

# **Role of coffee certification programs in environmental protection, biodiversity and sustainable development**

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## **Abstract**

Product certification confirms that a product meets the necessary local, national or international quality standards relevant to a particular market or product set. certification ensure that products meet the relevant criteria for quality. coffee is one of the important traded commodity and most preferred beverage in the world. coffee is produced in more than 60 developing countries and consumed mainly in developed countries. An increasing number of ultimate coffee consuming community are moving towards responsible consumption by becoming interested in knowing the social, environmental and economic aspects of coffee production. To cater the needs of consumers coffee certification programs are came into existence. Before a coffee is certified it must be verified by an inspector from an independent certification agency. There are many coffee certification programs in international level to ensure the quality of coffee production. In India coffee certification programs are recent development. These certification programs adds value to coffee production process by promotion of conservation of natural resources, biodiversity and environmental protection. All these initiations by coffee certification programs leads to sustainable development of coffee sector and society as a whole.

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# **Role of coffee certification programs in environmental protection, biodiversity and sustainable development**

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coffee is one of the important traded commodity and most preferred beverage in the world. The preference for coffee is for its taste and for health benefits too. coffee is produced in more than 60 developing countries and consumed mainly in developed countries. An increasing number of coffee consuming community are becoming interested in knowing the social, environmental and economic aspects of coffee production. This has led to the development of different coffee certification programs that address the consumers' concern. certification ensure that products meet the relevant criteria for quality. certification guidelines are satisfied during production, the way a coffee is produced is being certified. Before a coffee is certified it must be verified by an inspector from an independent certification agency. It increases the ability of the product to break into new markets and maximize the potential of existing markets. Commercial planting of coffee started in India in the 18th century. In India always coffee grows under the shade canopy of evergreen leguminous trees. India's coffee growing regions have diverse climatic conditions, which are well suited for cultivation of different varieties. Coffee certification programs adds value for coffee farms through the conservation and environmental protection.

The environmental concern is an important issue nowadays. Maintaining the healthy state of surroundings is only way to lead the healthy life. The basic requirements for existence of human beings are air, water, food are fulfilled by our immediate environment. Growing population leads to increase in consumption, trade and communication worldwide. To match the increasing demand with supply people started exploiting the natural resources. This has led to the environmental pollution. Proper measures for environmental protection is very essential in the present context.

## **Need for the study:**

Environmental protection has become a hot topic in world wide. Rapid changing life style, consumption patterns, increased trade are some of the reasons for pollution. As a result we are experiencing global warming, contamination of drinking water, loss of forest etc. Proper measures are very essential to conserve or to protect the environment. coffee is the second traded commodity in the world and more than 100 million people are engaged in coffee farming and different steps in coffee production. India stands in 6th place in the world for coffee production and 80%of coffee produced in India is exported. Nowadays coffee consuming community is moving towards responsible consumption. They are interested in environmental, social and economic issues of coffee production. to cater the needs of consumers coffee certification programs come into existence. all certification programs claims to promote environmental issue or sustainability in general.

## **objectives of the study**

1. To analyse importance of environmental issues in the present context.
2. To study the criterion for certification of coffee farms under various certification programs.
3. To compare the coffee certification programs in India with more focus on environmental issues.
- 4.To study the role of coffee certification programs in achieving bio-diversity.
5. To find out the sustainable initiatives of coffee certification programs.

## **Certified Coffee Meaning**

Certified coffees take one or more aspects of sustainability into account. This means the coffee was grown in a healthy environment, is economically viable for farmers, promotes fairness among farmers and workers, or all three aspects. Additionally, certified coffee meets all guidelines set by coffee growers and is verified by a certification organization.

## **International Coffee Certification Programs**

**Organic** – Organic certification prohibits the use of synthetic chemicals used in agriculture. Organic standards are verified during production, as well as processing and handling.

**Fair-trade** – Fair trade is an approach that aims to improve the market access and strengthen the organization of small producers. This approach also seeks to improve the livelihood of these producers by paying them fair prices and providing stability in trade relationships. Fair trade certification is only given to farmers' associations and cooperatives rather than individual farmers.

**Rainforest Alliance** – Rainforest Alliance-certified coffee is grown on farms located where forests, soils, rivers, and wildlife are conserved. Furthermore, workers are respected and paid decent wages, have safe working conditions, and have access to education and medical care. This coffee must be grown under tree's shade.

**Bird-Friendly**– This certification promotes shade-grown organic coffee, which plays a role in conserving trees for the environment and birds that migrate.

**UTZ** – Meaning “good” in a Mayan language, UTZ requires farmers to grow coffee with care to benefit their local communities and environment. This involves training employees on health and safety procedures, as well as using pesticides correctly. UTZ's environmental goal is to reduce the use of water, energy, and pesticides.

**Starbucks C.A.F.E. Practices**– Coffee and Farmer Equity (C.A.F.E.) ensures that Starbucks coffee is sustainably grown by evaluating the economic, social, and environmental aspects of its production.

**4C**– The Common Code for the Coffee Community, or 4C, addresses social, economic, and environmental standards for everyone involved in coffee production—from farmers to exporters.

Though there are many coffee certification programs in international level in India coffee certification programs are new development, it adds value to coffee production process and ensures the current and prospective customers that the product has undergone a rigorous audit and testing process. In India only three coffee certification programs are there at present. They are Rain forest Alliance, UTZ certified, 4C common code. These certification programs are all with their own certifying criteria. The Rainforest alliance certification and UTZ certification are in the way of merging for the better future.

<b>Name of certification</b>	<b>Rainforest Alliance</b>	<b>Utz certified</b>	<b>4C common code</b>
Mission	Integrate biodiversity conservation, community development, workers' rights and productive agricultural practices to ensure comprehensive sustainable farm management.	To achieve sustainable agricultural supply chains, where: Producers are Professionals implementing good practices which enable better businesses, livelihoods and environments; The Food industry takes responsibility by demanding and rewarding sustainably grown products; Consumers buy products which meet their standard for social and environmental responsibility.	Achieve global leadership as the baseline initiative that enhances economic, social and environmental production, processing and trading conditions to all who make a living in the coffee sector.
Scope	Sustainable farm management in most holistic sense – social, environmental, economic and, ethical improvements are the cornerstones of the program.	Sustainability: Economic performance through productivity and farm professionalism; environmental standards to preserve flora fauna shade, buffer zones; Worker Health and Safety.	Exclude worst practices and continuously increase the sustainability of coffee production and processing in the economic, social and environmental dimension.
Inspection frequency	At least annual audits by teams of biologists, agronomists, sociologists and other specialists trained, authorized and monitored by the Rainforest Alliance	-Independent auditors accredited to ISO 65 standard. -10 % shadow/surprise audits. -Audits done annually.	-Independent auditors accredited to ISO 65 standards and trained by 4C. -Free tri-annual verifications for 4C Units; free addendum verifications possible. -Annual Self Assessment.

we are all experiencing the problems due to the global warming/climate change as result of human activity. Deforestation, excessive use of chemicals, fertilizers and pesticides which will upset many natural processes and biodiversity. Proper measures are essential to conserve the natural resources and protect the environment from further damages. The emerging concept of

sustainability is rapidly expanding to include environmental, economic and social equity. All coffee certification programs claims to promote environmental issue and sustainability in general. The following are the environmental protection and sustainable initiatives by the different coffee certification programs.

**UTZ** Code of Conduct sets out the requirements that are at the heart of what UTZ Certified. It focuses on good agricultural practices, enabling farmers to strengthen their productivity – producing a higher yield of a better quality, more efficiently. At the same time, social and environmental requirements contribute to better lives for farmers, their families and workers, and the protection of the earth’s natural resources. In other words, the Code of Conduct is about better farming, for a better future

### **Farming practices**

An adequate number per hectare of suitable shade trees are planted and/or maintained on coffee plots

- Choice of suitable planting variety
- Farm maintenance
- Soil fertility management
- Diversification of production, to support ecological diversity and economic resilience
- Integrated pest management
- Responsible and appropriate choice and use of pesticides and fertilizers, and records of application
- Irrigation
- Product handling during and after the harvest

### **Environment**

There are no animals used for processing animal coffee, while they are held in captivity on the farm. No such animals are held captive for tourism purposes.

- Efficient use of water and energy
- Waste management
- Promotion of ecological diversity
- Protection of nature
- No deforestation of primary forests
- Respect for protected areas

- Protection of endangered species
- Reduction and prevention of soil erosion
- Measures to adapt to climate change

#### **water**

Clean water and contaminated water are separated. When possible, water is recycled during wet processing. In addition to recycling water, activities are implemented to reduce water consumption during wet processing. A water treatment system is in place to eliminate or reduce pollution caused by coffee wastewater resulting from the wet process.

The **4C Association** is leading multi stake holder sustainable coffee platform working towards the improvement of economic, social and environmental conditions of coffee production and processing to build a thriving, sustainable sector for the generations to come. The entry level approach of code of conduct enables the coffee producers around the globe to embark on their sustainability journey. In order to achieve this code of conduct comprises of 27 principles across economic, social and environmental dimensions and 10 unacceptable practices which are to be excluded before applying for 4C verification. Among 27 principles, 10 are principles relating to environment.

- conservation of biodiversity, including protected or endangered native flora and fauna is supported.
- use of pesticides is minimised and integrated pest, weed and disease management is improved with time.
- Handling of pesticides and other hazardous chemicals.
- soil conservation practices.
- soil fertility and nutrient management by using mineral and/or organic fertilisers are used in balanced and appropriate way.
- water resources are conserved and used efficiently.
- waste water management in place.
- safe management of hazardous waste in place.
- saving energy and preferential use of renewable energy.

**Rainforest alliance** coffee certification is operating through the sustainable agricultural network(SAN) with the objective to encourage the farms to analyse and consequently mitigate environmental and social risks caused by agricultural activities through a process that motivates continual improvement. The standard is based on the themes of environmental soundness, social equity and economic viability. The main principles of SAN relating to the environments are:

- Social and environmental management system.
- Ecosystem conservation.
- Wild life protection.
- water conservation.

### **Findings:**

- 1.In the present scenario protection of environment should be the first preference, coffee certification programs are initiative in this regard.
2. In certified coffee farms adequate number of trees are to be maintained this helps to moderate the temperature.
- 3.Water is the basic requirement of every living beings in certified coffee farms proper water management, recycling of water, conservation of water resources are implemented.
- 4.To maintain the soil fertility, organic fertilisers are used in certified forms instead of chemical based fertilisers.
- 5.Use of harmful pesticides and insecticides are prohibited in certified farms which will upset many natural processes.
- 6.Certified coffee farms supports the biodiversity by protecting the native flora and fauna.
- 7.Certified coffee farms supportive to wild life conservation and also to endangered animals.
- 8.The initiatives regarding the protection of trees, natural resources, soil conservation, proper water management leads to sustainable development.

### **Suggestions**

- 1.Coffee certification programs are optional to the coffee producing community, by looking into the advantages of these programs government can mandate these certifications.
- 2.there are many coffee certification programs with their certifying criteria of coffee farms, a common certification criteria is essential for better results.



3. coffee certification programs are still in infant stage in India, therefore coffee consuming companies have to take initiative to create the awareness among coffee producers to go for certification of farms

4. The main institution engaged in advising or training in quality and safety management of coffee is the research wing of the Coffee Board, so coffee board can also take initiative to create the awareness among growers/curers/traders about coffee certification programs by analysing its benefits.

### **Conclusion:**

The coffee certification programs are the response to consumer demand for quality of product and knowledge for way of its production. These certification programs consists of economic, social and environmental issues. Nowadays we are all living in the polluted environment which is harmful for all living beings on the earth. The environmental protection measures of coffee certification helps to conserve the natural resources and biodiversity, which more essential in the context of global warming. Coffee certification programs are still in infant stage in India, it is optional to producers. If these programs are mandated to all coffee producing areas in India it leads to sustainability of coffee sector and society as a whole.

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