of rural communities. These eco-labels are more developed in Latin America, particularly in Mesoamerica due to its proximity to the North American market and the strength of producers' organisations (Giovannucci and Ponte, 2005). The international sector of eco-certified coffee is already well developed and the market exists and, although quite modest (<5%), is growing fast and steadily with around ten existing eco-initiatives of varied importance (Soto and Le_Coq,

2011). The standards of these eco-labels are seldom defined in co-ordination with producers or experts in the field. The control and certification processes are generally implemented by an independent third party that assures consumers that these standards are implemented from farm to processing.

Eco-certified coffee represents 2% of the global market and this niche is developing fast (Kilian et al., 2004). In 2010, 16% of all coffee entering the US market was certified (Giovannucci, 2010). In Latin America, five certifications predominate: Organic; Fair Trade; Utz Certified; Rainforest Alliance and a combination of three labels 'Organic, Bird Friendly and Fair Trade'. Two private certified labels of roasters, C.A.F.E. Practices of Starbucks and AAA of Nespresso, have been gaining strength since 2006. It is increasingly common for producers and/or co-operatives to have multiple certifications, notably Rainforest Alliance in association with C.A.F.E. Practices and/or Utz Certified in order to better insure against the uncertainties of the market (Kilian et al., 2006) and better relate to different markets (Grieg-Grant, 2005).

In India, the penetration of eco-labels in the coffee sector remains very weak, despite the high biodiversity of its coffee agro-forestry systems. The Rainforest Alliance certification arrived in 2009 on the initiative of Tata Coffee Ltd, but the main certifications at present are Utz Certified, Organic and Fair Trade (Table 1). Rainforest Alliance and Utz Certified were introduced into India by global exporters already trading coffee certified under these labels in Latin America, namely, ECOM Gill Coffee Trading and Net Commodities.

Table 1: General information on certified coffee in India

	Utz Certified	Organic	Fair Trade
Certified organisations	6	38	1
Total surface certified (ha)	10,428	2,736	1,200
Certified production (t)	15,000	1,710	59

Source: Coffee Board of India (2008).

(i) Utz Certified and Rainforest Alliance. To achieve Utz certification, producers must comply with the economic, social and environmental criteria set out in the Codes of Conduct focusing on improving management skills as well as agricultural practices. In addition, producers are required to meet standards that protect the environment and promote good social practices.[24] Rainforest Alliance demands more stringent criteria, such as for the coffee shade in agroforestry systems: 12 different species of trees per hectare in the canopy and at least 40% of shade all the year round, with a preference for native species (Soto and Le_Coq, 2011). Utz Certified is the most common certification in India, involving six industrial groups of plantations which are well structured and integrated from production to marketing (Table 2). The certified areas cover a total of 10,500 ha, almost 3% of the national coffee area.

In addition, eight exporters, four of which are also producers, are Utz Certified: namely, Allanasons, ABC Trading Corporation, ECOM Gill Coffee Trading, ITC, General

24. http://www.utzcertified.org/en/aboututzcertified/standardcertificationmonitoring.

Commodities, Ramesh Exports, Bombay Burma Trading Corporation (BBTC) and Tata Coffee.

Table 2: Utz Certified industrial groups of plantations

Producers	Certified Area (ha)	Location
Tata Coffee	6,672	Kodagu, Chikmagalur, Hassan
ABC Group	2,022	Chikmagalur
BBTC	912	Kodagu
Carrara Group	447	Shevaroys, Tamil Nadu
Manamboli-Savamalai	268	Anamalais, Tamil Nadu
BCK Plantations	107	Kodagu

Source: Coffee Board of India (2007).

Neither small (<5 ha) nor medium (5–25 ha) producers were Utz Certified until 2009–10, when a first group of 6 farmers was certified under the CAFNET project. These farmers secured a better price for their coffee, with the certification cost borne by the traders. On average, the net premium received per farmer was low at around 1.5 Rs per kg of dry coffee cherries with a farm-gate price of 37 Rs per kg in 2010. This net premium was up to 5 Rs per kg for high-quality coffee (i.e. cherries sun-dried to perfection and with a minimum of physical defects), hence representing up to 13% of the farm-gate price. In 2010–11, eight new groups totalling 90 farmers undertook the review process for Utz and Rainforest Alliance certification on a voluntary basis and with support from the two leading coffee trading companies in Kodagu again taking charge of the certification cost. In 2011, the Coffee Board announced a subsidy scheme financed by the central government encouraging farmers to become eco-certified for the 2011–12 harvest. The CAFNET project facilitated this certification process by helping farmers to document their management practices and the biodiversity in their farms, and improve their record keeping and internal control system.[25] There was no need to modify the actual agricultural and management practices which already fit easily the environmental requirements of most eco-labels (CAFNET, 2011).

(ii) Organic coffee. As in other coffee-producing regions, the organic sector is losing ground in India and represents only a small area (Table 3) and volume of exported coffee (<0.5%). According to the farmers interviewed during our research, this is attributed to difficulties in finding markets offering a preminum substancial enough to compensate for the increase in the cost of organic practices and the decrease in productivity. Indeed, in contrast to eco-certification, the costs of organic certification are not borne by the buyers.

Some certified producers of organic coffee are also 'Fair Trade' certified as members of the only co-operative certified as 'Fair Trade' in India. Situated in the Araku Valley, this co-operative has benefited since the 1960s from government aid via the State of Andhra Pradesh and the technical support of the Coffee Board as well as the Andhra Pradesh Integrated Tribal Development Agency (ITDA). It includes approximately 2000 producers on 1200 ha. With

25. See http://www.ifpindia.org/Managing-Biodiversity-in-Mountain-Landscapes.html.

the support of the Naandi Foundation, around 100 tons per year are marketed. Despite the continuous support of public authorities for almost 50 years, the sustainability of this initiative is not fully secured because of the low volume produced and certified.

Table 3: Characteristics of the organic coffee sector in India

Location	No. of certified organisations	Certified surface (ha)	Certified production (tonnes)
Andhra Pradesh	1	351	219
Karnataka	12	574	358
Kerala	19	904	565
Tamil Nadu	6	907	567
Total	38	2,736	1,710

Source: Coffee Board of India (2007).

In conclusion, environmental certifications are very recent in India and particularly in the district of Kodagu, but they are increasing owing to the fact that actual agricultural practices comply easily with the environmental requirements of most eco-labels, even the most stringent Rainforest Alliance, because of the high biodiversity still existing in Kodagu.

4 Discussion: strengths and weaknesses of strategies

There are substantial differences in the definitions of historical development and regulatory frameworks for GIs and eco-labels (Grote, 2009). GIs make clear reference to a place of origin. Labelled products can be produced anywhere. Many developing countries are sympathetic to geographical indications (Bramley and Bienabe, 2012). India is particularly active and has submitted proposals to extend the protection to products like Basmati rice, Darjeeling tea and Alphonso mangos. In contrast, while developing countries generally agree that labelling schemes can be useful, there is strong opposition to the call for new negotiations on labelling which could limit their market access on environmental grounds (WTO, 2008). Such contrasted perceptions can be explained by the differences in the process of establishing the technical standards to be followed by producers. Historically, the criteria of the eco-certifying agencies have been developed for production areas other than India, in particular Central America. Their standards are thus exogenous and are imposed on producers who have no possibility of negotiating adaptation to the local context. Thus eco-certification is understood as a standardisation of the production process (Galtier and Belletti et al., 2013). On the other hand, for GIs, while there is an international definition of GI, each application is defined by the applicant representing the producers according to the local environment and practices. In case of conflict, any party has the opportunity to file an opposition to the application. In theory, this strategy is adapted to the local context and reflects actual collective practices.

The differences between eco-labels and geographical indications/trademarks are particularly well illustrated by the three strategies observed in Kodagu, the suitability of which to promote coffee by reference to the high biodiversity of the locality depends on the

stakeholders involved, described in sub-section 4.1, on their ability to demonstrate positive impacts on biodiversity (sub-section 4.2) and on their capacity to deliver a minimum cup quality in order to obtain added value on the market (sub-section 4.3).

4.1 Stakeholders

Each of the three strategies described above involve different stakeholders. We focus on the implementers and the beneficiaries.

(i) Coffee Board of India. As mentioned earlier, the Coffee Board of India is a key stakeholder in the valorisation of coffee in India, irrespective of strategies. Positioning itself as the genuine representative of the producers' interests, the Board has already committed efforts to the identification of origins by registering certification trademarks, and could go on to file a GI application for Coorg Coffee as it did for Monsoon Malabar Coffee. Ownership of a GI by an institution such as the Coffee Board is not unusual in India, where up to 75% of the proprietors of GIs are government bodies (Marie-Vivien, 2010b). However, the producers and stakeholders in the supply chain need to adhere to the concept. Other GIs, such as 'Coorg oranges' registered in 2003 by the Department of Horticulture of the State of Karnataka, have only recently been socialised with producers, mainly via a local NGO, the Kodagu Model Forest Trust (KMFT), which took advantage of this GI to promote organic orange cultivation (Garcia et al., 2007). Recent developments with the GI 'Monsoon Malabar Coffee' will demonstrate whether coffee stakeholders agree that the Coffee Board should continue to play this leading role. Outside India, the GI 'Jamaica Blue Mountain Coffee' provides a successful example of central-government participation to restore and stabilise the quality of the product, along with central-government control over GI marketing. However, the involvement of the government raises the question of the distribution of the benefits and the risk of their capture by the state (Hughes, 2009). Regarding eco-labels, the Coffee Board has supported the process so far and is intensifying its support through the financial scheme developed by the central government to subsidise farmers' certification costs.

(ii) Producers' organisations. The current role of coffee producers' associations is mainly restricted to lobbying. They are political unions of producers rather than co-operatives. They seldom participate in the purchase or distribution of inputs to their members, nor do they collect or process coffee, with the exception of cherry drying before selling at the farm gate to the agents of processing plants or intermediaries. They do not sell coffee on domestic or international markets. The majority of producers' associations became bankrupt in the years following the liberalisation of the Indian coffee market in 1993 (Neilson and Pritchard, 2007). Operating as state co-operatives with little autonomy, they were unprepared to survive in a liberal world. To regain their role as co-operatives, these associations face three major challenges: (i) to rebuild credibility among their members by showing greater transparency in their governance; (ii) to demonstrate efficiency in finding markets; and (iii) to implement adequate systems of remuneration for the benefit of their members.

With the support of exporters, re-strengthened co-operatives could spearhead initiatives to add value to coffee and to foster best practices. For example, they could apply for a GI and become its owner, following recent encouragement by the central government

to see more producers' associations replacing government bodies behind GIs. Alternatively, they could help their members to become eco-certified through the dissemination of information on eco-label standards and via technical support.

(iii) Large producers and intermediates. Currently, the Indian coffee sector is dominated by a small group of large producers and processing plants, roasters and exporters. Trademarks, including those with the name Coorg, are owned by a few individuals or companies able to commercialise coffee. Trademarks are used individually by estate owners with sufficient financial means to invest in quality improvement and with in-depth knowledge of the coffee market and the trademark system. The registration of trademarks using Coorg, even if they do not confer exclusive rights on the name, prevents other Kodagu producers referring to the origin of their products, hence raising issues of justice and equity. Certification trademarks of the Coffee Board are not designed to fit the exporter's needs.

Environmental certification targets professionally managed producers' organisations that are mainly the result of independent initiatives taken by large estates. Small and medium-sized producers have generally been excluded owing to their lack of business skills and negotiating power vis-à-vis traders. We foresee that eco-label initiatives will develop around private exporters in view of their recent willingness to become certified, but there are clear risks of restricting the access to eco-labelling to large producers with adequate financial capacity, strong educational background and business knowledge. Only they can meet the certification criteria and have the capacity to ensure a minimum volume of production. Nevertheless, Kodagu producers are interested in getting their coffee eco-certified. We expect the trend to increase, given the recent subsidising scheme put in place by the central government.

With the development of GIs and eco-labels, middlemen may well have to forfeit part of their financial margin and negotiate with producers if these get better organised. However, intermediaries can also gain in the medium term from improvement in coffee quality and hence an increasingly secure access to international markets. The recent certification of a group of pioneer farmers under the CAFNET project shows that processors-exporters have understood their interest in valuing coffee through eco-certification and acted accordingly by bearing the certification cost at the farm level without imposing exclusive contracts on certified farmers.

(iv) Consumers. Environmental labelling is essentially for consumers in the developed world who are becoming more and more demanding (Kilian et al., 2004). Most interesting is the growth of the Indian domestic market for coffee, which represented up to 30% in 2008 and has been growing steadily since 2000 (Coffee Board, 2008: 109). While highly conscious domestic consumers might be aware of environmental certifications, they are much more aware of the close link of coffee to the identity of the Kodagu district. In the light of the initiatives of private companies currently selling their products with reference to 'Coorg', the many recent trademark applications using the name 'Coorg' and the Coffee Board website displaying pictures of the district on its front page, we foresee that consumer demand for coffee originating from Kodagu will continue to increase, at least in Southern India.

The consumer base itself is changing. While Indian coffee houses face economic difficulties, chains like Café Coffee Day and Barista are thriving (Burke, 2010). The new,

younger, globalised consumers have different tastes and expectations. This opens a window of opportunity for the coffee producers, one where localised production, quality, and environmental and social responsibilities become assets to gain access to the market.

(v) The supply-chain role in ensuring traceability and controls. Irrespective of the strategy, uncertainties remain regarding coffee traceability, monitoring and rule enforcement. There is a need to guarantee traceability along the whole supply chain in order to gain acceptance by traders and ultimately consumers. This is particularly acute in the case of GIs, as there is no traceability of coffee within Southern India identifying more detailed areas of production such as Coorg. Indeed, 75% of producers from Kodagu district currently sell their unprocessed coffee at the farm gate (Achoth, 2005: 19) to intermediary agents or processing plants, where it is then mixed with other coffees from the Western Ghats for processing. Coffee is sorted according to criteria related to generic qualities (bean size and percentage of defects), but without any distinction between different origins within Southern India.

4.2 Impact on the environment

The environmental impact of the three strategies aimed at increasing the value of local production is difficult to assess and is extremely variable. Trademarks, because of their individualistic character, might have an impact only at the level of individual plantations. Even if they succeed in changing the way an estate is managed, the link between biodiversity conservation and the production system, not explicitly included in the trademark specifications, is not guaranteed. In the case of eco-labels, the environmental characteristics of the existing production systems in Kodagu are such that the costs of complying with environmental criteria will be relatively low for a large majority of plantations. The eco-labelling standards are not specific to India and the environmental requirements are not very demanding in view of the high tree density and diversity of the coffee agroforestry systems of Kodagu. Even the more stringent criteria of Rainforest Alliance are easily met. Certification agencies in India should therefore go a step higher than the current standards of the eco-labels if they are to have an environmental impact. Options include specific requirements adapted to Kodagu such as imposing a maximum of 30% of silver oak in the canopy composition as recommended by CAFNET (2011). To promote biodiversity conservation, existing eco-labels should set up specific criteria tailored to the local context. However, many farms are not in conformity with the social criteria of these eco-labels. Compliance with these aspects of certification is likely to be more costly.

In order to acheive this same positive environmental outcome, an applicant promoting a ‘green GI’ will also need to incorporate a set of environmental practices in the definition of the GI, bringing it closer to an eco-label. A GI based on the reputation of the landscape will encourage the conservation of biodiversity only if it succeeds in attracting consumers to a coffee originating from a production system that maintains biodiversity. The European experience of GIs shows a trend towards their embracing biodiversity conservation (Bérard and Marchenay, 2006; Thevenod-Mottet, 2010). If all local producers are involved in such a GI process, we would expect a limited environmental impact as the admission bar is generally lowered by the negotiating process. To have an environmental impact, the

potential GI 'Coorg Coffee' should define a minimum threshold of canopy diversity, such as a maximum of 30% of silver oak in the canopy, which would lead to the exclusion of non-compliant producers. To ensure buy-in, we would expect the threshold to be raised as the process builds up over time. This would lead to a middle-of-the-road scenario between strict environmental specifications that best protect the environment and the current practices of producers.

The certification trademarks of the Coffee Board could certainly be a way for this statutory body to maintain a level of control on coffee production with the potential to promote ecologically sustainable practices if the Board is given the ability to impose certification rules on biodiversity, which is not yet the case. Nevertheless, the Board can be the 'natural' leader to achieve a higher positive impact on biodiversity conservation, by applying for a GI specifically based on the most eco-friendly practices already existing in Kodagu, and/or strongly advocating tailoring the eco-label to suit local conditions, thus improving efficiency.

4.3 Building up cup quality

All these strategies share the same objective of giving back to farmers a substantial added value for labelled coffee compared with the mainstream market. For this to take place, cup quality must meet the consumer's taste, even if consumers are willing to pay more for environmental services. Trademarks, GIs or eco-certification of coffee must therefore include, along with environmental criteria, a set of good practices, especially during post-harvest processing which is crucial for good quality coffee. A recognised level of organoleptic quality should be achievable by improving control over agricultural and processing practices. This is precisely what has happened with eco-labels, particularly Utz Certified where the quality of the coffee delivered by the first group of newly certified smallholders has improved through the greater care given to the berry drying process (CAFNET, 2011). With regard to GIs, it is the lack of an explicit and recognised intrinsic cup quality of the coffees and not the lack of a reputation of origin that has blocked the process of identifying them by their geographical origin. Therefore, a scenario similar to that of eco-labels improving cup quality can be envisaged for a GI whose specifications should include a set of good practices. Regarding individual trademarks, they are usually associated with coffee processed at the estate level with continuous quality control, so that cup quality may not be the most important issue.

5 Conclusion

The area under coffee in Kodagu has doubled in less than 30 years at the expense of forest areas. New techniques (especially irrigation) and access to agrochemical inputs have reduced farmers' dependence on environmental services provided by shade trees, such as preservation of soil fertility, control of pests and diseases, and maintenance of a microclimate suitable for coffee. Under these conditions, reconciling rural development and conservation of natural resources requires proactive schemes, connecting sustainable agricultural practices with payment for environmental services, coffee value-addition and farm profitability.

We have explored strategies aiming at adding value to a local product, that are at various stages of implementation in Kodagu. Irrespective of the strategy that Kodagu stakeholders

decide to follow, there is a series of obstacles to overcome. First, there is a lack of farmers' co-operatives or organised groups of producers skilled enough to take charge of coffee processing and, even more importantly, marketing. Secondly, the coffee sector is concentrated in the hands of around ten private exporters, who are more interested at the moment in volume than coffee quality and environmental sustainability. Thirdly, robusta is predominant in Kodagu and not as popular as arabica among Western consumers willing to pay a premium for environmental value, but even more so for cup quality. Fourthly, there is a total lack of traceability of origin and quality as coffees from various origins are mixed either in the storage facilities of intermediaries or upon arrival at the processing plants.

Among the three strategies, only environmental certifications refer explicitly to the conservation of biodiversity and provision of environmental services. But none of the eco-labels are adapted to preserve the rich tree diversity of the coffee agroforestry systems of Coorg, since this would require specifying in the eco-standards that a threshold of 30% of *Grevillea robusta* should be included to stop the rapid trend of this exotic species replacing native trees. Neither Utz Certified nor Rainforest Alliance is ready to build standards adapted to local ecosystems, being more concerned with keeping their own standards distinguishable from other environmental certifications, which leads to a homogeneous standard throughout the world attached to each eco-label. On the other hand, a GI specifically tailored to Kodagu could also take the direction of specifications tailored to include biodiversity-friendly practices adapted to the local context, especially in order to deter the increasing trend of managing mono-specific exotic canopy cover. However, GIs are mainly seen as relevant for specialty coffee with high organoleptic qualities, which is not the case with Coorg Coffee.

Whether it goes through the mainstream market or eco-labels, GIs or trademarks, this requires that there is a demand driven by informed consumers, but more importantly by relevant local stakeholders and institutions that are able to effectively promote these 'greener' aspirations to the benefit of the local communities. To date, it is undeniable that even if a premium is obtained by farmers who are Utz certified, which is already a great achievement, a large majority of Kodagu coffee producers do not receive any share of the valuable environmental services provided by their farms which are among the most biodiversity-rich and tree species-diverse in the world.

In conclusion, indirect market-oriented strategies might prove successful in the future, but they will probably not be sufficient to improve coffee farmers' revenues while also preserving natural resources. In the wake of the CAFNET project, local stakeholders are currently exploring the possibility of establishing a stronger, more direct link between the production system and the provision of ecosystem services, devising what could become the first Payment for Ecosystem Services in India, via the direct distribution of funds collected by the Compensatory Afforestation Fund Management and Planning Authority. Again, while this PES might be successful with respect to economic benefit-sharing, there is no provision regarding coffee shade and a threshold of exotic species in the canopy composition, which thus remains a challenge.

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